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Impact of Local Anti-Corruption on Local Economic Growth:
Does Local Politics Matter in Indonesia?

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Content

List of Tables	vii
List of Figures	viii
Abstract	ix
1 Introduction	1
1.1 Background	1
1.2 Gaps and Motivation	3
1.3 Framework of Dissertation	4
2 Anti-corruption in Indonesia: a systematic literature review	8
2.1 Introduction	8
2.2 Method	10
2.3 Result and bibliometric	11
2.4 Anti-corruption in Indonesia: story, policies and studies at the local level	14
2.5 Political issues and anti-corruption challenges	21
2.6 Governance and economic performance after anti-corruption policies	26
2.7 Future research agenda on anti-corruption in Indonesia	31
2.8 Conclusion	32
3 Institutions and economic growth: theory, literature and hypothesis development	34
3.1 Introduction	33
3.2 Economic growth	35
3.2.1 Classical school	35
3.2.2 Neo-classical school	37
3.2.3 Endogenous growth	39
3.3 Theoretical position of institutions in explaining economic growth	39
3.4 The review empirical studies so far	41
3.4.1 The relationship between institutions and economic growth: empirical studies	41
3.5 Impact of anti-corruption programme on economy: the global experiences	59
3.6 Hypothesis development	62
4 Corruption Eradication Commission (KPK): design, performance, and anti-corruption programme	66
4.1 Establishment of KPK	66
4.2 Institutional design of KPK	68
4.2.1 Institutional design of the KPK before and after second revision of the KPK Law	68
4.2.2 The first Law of KPK in 2002: story and performance	69
4.2.3 The first revision of KPK Law in 2015: story and performance	71
4.2.4 The second revision of KPK Law in 2019: story and performance	73
4.3 The tempest of KPK	73
4.4 Performance of KPK	75
4.5 Monitoring Center for Prevention (MCP) programme	77
5 Relationship of anti-corruption, politics, and economic growth at local level: data and method	83

5.1	Introduction	83
5.2	Data and variables	84
5.3	Methodology	91
5.3.1	Quantitative approach	91
5.3.1.1	Two-period panel data	92
5.3.1.2	Difference-in-differences	94
5.3.2	Qualitative approach	101
5.4	Conclusion	102
6	The relationship of local anti-corruption and local economic growth: does local politics matter in Indonesia?	104
6.1	Introduction	104
6.2	Estimation of local anti-corruption impact on local economic growth	105
6.3	Difference-in-differences analysis	118
6.3.1	Simple differences model	118
6.3.2	Difference-in-differences model	120
6.3.3	Difference-in-differences: an interaction with political aspect	126
6.4	Discussion of interaction anti-corruption programme and political institutions	130
6.4.1	Local anti-corruption and political concentration interaction on local economic	131
6.4.2	Local anti-corruption and fiscal independency interaction on the local economic growth	133
6.4.3	Local anti-corruption and political party affiliation interaction on local economic growth	135
6.4.4	Local anti-corruption and incumbent status on local economic growth	137
6.5	Conclusion	138
7	Anti-corruption programme and local politics matter: an institutional perspective	140
7.1	Introduction	140
7.2	Design and method	142
7.3	Discussion	144
7.3.1	Design of anti-corruption programme in the local government	144
7.3.2	Political consideration and institutional misalignment	155
7.4	Conclusion	162
8	Conclusion	164
8.1	Result and thesis	164
8.2	Limitation and future research agenda	171
9	Appendices	174
9.1	Appendix A to Chapter 2	174
9.2	Appendix B to Chapter 4	180
9.3	Appendix C to Chapter 5	194
9.4	Appendix D to Chapter 6	208
10	References	213
11	List of publication	128
11.1	Conferences	128

List of Table

Table 3.1	Sand the wheels	46
Table 3.2	Grease the wheels	53
Table 4.1	Intervention area of MCP programme	77
Table 5.1	Variables nomenclature	89
Table 5.2	Descriptive statistic	90
Table 5.3	Difference-in-differences parameters	98
Table 6.1	Basic model with time fixed effects	106
Table 6.2	Interaction with local political concentration in the LHR: time fixed effects	108
Table 6.3	Interaction with fiscal independency: time fixed effects	110
Table 6.4	Interaction with local political party affiliation: time fixed effects	112
Table 6.5	Interaction with incumbent status: time fixed effects	114
Table 6.6	The summary table of hypotheses	117
Table 6.7	Robust estimation of simple difference	118
Table 6.8	Descriptive statistics of mean of log LGDP (Y)	120
Table 6.9	Result of causal effect	121
Table 6.10	Result of causal inference	121
Table 6.11	Result of difference-in-differences	121
Table 6.12	Estimation difference-in-differences	122
Table 6.13	Robust estimation of anti-corruption	124
Table 6.14	Estimation of relaxation model	125
Table 6.15	Relaxation model of local political interaction	127
Table 6.16	The summarize of result and hypothesis status	129
Table 7.1	Indicators and sub-indicators of monitoring corruption in local planning and budgeting	146
Table 7.2	Indicators and sub-indicators of monitoring corruption in local planning and budgeting	149
Table 7.3	Indicators and sub-indicators of monitoring corruption in local licensing	152
Table A1	PICOC Technique	174
Table A2	Concept of CIMO	174
Table A3	Inclusion and exclusion criteria	175
Table A4	Database of literatures	176
Table B1	List of corruptors in the local government	179
Table D1	Basic model without time fixed effects (robust)	208

Table D2	Full model without time fixed effects (robust)	208
Table D3	Basic model interaction with political concentration (P1) (robust)	208
Table D4	Full model interaction with political concentration (P1) (robust)	209
Table D5	Basic model interaction with fiscal independency (P2) (robust)	209
Table D6	Full model interaction with fiscal independency (P2) (robust)	210
Table D7	Basic model interaction with political affiliation (P3) (robust)	210
Table D8	Full model interaction with political affiliation (P3) (robust)	211
Table D9	Basic model interaction with incumbency status (P4) (robust)	211
Table D10	Full model interaction with incumbency status (P4) (robust)	212

List of Figures

Figure 1.1	The framework of dissertation	7
Figure 2.1	Paper based on year publication	11
Figure 2.2	Number of documents for synthesis	12
Figure 2.3	Number of publications in journals	12
Figure 2.4	Map based on author keyword occurrence	13
Figure 2.5	Map based on author keyword occurrence and evolution since 2013	14
Figure 3.1	Sand the wheels	45
Figure 3.2	Grease the well	52
Figure 4.1	Number of local leaders as defendant	76
Figure 5.1	Basic model	93
Figure 5.2	Large model	94
Figure 5.3	Simple differences	95
Figure 5.4	Difference-in-differences model	97
Figure 5.5	Model of interaction with local political	100
Figure 6.1	Causal effect	121
Figure 6.2	Anti-corruption effect	122
Figure 7.1	Index of anti-corruption in planning & budgeting 2019	148
Figure 7.2	Index of anti-corruption in planning & budgeting 2022	148
Figure 7.3	Index of anti-corruption in local procurement 2019	150
Figure 7.4	Index of anti-corruption in local procurement 2022	151
Figure 7.5	Index of anti-corruption in local licensing 2019	153
Figure 7.6	Index of anti-corruption in local licensing 2022	154
Figure 7.7	Incumbency status of local head in 2022	156
Figure 7.8	Stages of preparing LGB draft	158
Figure 7.9	Conflict of interest between LHR and local government	159

Figure A1	Process selecting studies	177
Figure A2	PRISMA: protocol for systematic review	179
Figure B1	Distribution of corruptors on geography	180
Figure C1	Region with or without treatment	194
Figure C2	Local gross domestic product per capita 2017 (US\$)	194
Figure C3	Local gross domestic product per capita 2022 (US\$)	195
Figure C4	Domestic investment in 2017 (US\$)	195
Figure C5	Domestic investment in 2022 (US\$)	196
Figure C6	Foreign investment in 2017 (US\$)	196
Figure C7	Foreign investment in 2022 (US\$)	197
Figure C8	Number of financial institutions in 2017	197
Figure C9	Number of financial institutions in 2022	198
Figure C10	Population in 2017	198
Figure C11	Population in 2022	199
Figure C12	Agglomeration in 2017	199
Figure C13	Agglomeration in 2022	200
Figure C14	Participation of labor force in 2017	200
Figure C15	Participation of labor force in 2022	201
Figure C16	Unemployment in 2017	201
Figure C17	Unemployment in 2022	202
Figure C18	Human Capital in 2017	202
Figure C19	Human Capital in 2022	203
Figure C20	Political Concentration in 2017	203
Figure C21	Political Concentration in 2022	204
Figure C22	Fiscal Independency in 2017	204
Figure C23	Fiscal Independency in 2022	205
Figure C24	Political affiliation in 2017	205
Figure C25	Political affiliation in 2022	206
Figure C26	Incumbency status 2017	206
Figure C27	Incumbency status 2022	207

Abstract

Corruption has not been limited to the central level in Indonesia, but has also permeated the local level due to the decentralization of authorities. Efforts to combat this issue have been made aggressively, and anti-corruption initiatives in local governments have been carried out through the Monitoring Center for Prevention programme, which is led by the Indonesian Corruption Eradication Commission. It is believed that corruption at the local level can impede economic growth due to the abuse of power. This study aims to estimate the impact of anti-corruption programme on local economic growth in Indonesia. The study includes 508 districts and cities across Indonesia and uses both quantitative and qualitative approaches. The quantitative approach involves the use of two-period panel data and the difference-in-differences method. Meanwhile, the qualitative approach involves critical analysis. The results of the quantitative approach using the two-period panel model show that curbing corruption in planning and budgeting, as well as procurement, respectively, can lead to an increase in local economic growth by 15.7% and 23.9%. On the other hand, closing loopholes in the procurement of goods and services can actually reduce local economic growth by 4.6%. The findings from the difference-in-differences estimation indicate a negative influence on local economic growth stemming from anti-corruption programmes, particularly in areas characterized by corruption. Moreover, the results of the estimation for regions with high levels of anti-corruption reveal a negative economic growth when there is political intervention, such as the significant interest of political oligarchs in the local parliament, political interests of coalition parties at the national level, and the incumbent status of a local leader. On the other hand, the qualitative study highlights that the disparity between formal and informal institutional arrangements, such as the culture of patronage and intricate political structures, impedes anti-corruption efforts and bolsters local political oligarchy. To address this issue, it is essential to possess the political will at the highest national level, provide anti-corruption education to legislators and local government officials, and enhance the independence of the Internal Audit Agency.

Keywords: anti-corruption, political aspect, economic growth, difference-in-differences, Indonesia

Chapter 1

Introduction

1.1 Background

Academics are still searching for a way out for developing countries to escape the same trap, which is corruption. More than a decade ago, scholars agreed that corruption has a negative impact on economic growth (Aidt, 2009; Campos et al., 1999; Dridi, 2013; Johnson et al., 2011; Mobolaji & Omoteso, 2009; Tsaturyan & Bryson, 2009; Ugur, 2014). However, other scholars have found the opposite result (Bayley, 1966; Colombatto, 2003; Huntington, 2006; Klitgaard, 1988; Leff, 1964; Paksha Paul, 2010; Swaleheen, 2011). Additionally, in the past five years, scholars have continued to investigate the impact of corruption on economic growth. They have declared a negative relationship between the two (Ó. Afonso & Longras, 2022; Al Qudah et al., 2020; Alfada, 2019; Azam, 2022; Baklouti & Boujelbene, 2020; Belloumi & Alshehry, 2021; Das et al., 2020; Gründler & Potrafke, 2019; Hakimi & Hamdi, 2017; Hamdi & Hakimi, 2022; Paulo et al., 2022; Spyromitros & Panagiotidis, 2022; Uddin & Rahman, 2022; Urbina & Rodríguez, 2022; Zeeshan et al., 2022). In contrast, some scholars argue that corruption can still benefit economic growth (A. Afonso & Rodrigues, 2022; Das et al., 2020; Hamdi & Hakimi, 2022; Malanski & Póvoa, 2021; Qureshi et al., 2021; Spyromitros & Panagiotidis, 2022; Trabelsi & Trabelsi, 2021; Urbina & Rodríguez, 2022; Zeeshan et al., 2022).

Furthermore, a number of studies have investigated the role of institutions in promoting economic growth, and the experiences of various countries show that great institutions in a country have a varying impact on economic growth. For instance, in the Western Balkan countries, control of corruption has a positive and significant impact on economic growth of 67.5% (Nedić et al., 2020). Similar evidence was also found in South Asian countries (Singh & Pradhan, 2022). In the European Union, controlling corruption can unleash economic growth of 25% and 6% for EU candidate countries (Akıncı et al., 2022). On the other hand, controlling corruption in Gulf Cooperation Council (GCC) countries does not have a significant impact on economic growth (Al-Naser & Hamdan, 2021), which is consistent with the experience of controlling corruption in transition countries in Eastern Europe (Avdulaj et al., 2021).

On the local scale, studies on the impact of anti-corruption efforts on economic growth have been conducted by Rodríguez-Pose & Zhang (2019) and Balaguer-Coll et al. (2022). Rodríguez-Pose & Zhang (2019) conducted a study on 283 cities in China, which revealed that anti-corruption efforts have a significant impact on economic growth in Chinese cities. Meanwhile, Balaguer-Coll et al. (2022) examined anti-corruption efforts from an efficiency perspective, finding that, in the baseline model, variables related to government efficiency have a positive and significant impact on economic growth. Similarly, consideration should be given to variables that have a significant impact on economic growth. However, their study acknowledged the challenges of measuring institutional quality through anti-corruption efforts due to the lack of clear indicators for anti-corruption efforts.

There is also empirical literature on democracy and economic growth. Barro (1996) found a negative and weak impact of democracy on growth using cross-sectional analysis on 84 countries. Similar results were obtained from the study conducted by Tavares & Wacziarg (2001). However, Acemoglu et al. (2018) found a strong impact of democracy on economic growth in their sample of 175 countries. On the other hand, Saha & Sen (2021) found evidence that the relationship between corruption and growth depends on the type of regime in a country. They also found evidence from marginal effects analysis that shows differences between democratic and authoritarian countries, where high corruption in authoritarian countries will result in high economic growth, but it does not occur in democratic countries.

Indonesia is one of the most decentralized democratic nations in the world, with a high level of corruption, as evidenced by the Corruption Perception Index of Transparency International in 2023, which stands at 34 and ranks 115th out of 180 countries. This suggests that corrupt practices continue to persist, and the existing institutions are ineffective in combating them. Efforts to eradicate corruption have become increasingly significant amidst the global spotlight on the unrelenting issue of corruption. Formal efforts to eradicate corruption have been initiated since 2002 with the establishment of the Corruption Eradication Commission (KPK). In the KPK report of 2022, the commission identified 1,519 suspects, 1,507 investigations, 1,350 prosecutions, and 1,035 convictions. As a result, 902 cases have become legally binding, and 943 cases have been executed. Additionally, the KPK, through its Monitoring Center for Prevention (MCP) programme, attempts to prevent corrupt practices at the local level by building anti-corruption in areas that are believed to have high corruption vulnerabilities. Three areas with significant corruption

vulnerabilities include planning and local budgeting, procurement of goods and services, and licensing.

Literature has previously highlighted the importance of controlling corruption for economic growth. The significance of controlling corruption in democracies that have become fragile due to political corruption in the past few years is the last resort for maintaining national and local economies. No studies have yet discussed the relationship between anti-corruption and democracy on one hand, and local economic growth in Indonesia on the other. This implies that we are unaware of how the large variability in corruption control and democratic components in Indonesian districts-cities level affects economic growth, accompanied by the effects of other socio-economic variables. We have adopted several local democracy indicators, including political concentration in local parliaments (Balaguer-Coll et al., 2022; Rezki, 2022), fiscal dependency (Balaguer-Coll et al., 2022; Canavire-Bacarreza et al., 2020; Ebel & Yilmaz, 2002), political affiliation (Asher & Novosad, 2017; Bernhard et al., 2018), and incumbent status (Ferraz & Finan, 2018; Klašnja, 2015; Purwaningsih & Widodo, 2020; Rakhman, 2019).

1.2 Gaps and motivation

The information provided in the introduction section enables us to pose a question: how does anti-corruption efforts at the local level impact local economic growth? Therefore, to answer this question, we commenced this study using a systematic literature review (SLR) approach to fill the existing gaps in knowledge. Employing a systematic literature review, we were able to gather information about the history of corruption eradication, ongoing anti-corruption policies, and studies at the local level. Our findings summarily describe various dynamics of anti-corruption efforts in Indonesia post-1998 reform, where at least three changes occurred in the ad-hoc anti-corruption institutional structure in Indonesia, ultimately resulting in the Corruption eradication Commission (read: KPK) being maintained to this day as the Coordinating Anti-Corruption Agency collaborating with other law enforcement agencies to address corruption cases across the country. Anti-corruption strategies are centered on two policies: the National Strategy for Prevention and Eradication of Corruption (Stranas-PK) and the Monitoring Center for Prevention (MCP) programme.

Furthermore, our analysis also examines how political issues can obstruct local anti-corruption efforts. We found that attempts to weaken the KPK occurred alongside declining anti-

corruption performance in Indonesia. These efforts ultimately gained political support through the House of Representatives' passage of revised KPK legislation in 2019. The resulting revisions are explicitly considered as an amputation of KPK's authority, including limiting surveillance powers and making the KPK a subordinate agency under the supervision of President, thereby losing independence.

This SLR explores the governance and economic dynamics following the KPK's anti-corruption campaign in 2003, which was followed by the first directly election of presidential in 2004. In the years that followed, the economy experienced significant fluctuations. The government faced challenges in balancing short-term political needs with long-term stability. Bureaucratic and legislative reform became the most critical aspects of this effort. Local studies show that public sector reform has strengthened the power of stakeholders, but often this power is centralized in a dominant stakeholder, such as the mayor or district head, who controls the performance measurement system. Additionally, the findings of this study also reveal that Indonesia's increasing cleanliness from corruption is actually associated with a decrease in economic growth, supporting the "grease the wheels" hypothesis, where corruption is seen as functioning as a lubricant for the economy due to structural stiffnesses.

In light of these findings, we have identified significant gaps in the relevant literature regarding the impact of anti-corruption programmes, particularly the MCP programme, which is designed to monitor corruption at the local government level and its effect on local economic growth. Moreover, we emphasize the importance of considering the local political interests to understand whether political interventions in anti-corruption programme can promote or hinder local economic growth. The results of this study are presented in Chapter 6. Furthermore, we aim to investigate the barriers to implementing anti-corruption programme at the local level due to local political interference. Our analysis uses a critical approach through an institutional theory lens, and the findings are discussed in Chapter 7.

1.3 Framework of dissertation

The objective of dissertation is to investigate the impact of anti-corruption programmes on local economic growth influenced by local political factors. To achieve this aim, this dissertation comprises six chapters: Chapter 2 conducts a systematic literature review (SLR), Chapter 3 outlines the theoretical framework and develops hypotheses, Chapter 4 presents the design of an

anti-corruption institution, Chapter 5 describes the data and method, Chapter 6 presents the first of empirical research, and Chapter 7 focuses on the second empirical research. To assist readers in understanding the structure of this dissertation, a research roadmap has been prepared and is displayed in Figure 1.1.

This first study is a systematic literature review (SLR) aimed at identifying gaps in the existing literature regarding the impact of anti-corruption programmes at the local level in Indonesia. This chapter begins with a review of Indonesia's anti-corruption history since the authoritarian regime collapsed in 1998, covering anti-corruption programmes that have taken place and are still ongoing, as well as relevant studies at the local level. Subsequently, section two discusses the political influence on corruption eradication efforts, including attempts to weaken the KPK, as well as studies related to the relationship between anti-corruption and politics at the local government level. Section three examines the governance and economic performance after the anti-corruption campaign launched by the KPK since 2003. This chapter concludes with an explanation of the opportunities for future research.

Chapter 3 provides the theoretical framework to support this research. The first section discusses the theory of economic growth. The second section explains the position of corporate governance theory in the context of economic growth. The third section offers a review of the relationship between corruption control and institutions, the anti-corruption impact on economic growth, and the relationship between anti-corruption, politics, and economic growth. The final section includes the development of hypotheses.

Chapter 4 presents the institutional design of the Corruption Eradication Commission (KPK), its performance, and anti-corruption programmes. The first section reviews the history of the establishment of the KPK. The second section discusses the institutional design of the KPK. The third section evaluates the performance of the KPK. The fourth section discusses the MCP programme implemented at the local government level. The fifth section examines specific studies on the MCP programme.

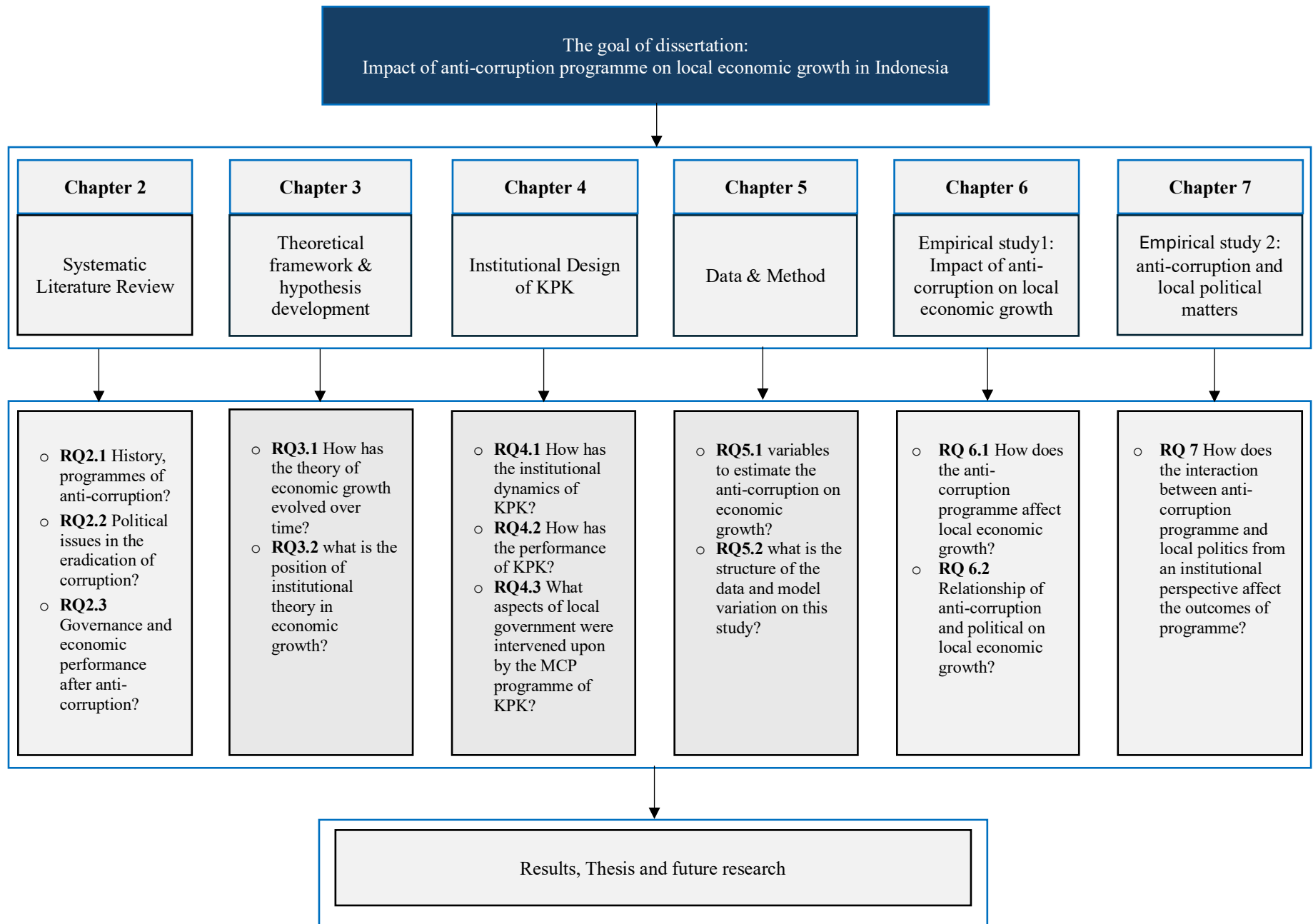
Chapter 5 discusses the methodology and data. The first section describes the data and variables used in the empirical research in the following chapters. The second section explains the models applied in the empirical research. These models were selected based on the availability of data and the goals to be achieved in the empirical study in Chapter 6.

Chapter 6 is empirical research that tests the impact of anti-corruption programmes on local economic growth, considering interactions with local political factors. The first part of this chapter presents the estimated impact of anti-corruption programmes at the local level on local economic growth, as well as the estimated interaction between anti-corruption and local political factors on local economic growth. The second part uses the difference-in-differences analysis to evaluate whether there is a difference in local economic growth levels, especially at the subnational level, before and after the implementation of the MCP programme. The third section explains the results of the analysis, and the final section discusses the impact of anti-corruption on local economic growth and the political factors that influence it.

Chapter 7 is an empirical study with a qualitative approach that investigates the relationship between local politics, anti-corruption, and local economic growth from an institutional perspective. The first part of this chapter explains the design and methods used. The second part discusses local anti-corruption programmes. The third section reviews political considerations and institutional inconsistencies.

Chapter 8 presents a conclusion of the entire chapter, starting from the SLR, the first empirical study, to the second empirical study. This chapter also includes limitations of the research and suggests studies that should be considered for future research.

Figure 1.1 The framework of dissertation



Chapter 2

Anti-corruption in Indonesia: a systematic literature review

2.1 Introduction

Despite the chaos of government administration in Indonesia, including corruption that continues to erode it, efforts to tame it appear to be weakening. Samuel Huntington once said that corruption is a sign of progress in developing societies, indicating a transition from violence to political negotiation, but this perspective is no longer considered normal today (Amick et al., 2022). In a truly corrupt environment, even people who consider corruption morally wrong usually participate because they do not see the benefits of doing otherwise, as "everyone" else is also taking part in the corruption game (della Porta & Vannucci, 2012).

Although corruption harms individuals involved and may address institutional inefficiencies in the short term, its social impact is detrimental. Academics widely recognize corruption as a "public evil," distorting markets (Klitgaard, 1988; Tanzi, 1998), hindering investment and growth (Mauro, 1995; Mauro & Driscoll, 1997), and contributing to the legitimization of the state and misery for the poor (Gupta et al., 1998). Thus, scholars like Rose-Ackerman (2010) argue that there is no universally agreed-upon anti-corruption solution, but the discourse is dominated by international development organizations that invest heavily in reducing corruption in developing countries by improving public service efficiency and strengthening government accountability mechanisms.

Indonesia has made significant progress towards higher on democracy, which partly depends on the success of efforts to reduce corruption, including the enforcement of laws. In Indonesia, corruption is commonly believed to be caused by the corrupt mindset of public officials in the government. Accepting bribes, for example, seems to be part of the petty corruption of Indonesian public officials. The ability of civil servants and politicians to financially benefit from their positions and power has attracted many job seekers every year. Many are willing to do whatever it takes to become a civil servant in the hope of one day becoming a high-ranking public official (Prabowo & Cooper, 2016).

Corruption studies in Indonesia have become increasingly relevant to scholars amidst the storm of controversy surrounding efforts to curb it. Most researchers argue that since the democracy was opened up after the collapse of the New Order in 1998, corruption in the decentralization era has become more rampant (Siburian, 2024). Corruption in Indonesia does not only occur at the central level, but also extends to the local level. Corruption can be

classified into three sectors: government, private, and political parties. In the government sector, corruption often occurs in the form of bribery, gratification, budget embezzlement, bribery in procurement of goods and services, embezzlement in licensing, and selling positions (Kuncoro, 2004). Similar instances of corruption also occur in the private sector, including bribery, asset concealment, and money laundering (Brown, 2006; Kuncoro, 2004; Lukito, 2015; Wibisana & Marbun, 2018). In the political party sector, corruption takes the form of vote buying, nepotism, and favoritism (Brown, 2006; Henderson & Kuncoro, 2011; Juwono, 2016; Umam, 2021). Furthermore, the attention of researchers has increased with the rise of corruption and anti-corruption efforts, particularly since the establishment of the Indonesian Corruption Eradication Commission (KPK) in 2003.

The KPK has launched a few anti-corruption programmes to curb corruption at both the central and local levels. The findings of KPK indicates that corruption permeates almost all institutions, whether they are Ministries, Provincial Governments, Districts-Cities Governments, and even the Parliament. The role of political parties also becomes significant in the era of decentralization in Indonesia. Policies of the government are not immune to political influences that can impede anti-corruption efforts (Davidson, 2007; Hamilton-Hart, 2001; Juwono, 2016; Umam, 2021).

The extraordinary intensity of anti-corruption efforts has led to the examination of corruption and anti-corruption in Indonesia. Several studies have brought some illuminating findings. The purpose of this chapter is to provide a general overview of corruption and anti-corruption in Indonesia, ensuring that issues related to corruption and anti-corruption that have not been examined are addressed, and to suggest future research directions. Therefore, we propose three research questions in this article:

RQ 2.1 how are the histories and what kind of the anti-corruption policies that have been implementing in Indonesia?

RQ 2.2 what is the relationship between political issues in the eradication of corruption?

RQ 2.3 how are the governance and economic performance managed and executed after anti-corruption policies are implemented?

The remainder of this chapter is organized as follows. The subsequent section summarizes the methods used. In the third section, we discuss the findings of the three research questions.

2.2 Method

A review aimed at consolidating and synthesizing the main findings (Tranfield et al., 2003). This study focuses on gathering all relevant literature, particularly after the 1998 new order era, during which corruption emerged in the decentralization era. To ensure transparency in the review, this study followed the steps outlined by Tranfield et al. (2003), which comprise planning, implementation, and reporting. The systematic review differs from traditional reviews because it applies a more comprehensive, neutral, scientific, and iterative process (Cook et al., 1997). We support the approach of meta-narrative (Greenhalgh et al., 2005), as an alternative that emphasizes the importance of critically understanding literature and identifying differences between research studies that may be influenced by the underlying research tradition (Gough et al., 2019).

We used Scopus, Web of Science, and JSTOR as our primary search sources. These databases provide high-quality references. Duplication between Scopus and Web of Science occurred during the data collection process, so we performed a filtering process. Additionally, to refine our analysis and avoid the limitations of the literature in the previously mentioned three databases, we also relied on the database SINTA, which is recognized by the Indonesian government, particularly the Directorate General of Higher Education in Indonesia, which has certified national journals considered of high quality and in compliance with the standard and general guidelines for scientific writing.

We conducted a comprehensive review, attempting to leave no stone unturned in terms of potential contributions. To achieve this, we sought relevant articles by utilizing Google Scholar, a search engine known for its advanced capabilities. Additionally, we considered prominent journals and gathered information from anti-corruption reports and publications issued by reputable institutions in Indonesia. Therefore, we provide a detailed explanation of our review procedure, our analytical approach, and how we compiled and presented the results of our review. First, we conducted a systematic review of studies related to corruption and anti-corruption in Indonesia. We compiled a list of relevant keywords and analyzed articles by reading relevant literature on corruption and anti-corruption in Indonesia. All issues will be discussed in greater detail and debated in the following sections. The review process is explained in full in Appendix 1.

2.3 Result and bibliometric

At the outset, we identified 6,709 articles from comprehensive search. Following our initial review and removal of duplicates, the total number of articles decreased to 1,284, comprising 1,124 articles obtained from Scopus, WoS, and JSTOR. Additionally, we also scoured articles through Google Scholar and SINTA, yielding a total of 160 articles. Ultimately, we discovered 83 articles that were relevant and suitable for synthesis in this paper. We analyzed 60 articles and books from Scopus, WoS, and JSTOR, while 23 articles were obtained from Google Scholar and SINTA. Of these 23 articles, 23 were written in Indonesian specifically to fill the gap in English literature pertaining to the anti-corruption programme. Meanwhile, Figure 2.1 depicts the statistics of the articles discovered based on the search source.

Figure 2.1 Paper based on year publication

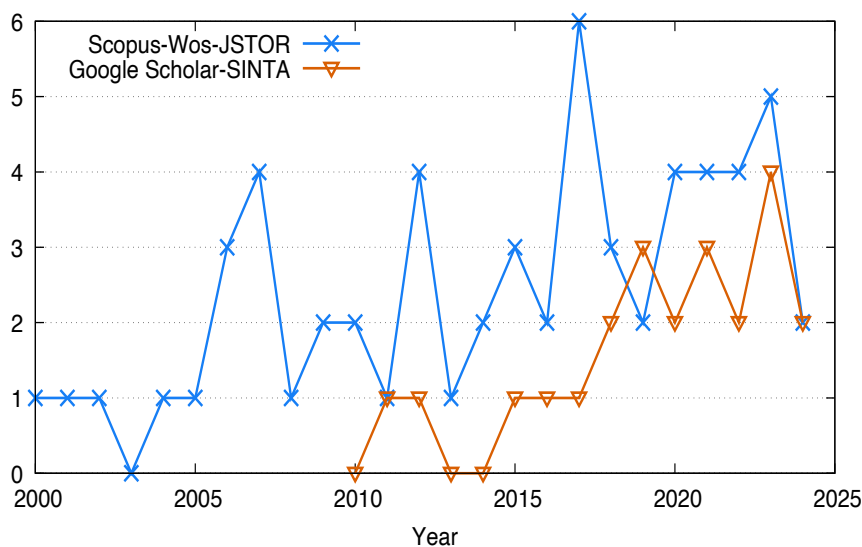


Figure 2.2 depicts the total number of articles obtained from Scopus, WoS, and JSTOR, which amounts to fifty-nine articles and one book. Additionally, on Figure 2.2, the statistics for the number of articles obtained through Google Scholar and SINTA searches are shown to be twenty-three articles. All the published articles are recorded in the SINTA Indonesia database.

Figure 2.3 presents the journals that have published works on anti-corruption in Indonesia. Fourteen articles were published in Bulletin of Indonesian Economic Studies, followed by four articles in Public Administration and Development. Subsequently, two articles were published in each of Asian Affairs, Asian Survey, and Journal of Financial Crime. Meanwhile, other journals such as Annual Review of Economics and Third World Quarterly

were also included. On the other hand, the search results from Google Scholar and the SINTA Indonesia database indicate that *Integritas: Jurnal Anti-Korupsi*, which is affiliated with the KPK Indonesia, has four articles, followed by *Perspektif* with two articles. The remaining articles are distributed among other journals.

Figure 2.2 Number of documents for synthesis

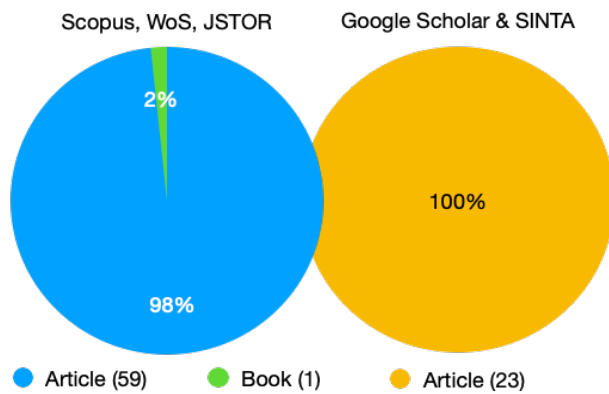
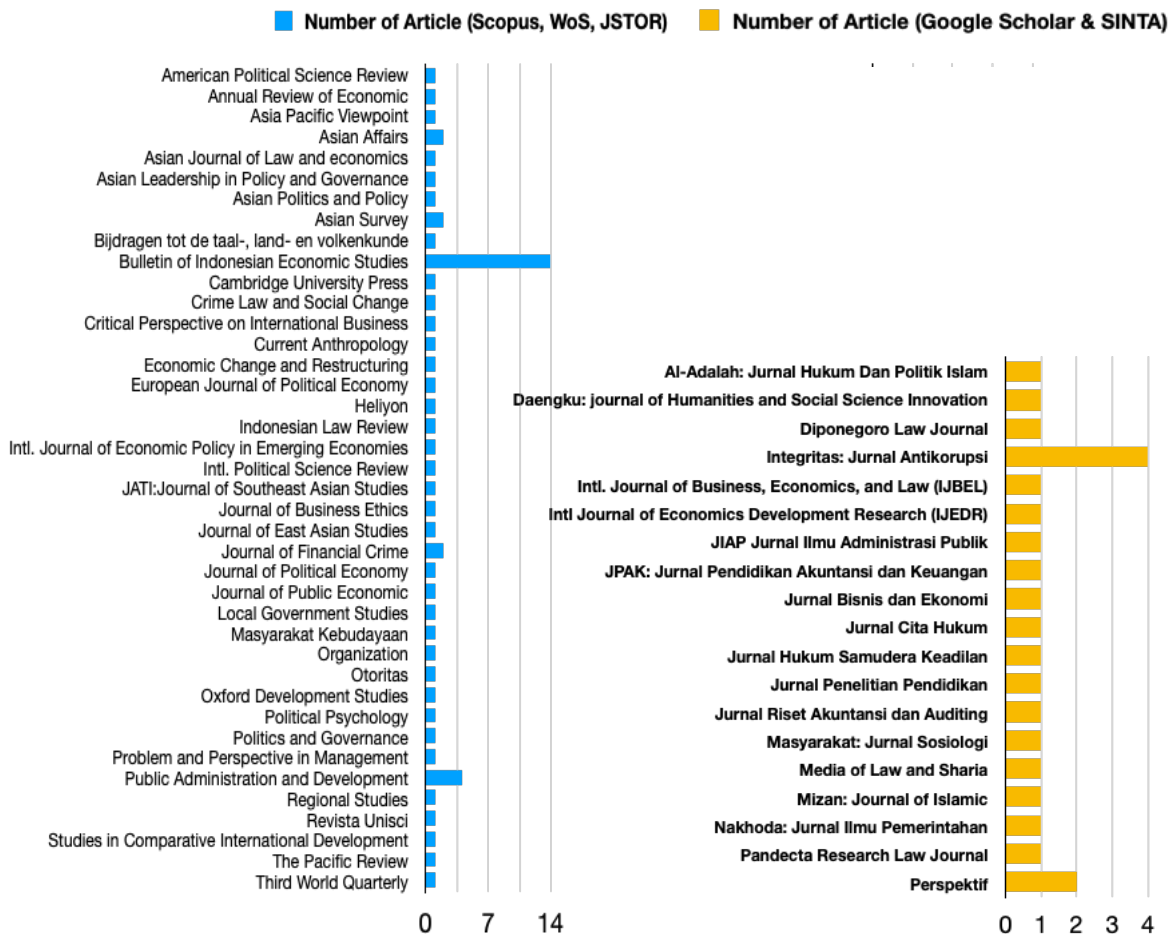


Figure 2.3 Number of publications in journals



Bibliometric analysis

To gain insight into the main trends in anti-corruption research in Indonesia, a method for calculating the phrases from keywords in three databases, namely Scopus, WoS, and JSTOR, was applied to create a cluster map. This map displays the main interactions between the most frequently used terms in this research. Within the map, the size of the circles varies depending on the weight given to each circle. The lines represent the relationships between terms, and the distance between two keywords indicates the frequency of the keywords. Based on Figure 2.4, we found four clusters that connect the keywords.

Cluster 1 (red): Indonesia, government, political practices, impact, and anti-corruption education.

Cluster 2 (blue): Corruption, governance, law, and policy

Cluster 3 (green): democracy, Jokowi, elections, politics

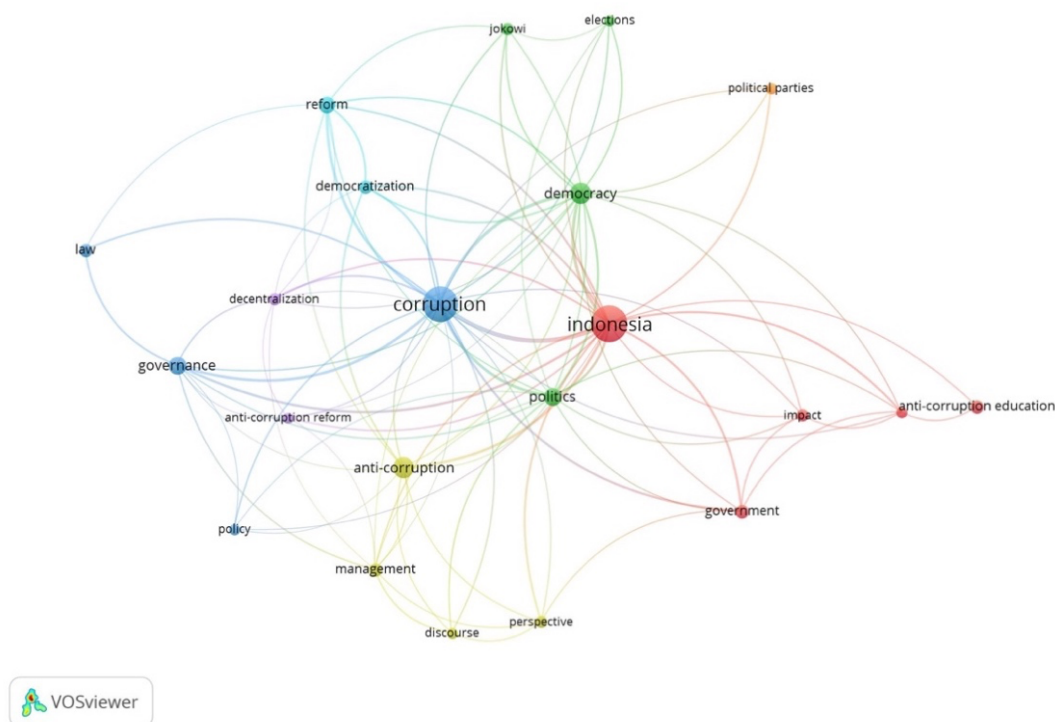
Cluster 4 (yellow): Anti-corruption, management, discourse, perspective

Cluster 5 (light blue): Reform, democratization

Cluster 6 (purple): Decentralization, anti-corruption reform

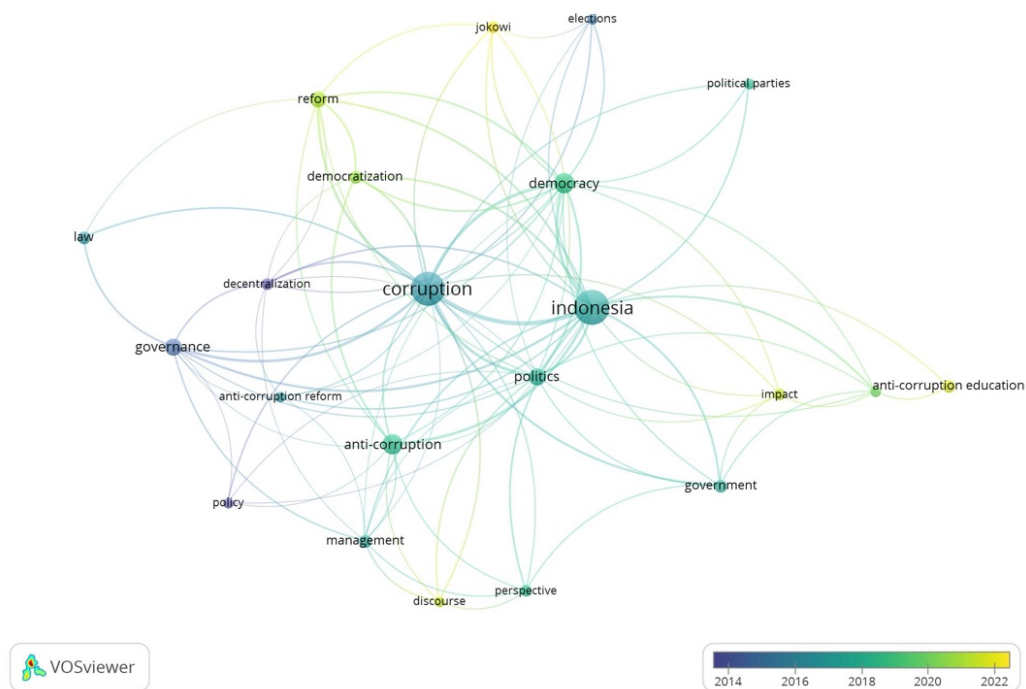
Cluster 7 (orange) political parties.

Figure 2.4 Map based on author keyword occurrence



The map also highlights other related topics, including anti-corruption, democracy, decentralization, elections, governance, and political parties, in addition to the crucial themes of "corruption" and "Indonesia." An additional map was created based on the author's keywords to show trends in research on corruption and anti-corruption (Figure 2.5). This map was created using bibliographic data and fragment counts, specifically the average annual number of publications and the most popular keywords in recent years. This map is useful for analyzing how terms used in research on corruption and anti-corruption in Indonesia. The gradient color is used throughout the map, with the latest trends and most relevant keywords highlighted in yellow.

Figure 2.5 Map based on author keyword occurrence and evolution since 2013



2.4 Anti-corruption in Indonesia: story, policy, and studies at the local level

In this section, we will present three important findings regarding anti-corruption policies in Indonesia post-reformasi 1998. Firstly, we will discuss the history of anti-corruption measures. Secondly, we will examine ongoing and present anti-corruption programmes. Lastly, we will explore local-level policy studies on anti-corruption efforts.

Story of anti-corruption in Indonesia

In the era of President Habibie's administration in 1999, the Assets Auditing Commission, also known as the *Komisi Pemeriksa Kekayaan Pejabat Negara* (KPKPN), was established to combat corruption. After President Abdurrahman Wahid took office following the resignation of President Habibie in the same year, the National Ombudsman Commission was also established to investigate corruption among public officials (Sherlock, 2002). However, efforts to control corruption through the establishment of these anti-corruption agencies seemed to have been unsuccessful.

According to Hamilton-Hart (2001), there is a deep-rooted nature of corruption in Indonesia, in addition to economic and political factors, that have led to the failure of anti-corruption policies in the country following the 1998 reforms. The anti-corruption campaign agenda continued after Susilo Bambang Yudhoyono was elected president in the first direct election held in 2004, with the anti-corruption agenda also leading to reforms in the justice system (Kuncoro, 2006). Additionally, in December 2010, the Supreme Court of Indonesia opened the first local corruption trial in Bandung, Surabaya, and Semarang to operate in collaboration with the national anti-corruption court established in Jakarta in 2004. At that time, judges in the court lacked competence (Butt, 2012).

On the other hand, activist students use momentum to transform their informal associations into more formal and professional anti-corruption Civil Society Organizations (CSOs), such as the *Front Perjuangan Pemuda Indonesia* (FPPI), which officially registered, adopted a manifesto and constitution, and built a concrete organizational structure (Setiyono & McLeod, 2010). Furthermore, donor assistance for anti-corruption programmes was channeled through the Partnership for Governance Reform in Indonesia (PGRI), initiated by a group of Indonesian reformers with initial support from the United Nations Development Programme to support Indonesia's transition to democracy and eradicate corruption. PGRI supports the anti-corruption movement by sponsoring CSO projects in various provinces and regencies throughout Indonesia (Setiyono & McLeod, 2010).

To eradicate corruption that continues to persist, Umam & Head (2020) revealed that the government established the Corruption Eradication Commission (KPK) in 2002 based on Law No. 30/2002, with the first commissioner being sworn in December 2003 and the first corruption case being tried in 2005. Their findings added that since then, the KPK has faced significant threats and challenges from corrupt politicians and government officials, especially from other law enforcement agencies that often view the KPK as a "common enemy" that needs

to be destroyed, making it crucial to understand the institutional capacity of the KPK. The KPK is a prime example of a state institution established in the spirit of reform to address the failure of the law enforcement agencies in dealing with the widespread corruption (Schütte, 2011). The KPK was born out of more than 50 years of experimentation with various task forces and special commissions to combat corruption, so it cannot be considered as something new (Schütte, 2012).

The Corruption Eradication Commission (KPK) has far-reaching powers compared to similar institutions in the past, including prevention, coordination, and supervision of other institutions, as well as the authority to take over cases from the Police and Attorney General, conduct investigations, and take actions such as wiretapping and bank account inspections in cases where the state loses more than Rp 1 trillion (Schütte, 2007). Additionally, numerous police officers, prosecutors, and members of parliament face threats of investigation from the KPK or related cases handled by the KPK and the Special Tribunal for Corruption Crimes, with police officers and prosecutors attempting to discredit KPK commissioners while members of parliament try to eliminate important features of the KPK, such as the power to select cases and the use of ad hoc judges at the Special Tribunal for Corruption Crimes, through legislative efforts (Butt, 2011). Continuous attempts to weaken the KPK in the midst of large-scale scandals and conflicts with other law enforcement agencies indicate a strong interest in weakening the KPK (Hadiz, 2017).

According to Syarifudin (2018), other law enforcement agencies such as the police and attorney general have not been effective in eradicating corruption, and it is hoped that the KPK can become an independent, professional, and uninterrupted institution capable of intensifying anti-corruption efforts in accordance with public expectations. Indonesia currently relies on the KPK, which is respected but lacks staff and funding, and strengthening and regionalizing the KPK can help detect the most serious cases of power abuse throughout the Indonesian archipelago (Yunan et al., 2023). The KPK was established to prevent and enforce the law in the eradication of corruption, with the KPK chairperson as the key figure, but the influence of political transactions on leadership elections can threaten the integrity of candidates, and the KPK needs to enhance its ability to confront increasingly complex corruption (Fransisco, 2020).

Anti-corruption policy of KPK: Stranas-PK and MCP

The anti-corruption policy of KPK, depends on the two anti-corruption programmes have been launched: the National Strategy for Prevention and Eradication of Corruption (Stranas-

PK) and Monitoring Center for Prevention (MCP). On the other hand, the MCP is aimed at preventing local government corruption by targeting eight areas deemed most vulnerable according to the KPK, namely 1) planning and budgeting of local income and expenditures (read: APBD), 2) procurement of goods and services, 3) licensing, 4) internal government audit institutions, 5) civil service management, 6) optimization of local taxes, 7) management of local assets, and 8) village fund management. Therefore, in this section, we present the findings from several articles that review the two KPK programmes.

Lukito (2016) posits that the National Integrity System is part of the National Strategy for Prevention and Eradication of Corruption (Stranas-PK), with the aim of improving anti-corruption compliance in public and private institutions. This system urges the resolution of practices such as bribery and corruption, particularly those involving the use of financial systems to conceal corrupt funds. He states that the government has given full support to the KPK in implementing the National Integrity System regulated by Presidential Regulation No. 55 of 2012. This system consists of eight pillars—executive, parliament, judiciary, regulatory institutions, media, private sector, civil society, and law enforcement agencies—that are interdependent. He adds that weakening one pillar can put pressure on other pillars, making it crucial to strengthen all pillars to reduce the Corruption Index and establish good governance.

Stranas-PK was initiated during the presidency of Susilo Bambang Yudhoyono, encompassing a roadmap, implementation, objectives, target audience, evaluation indicators, and coordination (Wijayanti & Azhar, 2021). They stated that the National Development Planning Board (2012) evaluation report identified the main problem with this strategy as the low level of coordination among stakeholders and the lack of alignment between central and local government programmes, resulting in overlapping. They also explained that Stranas-PK is a national policy that establishes a focus and target for preventing corruption, serving as a benchmark for ministries, institutions, local governments, and other stakeholders in implementing measurable and impactful anti-corruption actions.

Himawan et al. (2022) contend that the National Anti-Corruption Commission (*Tim Nasional Pemberantasan Korupsi*: Timnas PK) has similarities with preventive anti-corruption bodies in terms of implementing and evaluating policies but does not have the authority to increase knowledge or competence since it is under the presidency. The Timnas PK works together with the police and public prosecutors in the 2021-2022 Anti-Corruption Action, while the KPK plays a coordinating role as a member of the Timnas PK and independently. This difference highlights the need for Timnas PK to have the authority to disseminate anti-

corruption prevention in order to support public awareness in accordance with Presidential Regulation Number 54 of 2018 and Law Number 7 of 2006.

A study conducted by Bintana & Mayasari (2023) aims to analyze the factors that influence the implementation of anti-corruption prevention programmes by the KPK in the tax sector using the 7-C protocol model. Qualitative data was collected through interviews and document studies, then analyzed using a post-positivist approach and descriptive analytic method with the analysis unit being the Corruption Prevention Task Force of the KPK. Their finding showed that the implementation factors can be analyzed through the variables of Content, Context, Commitment, Capacity, Client/Coalition, Communication, and Coordination from the 7-C protocol model.

Research was conducted to understand the role of the Internal Audit Agency (read: APIP) in implementing and achieving the Monitoring Center for Prevention (MCP) programme for corruption prevention, using a qualitative approach and a case study methodology based on the theories of accountability, integrity, and role models, as detailed by Sumarauw et al. (2023). The results of their study showed that the APIP functions as a partner of the KPK, a consultant, and a quality assurance provider, through the formulation of action plans, the establishment of task forces, and the enhancement of human resource competencies. The role of APIP has an impact on timely budget management, improved public services, asset management, the implementation of a merit system, and the use of technology innovations such as the e-samsat application and the Goods and Services Procurement Performance Assessment System (SPEKGAGA) to monitor activities and finances.

Similarly, Arifuddin et al. (2023) conducted a study on the influence of governance and political support on corruption in Aceh, measuring the number of corruption cases between 2019 and 2021. Governance was evaluated based on MCP and performance accountability, while political support was viewed in terms of legislative support. Panel regression analysis showed that governance had a significantly negative impact on corruption. They recommended that in order to eradicate corruption in Aceh, improvements to MCP and performance accountability are necessary, as well as optimizing the role of APIP in state financial supervision.

One of the studies that used MCP data to examine its relationship with economic indicators is the study by Tua & Mahi (2023). They revealed that the preventive actions against corruption, such as coordination and monitoring, carried out by the Corruption Eradication Commission (KPK) via MCP had a positive and significant impact on private investment information in Indonesia, as investors used MCP as a benchmark in making investment

decisions in the region. Furthermore, the Local Gross Domestic Product per capita, as an indicator of the size of the local market, and the availability of skilled labor measured from the average length of schooling, also played a significant role in influencing private investment decisions.

Various anti-corruption studies at the local level

Olken (2007) conducted two approaches were examined in Indonesia to combat corruption: top-down monitoring by government auditors and bottom-up monitoring through grassroots participation. He showed that a significant increase in external audit probability significantly reduced lost funds in rural projects, although the impact was limited due to low prosecution probabilities. Additionally, grassroots participation was only effective under certain conditions, such as when personal interests of citizens were involved or when anonymous comments were allowed without involving village officials. Olken's findings suggest that professional auditor monitoring may be more effective for public goods, while grassroots monitoring can be effective for private goods. This study also highlights that monitoring programmes must be designed carefully to prevent them from being exploited by local elites, and that frequent auditor rotation or combining audits with higher punishments may be necessary to prevent long-term corruption. Moreover, it is important to continue investigating the long-term effects of anti-corruption policies, including their impact on project management, campaign expenditures, and infrastructure efficiency.

Empirical study by Adlin & Handoko (2019) on corruption behavior in the Riau Provincial Government revealed a concern, as reflected in the corruption case involving 13 government officials and 5 private parties related to the construction of an anti-corruption monument. Their study aimed to identify factors to strengthen the anti-corruption culture in the Riau Provincial bureaucracy by examining institutions and individuals with anti-corruption behavior. Using a qualitative method through interviews with officials from various institutions, they found that strengthening anti-corruption behavior must be supported by government policies, oversight of law enforcement officials, and strengthening anti-corruption behavior in bureaucrats.

Evaluated the effectiveness of internal control systems and human resource competencies in preventing corruption in government procurement, using a sample of 33 local agencies in Tasikmalaya City, with respondents being Procurement Officers and Commitment Makers (Firmansyah and Novianty, 2021). Through a quantitative approach, they found that internal

government control and employee competencies had an impact on preventing corruption in Tasikmalaya City.

Investigated the bureaucracy as a "biropatologi" that weakens existence and creates negative stigma, resulting in patrimonial bureaucracy, ineffective and inefficient (Sabilah & Sulistyaningsih, 2023). They examined the effects of bureaucratic corruption on the performance of government apparatus and public services in Mojokerto Regency, using a qualitative method through literature review. Their findings revealed that bureaucratic diseases such as corruption significantly affect the quality of government apparatus' performance in serving the public. Therefore, the implementation of the New Public Service Perspective is considered important for bureaucracy reform to improve effectiveness and efficiency in services.

Research by Periansya et al. (2023) investigated the impact of whistleblowing systems and good governance on fraud prevention, with an understanding of fraud as an intervening variable. Their findings showed that whistleblowing systems had a positive and significant effect on fraud awareness, and both were contributing factors in fraud prevention. However, good governance did not have a significant impact on fraud prevention, and fraud awareness was not a significant mediating variable. They emphasized the importance of whistleblowing system supervision in exposing fraud, although the results were limited to the context of Palembang City and could not be generalized to other areas.

Santosa (2023) evaluated the alignment, accuracy, quality of implementation, policy suitability, and effectiveness of the anti-corruption education programme for the Civil Service as designated by Governor's Regulation No. 10 of 2019 in Central Java. Using a qualitative design and descriptive approach with the CIPP evaluation model, this study involved 23 participants, including officials and trainers from the Department of Human Resources Development, anti-corruption facilitators, and trainees. The findings showed that the anti-corruption education policy had been consistent, effective, and appropriate for its intended purpose. However, it was recommended to update the annual programme, expand anti-corruption education, foster integrity in local government organizations, and enhance cooperation between relevant institutions.

The research conducted by Reiper et al. (2024) aimed to empower the APIP in South Maluku District and devised a development strategy for it. The findings revealed that APIP had a high motivation to perform its duties, but opportunities for self-development were still limited. Although APIP had a positive attitude and a strong work ethic, specialized knowledge related to their duties still needed to be improved. Regular technical competency development

was necessary, and the development strategy implemented included professional training, job enrichment, benchmarking studies, and a joint collaboration team.

The study conducted by Handayani et al. (2024) aimed to examine the influence of auditor experience, auditor independence, and time budget pressure on the quality of internal audit and fraud prevention coordination in the internal audit agency of the Bali local government. Their findings indicated that auditor experience and independence significantly influenced both the quality of internal audit and fraud prevention coordination, while time budget pressure did not have a significant effect. Fraud prevention coordination partially mediated the influence of auditor experience on the quality of internal audit, but did not mediate the influence of auditor independence or time budget pressure.

2.5 Political issues and anti-corruption challenges

Various efforts to combat corruption in Indonesia have undergone various tests in their implementation. These tests are not separate from political issues and the intrigues of individuals who have legal cases due to their corrupt practices. We have collected a wealth of literary evidence on the national and local political dimensions of anti-corruption efforts. This section outlines three fundamental findings: hindrances to anti-corruption efforts as a result of political practices, attempts to weaken anti-corruption agencies, and political studies in local governments.

Political issues and the challenges of anti-corruption

According to Tornquist (2000), the recent consensus on the necessity of democratization in Indonesia is inadequate as it only presents shallow ideology and generalizations from different cases. Additionally, Tornquist shows that democracy actors have failed to connect civil society movements with organized politics, while political elites and local patrons are more suitable for the neo-traditional electoral system. The transition from the "New Order" to the President Gus Dur government is only a initial step - development and stability in Indonesia require the development of a grassroots democracy movement.

Moreover, decentralization in Indonesia has given greater control to local governments, reducing violence, such as in Aceh Province, but also increased the risk of patronage, corruption, so although there has been significant progress, corruption remains a major challenge (Freedman & Tiburzi, 2012). Since the fall of Suharto, patronage has continued to dominate the management of Indonesia, exacerbating the conditions of "patronage democracy" that have been worsened by decentralization, the weakening of anti-corruption institutions, and

the wrong belief in technocratic reform, so the future of this system is still uncertain (Blunt et al., 2012).

According to Kuncoro & Resosudarmo (2006), with the democratization of Indonesia, corruption has become a major political issue. Corruption cases are often exposed through the media, government officials, and political leaders, both formal and informal, who are often charged, and anti-corruption campaigns are launched by the government and civil society organizations. The Global Corruption Barometer 2005 survey conducted by Transparency International showed that the Indonesian people consider political parties and the House of Representatives to be the most corrupt institutions, followed by the police, customs, the justice system, and tax authorities. They state that although anti-corruption efforts receive attention at the beginning of President Susilo Bambang Yudhoyono's era, prevention of corruption in political parties is often overlooked, with most campaign funds coming from the misuse of power. The power of political leaders and government officials often hinders efforts to eradicate corruption, and it is difficult to dismiss high-ranking civil servants, even when they are proven guilty. Hainsworth (2007) found that the early years of President Yudhoyono's government began with electoral euphoria and high expectations but faced significant challenges such as strengthening the rule of law and building social cohesion, although significant progress has been made in democracy and participation in Indonesia.

Sherlock (2002) states that the parliament is now the center of power and patronage in Indonesia, so the enforcement of member accountability and parliamentary institutions, as well as the regulation of election laws and campaign financing, are key elements in controlling corruption. Politicians and bureaucrats can spend large amounts of tax payments to create new infrastructure, regardless of whether it is socially beneficial, because they can manage the procurement process to enrich their crony businesses and themselves (Setiyono & McLeod, 2010). Accordingly, according to Fariz (2019), anti-corruption legal policies are important to ensure that the government of Indonesia runs according to democratic and constitutional principles, especially in the presidential system, and are only effective with strong leadership willing to eradicate corruption.

Furthermore, Riwanto & Achmad (2018) investigated the causes of systematic corruption in political parties and efforts to address it. Political parties, as the main actors in democracy, are often entangled in corruption, which can undermine democracy and elections. According to them, the causes of corruption in Indonesia include: (1) the crucial role of political parties in the state structure without being balanced with a meritocratic, integrity-based, and accountable recruitment model; (2) high costs for financing parties aspiring to achieve strategic seats; and

(3) the open proportional electoral system, which makes managing election expenses a challenge. Recommended reforms include improving the recruitment model for cadres, alternative financing for parties, stricter participation requirements for elections, returning to the proportional system with a closing nationwide vote, and developing a mixed electoral system.

The relational perspective on corruption indicates that the post-reform process aims to improve the relationship between the "ordinary people" and the political elite, and that regular elections provide hope for political progress, even if the reform does not fully meet expectations (Tidey, 2018). Although political dynasties are often considered to undermine democracy and cause corruption, data shows that only a small portion of corruption cases involve political families. Therefore, good governance reform should focus on strict oversight in political recruitment, elections, bureaucratic neutrality, budget transparency, and the quality and participation of voters, rather than just limiting political dynasties (Purwaningsih & Widodo, 2020).

Furthermore, the cartel politics in Indonesia, which began during the New Order era and continued under the Jokowi administration, can be seen in the large coalitions that strengthen the president's position and are exacerbated by the multi-party and Presidential Threshold systems, while oligarchs support Jokowi and strengthen the influence of the elite, resulting in a decline in the quality of elections, an increase in money politics, corruption, and the inability of small parties to effectively compete, as well as neglecting the interests of the people (Karim & Hamil, 2022). The domination of financial power in funding elections in Indonesia leads to the co-optation of political parties, the emergence of new forms of clientelism, and shows that electoral democracy has not significantly changed the mode of government, requiring the eradication of corruption and the reform of the party system (Habibi, 2021).

The cartel party system in Indonesia, which relies on state finances, eliminates ideological differences, undermines the check and balance mechanism, and allows for political corruption, silences the voice of the people for the benefit of the elite (Lestari, 2017). To encourage accountability and criminal liability for political parties involved in corruption, efforts must be made, such as accusing parties with the revised Corruption Crime Law and implementing administrative sanctions, although this step faces obstacles from party factions in the DPR (Aspan & Suwandi, 2020).

Although political reforms have brought about positive changes in Indonesia, the high political costs, which often exceed Rp. 75 trillion, drive contestants to engage in corruption, endangering the future of democracy at both the national and local levels (Agustino et al.,

2023). After the presidential election in 2019, although the ruling coalition used political strategies to increase Jokowi's victory, the limited results and long-term impact could affect the struggle against corruption, electoral reform, legal supremacy, and human rights, with the potential to reverse progress in anti-corruption and political competition space (Baker, 2023).

Yusup & Aryani (2018) investigated how characteristics of local leaders, such as incumbent status, educational background, level of education, and age, as well as political affiliation, influence indicators of corruption in spending. Utilizing data from the Indonesian Supreme Audit Agency's Report on Audit Results and a sample of 249 local leaders involved in the 2010-2013 elections, and employing regression analysis, the results show that incumbent status has an influence on indicators of corruption, while the educational background of local leaders does not affect these indicators.

Efforts to paralyze the KPK

We highlight political issues related to the obstacles in corruption eradication. Several studies mention that there are explicit resistances against the KPK. These resistances are demonstrated through political lobbying by corruption suspects and systematic attempts to revise the law of KPK to cut its authority.

According to Tomsa (2015), in social environments where citizens cannot reveal the truth, corruption tends to develop naturally and usually goes undetected or unreported. Tomsa reported several cases that were uncovered by the KPK, which were handled directly by the corruption eradication agency. Corruptors routinely engage in closed negotiations between lawyers, prosecutors, and judges, making it easy for the wealthy to avoid punishment. However, sometimes, local politicians not only find themselves brought to court despite their best efforts to buy their way out of criminal proceedings, but they may also face prosecutors who are determined to secure a conviction. Although not popular, such cases occur with increasing frequency and cannot be stopped.

Furthermore, information suggests that there is a practice of selective investigation by the KPK in investigating some corruption cases. According to Schütte (2012), large corruption charges in Indonesia are political, depending on who makes the allegation and when. Charges against government members tend to emerge before elections to eliminate competitors and strengthen support. Conversely, charges against opposition members are more likely to emerge after elections to avoid risks and increase political credit. These results show that anti-corruption efforts can be a political tool for incumbent presidents. Schütte revealed that corruption case handling still focuses on major cases in Jakarta, neglecting local politicians,

where this data comes from, which is considered the most authoritative and independent agency.

However, despite its achievements, KPK faces strong resistance from corrupt networks within political parties, government, and law enforcement agencies (Umam & Head, 2020). These networks attempt to stall KPK initiatives, particularly when they are under threat. Some public officials are even involved in counterattacks against KPK. This group tries to protect its interests by hindering KPK's performance, such as through judicial challenges, budget cuts, and efforts to revoke surveillance permits. According to Price (2024), KPK has become a victim of its own success, after gaining the confidence of senior ministers, politicians, government officials, and business leaders, ultimately creating enemies. Without political protection, KPK is not only at risk of becoming an ineffective entity, but also in danger of further eroding its credibility and authority.

Studies of political issues on local government

Intriguing research conducted by Olken (2010) pertains to two alternative mechanisms in rural infrastructure project selection, namely meetings of representatives and voting, utilizing data from 49 villages in three provinces in Indonesia. Each village selects two types of projects, namely public projects chosen by the entire community and women's projects chosen exclusively by women. Olken discovered that the voting mechanism significantly enhances citizen satisfaction with the political process, particularly among women, and tends to direct women's projects towards poorer hamlets. Although there were no significant changes in the overall types of projects chosen, these results demonstrate that the participation process plays a crucial role in enhancing citizen satisfaction. Additionally, Olken emphasizes evidence suggesting that political agreements among village elites may influence voting outcomes, particularly in public projects, highlighting the complex interactions between election mechanisms and local power dynamics.

Lewis and Hendrawan (2019) evaluates the impact of majority coalitions on local government spending, services, and corruption of budgets. Their findings indicate that majority coalitions, controlling more than half of the seats in the council, initially increased health spending and access to health services, but these positive effects disappeared in the second year. Conversely, corruption of budgets, with increased fraud and misuse, particularly in the infrastructure sector, worsened as the coalition's term approached its end, especially near election years for the council and mayor. The suspicion that budget allocations would be used for election funding consistently aligns with local political business cycle research in Indonesia.

Lewis (2020) researched the formation of pre-electoral coalitions (PECs) has a significant impact on the results of mayoral elections in Indonesia. Lewis's findings indicate that candidates supported by PECs with more than the minimum required number of seats have an 14 to 18 percent higher chance of winning compared to those supported by smaller PECs. PECs are highly effective in choosing new candidates but do not affect the reelection of incumbent mayors. Although PECs play a crucial role in local politics, their existence is often illegal and associated with corruption, leading to illegal behavior and more widespread corruption within the Indonesian political system. This research also identifies the need for legal enforcement regarding the formation of PECs and highlights the challenges of addressing corruption without eliminating the potential benefits of PECs.

Study by Irham (2016) in Lampung Province revealed that although the democratization process is praised, various studies show that corruption still exists. Warren's concept of democratic corruption, which views corruption as a double exposure that benefits a few individuals, helps to understand this paradox. However, Irham argues that Warren's concept is incomplete because it only identifies four locations of corruption: the state, public space, civil society, and the market. The study results show that political parties are also a location of corruption, especially through the centralization of parties in recruiting and selecting local leaders. This is consistent with findings of Lewis (2020) regarding corruption within PECs, and efforts should be made to prevent it during the candidate selection process for local leaders.

Local study conducted by Prakasa (2021) on the political practices of oligarchs in the Bangkalan District, which resulted in the entrenchment of a dynastic political culture, power only circulates within the Banjarmasin elite. In order to create equality in political participation, human rights, and people's sovereignty, as mandated by Law No. 19 of 1999 and its revisions up to Law No. 23 of 2014, this hegemony must be brought to an end. The conservative and feudal mindset that supports the continuation of liberal democracy actually provides space for oligarchs to maintain their wealth and power, which ultimately undermines people's sovereignty and rights. As Ahmad (2018) argues, corruption in Indonesia, which is complex and has a negative impact on both the economy and politics, requires the deconstruction of culture, socio-cultural education, and clean leaders, with severe legal sanctions in Indonesia for its eradication.

2.6 Governance and economic performance after anti-corruption policies

In this section, we highlight the government's management and evaluate the performance of the economy at the central and local levels. Although not directly influenced by anti-

corruption policies, there are indications that improvements in Indonesia's anti-corruption institutions have fostered public and investor confidence in the country's public administration. Additionally, in the concluding part of this section, we discuss an article that criticizes the role of decentralization after the reform and its impact on economic development in Indonesia.

Marks (2004) found that development in Indonesia was influenced by both internal factors, such as the national election that rearranged political power, and external factors, including foreign capital inflows that initially boosted the Jakarta Stock Index but were later disrupted by election uncertainty and inflation concerns. The first direct presidential election brought hope for change, particularly in governance and economic management. However, according to Marks, the structural barriers of the 1997-98 crisis continue to persist, and the new president must form a coalition in the fragmented parliament. Although voters desire improvements in the economy and reductions in corruption, government interventions in trade, increased subsidies, and proposed social welfare guarantees create inefficiencies and opportunities for corruption. Although there has been progress in anti-monopoly and anti-corruption legislation, the legal system remains a source of uncertainty for businesses.

According to McLeod (2005), the 10th anniversary of Suharto's resignation was marked by disappointment over the slow pace of reform, despite the economy continuing to grow and investment increasing. High inflation necessitated more effective monetary policies, while the global rice price surge and bumper harvest forced the government to restrict rice exports. Fuel prices were raised to reduce spending, accompanied by cash assistance programmes for the poor. The Ministry of Finance led the bureaucratic reform with adjustments to remuneration and merit-based promotions, while some local heads became entrepreneurial pioneers with an approach based on the needs of the people. State-owned enterprises (SOEs) focused on "good corporate governance," replacing many directors with professionals from the private sector and academia.

In line with Kuncoro & Resosudarmo (2006), in December 2005, President Yudhoyono reshuffled the cabinet with a focus on an economic team, appointing Boediono as the Coordinating Minister for Economic Affairs and promoting Sri Mulyani Indrawati to the position of Minister of Finance, a move that was positively received by the market. However, the new cabinet faced significant challenges, including a slowdown in economic growth, a decline in investment, and high inflation. The President's anti-corruption campaign gained widespread attention, but the funding of political parties suspected of using their power for personal gain was not addressed.

According to the findings of Basri and Patunru (2006), in the second quarter of 2006, Indonesia's GDP growth increased, supported by the communication, construction, transportation, and agriculture sectors, as well as increased government spending and net exports. The macroeconomic indicators are also improved, as evidenced by the positive performance of the Jakarta stock exchange. Despite optimism about the economy, concerns arose regarding the stalling of economic reforms. The government faced challenges in balancing short-term political needs with long-term stability, particularly in the controversial issue of rice imports. It is considered crucial to reform bureaucracy and legislation, particularly in light of the failure to handle the Sidoarjo mudflow disaster and obstacles in implementing investment policies.

Kong and Ramayandi (2008) reported that macroeconomic performance showed improvement with strong growth, moderate inflation, stable exchange rates, and a strong stock market. However, the global economic slowdown and the increase in food and energy prices in 2008 are expected to pressure exports and growth rate, requiring careful monetary policy management. The initial 2008 budget, which assumed an oil price of \$60 per barrel, had to be revised due to the increase in prices approaching \$100. The lack of infrastructure spending and government coordination remains a challenge. Additionally, concerning developments occurred during the closed-door selection process for KPK members by the House of Representatives (read: DPR), which showed attempts to subvert anti-corruption efforts and evidence of bribery of DPR members by central bank officials.

Badjuri (2011) stated eradicating corruption is a crucial agenda for governments to cleanse themselves of corruption, collusion, and nepotism, and to become a national and international issue. The presence of anti-corruption agencies such as the KPK is strategic and political for the country, especially in attracting foreign investment. Developing countries that are successful in suppressing corruption will increase their competitiveness in the lens of advanced countries and international donor agencies that rank corruption, such as those issued by Transparency International and Political Risk & Economic Survey (PERC).

Howes & Davies (2014) found that President Yudhoyono, whose term will soon end, has recorded a fairly good track record based on the 2010 targets, but is still lacking in economic reform, infrastructure investment, and anti-corruption. The 2009-2014 parliament has made protective regulations. Presidential candidates Joko Widodo and Prabowo Subianto both run on a nationalist platform, with Jokowi offering a more moderate economic platform than Prabowo. The new president will face a slow economy, with growth expected to not reach 6% until 2015 and a fiscal deficit that requires structural adjustments, especially regarding energy

subsidies. Fiscal reform will be a major challenge, and the incoming president will need to be wise in choosing spending priorities and working with parliament to manage the budget and social and infrastructure investments effectively.

We note that although the economy has been relatively stable in recent years, there are several other factors that hinder progress, and the most pressing issue that needs to be addressed urgently is comprehensive bureaucratic reform and strong anti-corruption efforts. Some authors even openly state that the current reforms and transformations, particularly at the local level, have been unsuccessful, due to the paradox in development. As stated by Talitha et al. (2020), significant decentralization in Indonesia—rapid and large-scale transformation towards democratic governance—has not yet driven local development and has even had negative impacts, especially in the early stages of implementation. Siburian (2024) concluded that decentralization, regardless of its scale, is related to higher levels of corruption, as the decentralization system grants significant power to local governments to provide public goods according to local preferences, which can lead to high levels of corruption in various forms, particularly bribery and overcharging for public goods and services. This simultaneously reinforces “sand the wheels” hypothesis for Indonesia (Tutuncu & Bayraktar, 2024).

Studies in local public sector

One interesting study from a public policy perspective is study by Olken (2006), which used data from a large aid programme in Indonesia to investigate the level of corruption and evaluate how it compares to the potential benefits of redistribution. The study found that corruption was significant, with the main estimate showing that at least 18% of subsidized rice was lost in the programme. Corruption was highly concentrated, with more than 60% of the lost rice coming from just 10% of the villages, primarily in ethnically heterogeneous and low-population areas. We believe that from this finding, the corrupt individuals were central government agents, and the impact was detrimental at the local level. Olken emphasized that corruption seriously hampers the ability of government to implement redistributive programmes, even to the extent that programmes that should increase well-being end up reducing it.

Mimba et al. (2013) analyzed four case studies of local government institutions in Indonesia, showing that public sector reform has strengthened the power of stakeholders, but often one dominant stakeholder, such as the mayor/regent, controls the performance measurement system. Although the performance measurement system includes input and output indicators, result indicators are often overlooked, and the accountability reports are more

symbolic than functional. Institutional managers tend to serve the interests of the mayor/regent, but they also have to consider the interests of the Local House Representative (LHR) and central government, as well as accommodate internal interests such as financial management. They emphasize that the results reflect a high degree of conforming isomorphism between local bureaus due to central government regulations and show that compromising to serve different interests is a common response to pressure from various stakeholders.

According to Nawatmi (2013) corruption has a negative impact on economic growth, where a cleaner Indonesia from corruption leads to a decrease in economic growth. This indicates the presence of the "grease the wheel" hypothesis in Indonesia, where corruption functions as a lubricant for the economy due to structural weaknesses. At the provincial level, only ten provinces, including wealthy regions such as DKI Jakarta and West Java, significantly influence economic growth due to corruption. However, when these ten provinces are removed from the analysis, the influence of corruption on national economic growth becomes insignificant.

Lewis (2017) examined the impact of local government spending on public service provision in Indonesia and found that local government spending has a positive influence on access to education, health, and infrastructure services up to a certain point, after which the relationship becomes negative, reaching a 75% spending threshold. According to Lewis, the squared spending effect disappears in areas with directly elected executives and good external financial performance audits, indicating that good public accountability and financial performance can reduce corruption and improve public service efficiency. However, the results also show that although spending in less corrupt locals has a positive impact, its influence is not significant due to increased intergovernmental transfers, supporting other research findings on the negative impact of Vertical Fiscal Imbalance on fiscal and local government results.

According to Lewis (2018), the impact of local government form on fiscal results in Indonesia was examined by comparing locals led by directly and indirectly elected executives. Lewis's findings indicate that the form of government does not affect tax revenue, but locally elected heads tend to spend less money, especially on infrastructure, and more efficiently use resources compared to those led indirectly. The reduction in infrastructure spending in local with directly elected leaders can be offset by increased health spending. These findings support the hypothesis that directly elected governments may have lower corruption and better fiscal efficiency. His study also provides support for the election of local leaders in Indonesia, especially in the midst of debates about the elimination of direct elections and the potential negative impact on public services and democratic development.

Lewis and Hendrawan (2020) examine the impact of applying an accrual-based accounting method on reducing corruption in Indonesian regencies. This research constituted the first investigation of the causal effect of accounting practices on corruption at that level. Employing the number of court decisions regarding corruption cases as a measure, the study demonstrated that although there is a relationship between high-quality accounting practices and a reduction in corruption, accounting reform did not show a significant causal effect on reducing corruption.

Paranata (2022) revealed that statement of government through the KPK is that 40% of the budget leakage occurs at the local government level is disheartening. The study evaluates two factors: anti-corruption efforts and fiscal decentralization. The results show that reporting gratifications and public complaints can reduce budget leakage, although the increase in the Supreme Audit Board opinion status actually increases budget leakage. Low management quality, oligarchy dominance, and limited KPK jurisdiction worsen the situation, especially in the western and eastern regions. Additionally, even though many provinces have achieved a "clean without exception" opinion, budget leakage still occurs due to auditor limitations and bribery practices. Low fiscal decentralization indicates poor government management in the era of decentralization. Additionally, budget leakage in the eastern region is greater than western region.

2.7 Future research agenda on anti-corruption in Indonesia

The fight against corruption in Indonesia continues to progress. Articles appearing on an international scale indicate a great deal of attention being paid to the issue of corruption and efforts to control it. However, publications related to efforts to combat corruption, particularly anti-corruption programmes carried out by the KPK such as Stranas PK (a national-scale programme) and MCP (a local-scale programme), are limited and tend to be published in various national-level journals. Therefore, there is a need in the future regarding the extent to which these programmes are implemented and to what extent they will have an impact on the economy in the future.

One important aspect from an economic perspective is the impact of the MCP programme on local economic growth. Although supervision in various sectors is improving, corruption still occurs in the executive and legislative branches of local government. Support for preventing corruption in government offices is becoming stronger, creating social norms that encourage all individuals to avoid dishonest behavior. The anti-corruption campaign has become a large movement. The question arises as to how areas in Indonesia can improve

economic growth amidst the persistent spread of corruption. However, it should be noted that external factors are not the only instrument for promoting economic growth. We align with the approach taken by Rodríguez-Pose and Zhang (2019) and Balaguer-Coll et al. (2022) who use various control variables in various aspects such as socio-economic, demographic, and political.

The second issue is the lack of exploration into the complex relationship between local anti-corruption programmes and their interaction with local politics, which can disrupt the local economy. In other words, we do not know anything about how local power structures can impede local anti-corruption programmes and affect the local economy. In this case, local power refers to the executive and legislative roles in maintaining power and avoiding KPK's anti-corruption efforts at the local level. Moreover, the need for a non-quantitative approach that does not rely on the mainstream literature on corruption and growth is essential.

Undue attention should also be given to the management of anti-corruption programmes. Although some literature focuses on the impact of anti-corruption programmes, important aspects regarding how such programmes are implemented are often overlooked. Additionally, a more comprehensive theoretical framework needs to be developed in the context of anti-corruption programmes. Currently, the issue lacks a narrow theoretical framework. Future research should be brave enough to propose a more flexible conceptual framework for dealing with anti-corruption issues, rather than focusing on institutional issues. For example, the theory of Nudge can be used as an approach to motivate public officials to avoid corruption (Köbis et al., 2022).

2.8 Conclusion

The progress made in the field of anti-corruption in Indonesia has been significant in recent years. The purpose of this writing is to provide a more comprehensive understanding of the findings of research on anti-corruption in Indonesia. The results found that most literature focuses on the history of anti-corruption in Indonesia, anti-corruption programmes, political issues in the handling of corruption, efforts to weaken the KPK as an authorized institution in investigating corruption cases, obstacles in eradicating corruption in each government term, as well as the relationship between anti-corruption and government administration and economic performance.

These findings indicate that the government's efforts, particularly those of the KPK, have been successful in eradicating corruption at the elite level, which has resulted in the KPK facing backlash from corruptors. However, the impact of anti-corruption programmes applied at the

local level, specifically the MCP programme, has not been thoroughly investigated. In particular, the relationship between anti-corruption and economic growth amid local political interventions, as well as qualitative studies on the influence of political power at the local level, need to be further examined. Additionally, various anti-corruption research in Indonesia is needed.

Chapter 3

Institutions and economic growth: theory, literature and hypotheses development

3.1 Introduction

While good governance is commonly seen as an indicator of institutional strength, it is conspicuously absent as a standard variable in well-established growth theories, such as classical, neoclassical, and new growth (endogenous growth). Existing growth models continue to rely on tangible economic factors, building on the foundations laid by earlier theories. However, this study departs from this convention by integrating institutional variables — particularly anti-corruption into an economic growth framework. This approach is consistent with the economic growth theory originally proposed by Solow and later extended by Barro (1991), and incorporates insights from researchers such as Balaguer-Coll et al. (2022), Qi et al. (2023), Rodríguez-Pose & Zhang (2019), and Saha & Sen (2021).

In recent decades, institutions have emerged as a focal point of discussion in the economic landscape. They are increasingly recognized as central to ensuring the quality of the determinants that influence past economic growth. Scholars such as Daron Acemoglu, Douglas C. North and Oliver Williamson have played a key role in emphasising institutions as a crucial reference point for understanding economic performance. Williamson's major contributions to institutional theory, as outlined in this section, encompass four fundamental aspects: 1) 'social embeddedness', which refers to formal institutions that include customs, traditions, norms and religion; 2) the institutional setting, which includes formal institutions such as regulations, legislation, the judiciary and bureaucracy; 3) governance, which aims to minimize transaction costs; and 4) institutions within a principal-agent framework, which operate effectively through incentives in the form of rewards and punishments (Williamson, 1979, 1983, 1998).

This chapter poses two questions:

RQ 3.1: How has the theory of economic growth evolved over time?

RQ 3.2: What is the position of institutional theory in economic growth?

We present the theoretical references as the foundation of the research objectives as well as the empirical literature that serves as a guide. In the next section, we explain the economic growth theory used as a reference. We then discuss the importance of institutional theory in chapter. Next are the relationship between institutions and economic growth, and anti-

corruption programme in Indonesia, the relationship between anti-corruption and political institutions on economic growth, and also the development of hypotheses.

3.2 Economic growth

According to Kuznets (1973), economic growth is a condition of a country's ability to provide its population with types of economic goods in the long run that are supported by technological progress, good institutions, and state ideology. When the definition is squeezed, three components emerge: first, economic growth continuously increases the supply of goods; second, the rate of economic growth is determined by a country's technological capabilities; and third, institutional and ideological adjustments regulate the use of technology to be more efficient and beneficial to humanity.

Flammang (1979) offered an interesting perspective stating that economic growth and development are interdependent and mutually reinforcing processes. He stated that since Rostow's stage of economic growth, most discourse has emphasized that "the growth process" involves certain sectors leading while others lag, with overall growth rates depending, at least in part, on how efficiently resources can be reallocated from lagging sectors to leading sectors. This raises the question: is this not an indication that structural development, marked by structural change, is crucial for maintaining overall economic output? Without structural change, the economy may face diminishing profitability in certain sectors, ultimately leading to slower growth. Conversely, growth in established sectors can increase the availability of funds for investment in emerging sectors. Development facilitates growth by replacing old structures with new ones, while growth supports development by providing the resources required for new sectors to flourish. Although these processes may appear alternating, they often occur simultaneously, blurring the lines between them.

3.2.1 Classical school

In this section, we briefly explore the main ideas put forth by the classical school's luminaries. First, Adam Smith, the most renowned classical economist, proposed two key concepts: the division of labor and comparative advantage, as well as the free market and the "invisible hand." Smith believed that a nation's economic progress could be achieved through effective division of labor. As the division of labor increases, individuals' skills, dexterity, and ability to utilize labor effectively also rise, whether they are artisans, merchants, or philosophers (Spengler, 1959). The second idea states that the results of individual labor and

the pursuit of profit will ultimately maximize society's welfare. The "invisible hand" of the free market transforms individual profit-seeking into public benefit for the community (Bishop, 1995). According to Oslington (2012), this apparent metaphor is Smith's acknowledgment of the possibility of divine intervention in the economic system to ensure its stability. In Smith's understanding, the "invisible hand of God" is capable of balancing public activities in the market.

According to Adam Smith, production of a country is composed of three components: natural resources, human resources, and capital accumulation. Among these three elements, natural resources are the essential factors required for production. On the other hand, human resources play a passive role, while capital stock takes an active role in increasing production. Capital stock is expected to increase with the growing specialization of labor, resulting in high productivity (Eltis, 2000).

Thomas Robert Malthus' theories have faced various criticisms, but it is crucial to acknowledge that his critique of population growth and population control holds significant importance in thinking about population and resources. In his influential work, *An Essay on the Principle of Population*, Malthus' main points include: 1) population growth tends to grow exponentially, while resources increase only arithmetically; 2) the "Malthusian equilibrium point," population growth will be limited by the availability of natural resources and production; 3) society will experience famine and death to achieve a balance between population and resources; and 4) the need to implement population control (Montano & García-López, 2020).

Empirical research suggests that population does not play a significant role in economic growth, according to Azam et al. (2020). In fact, Malthus and Kremer's theories appear to contradict each other in India, as Kremer's theory posits that population has a positive and significant impact on economic growth. Naso et al. (2020) found that demographic changes in this century indicate significant differences from the previous two centuries. They then examine how the economy responds to demographic conditions with limited resources. As a result, the issues outlined by Malthus (population-induced resource constraints) were avoided during the period of maximum population growth, largely due to the increasing rate of population growth. However, the end of this phase of development and the onset of the demographic transition (i.e., declining population growth rates and increasing dependency ratios) may have led to the re-emergence of resource constraints that are important for global development.

The next figure is **David Ricardo**, who introduced the absolute profit theory, the theory of labor value, and the iron law of wages. Absolute profit theory is an extension of Smith's

theory of comparative advantage. According to Ricardo, absolute profits can be made when two countries engage in trade, particularly in exclusive goods. Shifting to the labor theory of value, he explained that the value of goods and services is determined by the amount of labor required for their production. On the iron law theory of wages, he asserted that an increase in wages would lead to population growth, subsequently augmenting the supply of labor to exceed demand. Consequently, with a surge in demand for labor, wages would persistently decline.

According to Dixon (2008) and Letiche (1960), David Ricardo's vision of social order was achieved through a fully functioning free market and the extension of the franchise to the working class. Ricardo responded to the need for radicals by outlining a system that could operate without control. For Ricardo, the interest of the working class in the health of the whole system was a better guarantor of accumulation than interest in specific benefits. Although it is a system of accumulation, it cannot be entrusted with competing property interests. Only one group depends on the system as a whole; through a well-functioning democracy, the interests of the working class govern bourgeois society. Indeed, Ricardo believed that the reform would free the interests of this group and introduce a lawful political economy that would allow everyone to prosper.

Letiche (1960) argued that we must turn to David Ricardo for the first fairly rigorous classical theory of economic growth. This argument is based on Malthus's population principle and the law of diminishing returns. Ricardo tried to consider the British case, where the crucial long-term problem was how to reorganize a growing economy with a growing population, where the main industries—manufacturing and agriculture—were developing at very different rates of productivity growth. The question is: What level of economic development is appropriate for a country's resources, technology, and institutions at a given point in its history? Economic growth depends on capital accumulation. This depends primarily on the productive power of labor. Such productive forces are generally greater when there is plenty of fertile land. An increase in capital increases the demand for labor and wages and reduces profits. However, the sustainability of wage increases depends on what happens to the price of production and the relationship between population growth and land fertility.

3.2.2 Neo-Classical school

The study's foundation is also based on the neo-classical model, although modifications were made to the model's variables. The neo-classical model, which was developed by Solow, is a model for estimating output growth that takes into account capital, labor, and technology.

As such, it is essential to provide a historical explanation before presenting the model in Chapter 5.

Building on Solow (1956) seminal work, the Harod and Domar growth model was subjected to criticism, and a new long-term growth model was subsequently proposed, which was named the Solow growth model. Solow argued that the Harod and Domar model's emphasis on savings and investment as determinants of long-term economic growth was inadequate, as these factors were considered to be short-term variables by Solow. Solow's model incorporated technological change, which allowed for a shift from constant returns to scale to increasing returns to scale.

In the following year, Solow (1957) further refined the theory by demonstrating the impact of technical change on aggregate output. By using data from the United States spanning the period between 1909 and 1949, Solow's findings revealed that 1) technical change had a neutral effect on average during the data period; 2) there was a rise in the production function by 2 percent in the first half of the period and by an additional 2 percent in the second half; and 3) gross output per hour doubled, with 87.5 percent of this increase attributable to technical change and the remaining 12.5 percent due to capital improvements. These results emphasize the significance of technological change in driving changes in the aggregate production function.

The two articles authored by Solow form the basis of the widely recognized Solow growth model today. Moreover, Solow's model has inspired later models, such as those proposed by Romer. Additionally, Solow's model has served as a research guideline for numerous scholars. Critics have raised concerns about the Solow Residual, specifically the effect of technological change on the real business cycle, as demonstrated by Hartley (2000), which adopts the model proposed by Hansen and Sargent (1990). The findings of Hartley (2000) suggest that there is no consistent relationship between the direction and magnitude of technological change and the sign and size of Solow residuals. Moreover, larger positive Solow residual changes in technology do not necessarily result in larger positive Solow residuals.

Later, other empirical findings continued to support the neoclassical growth model developed by Barro (1992) and Barro and Sala-i-Martin (1990). Their focus is on the concept of human capital accumulation as one of the key factors determining economic growth in the long run. Investments in human capital, such as education and skill upgrading, are key. They assert that an increase in the level of education is expected to increase labor productivity and output. In addition, they also introduced the concepts of beta, sigma, and absolute convergence (Barro, 1991; Barro et al., 1992; Barro & Sala-i-Martin, 2004).

Countries that start out with a low per capita income and improve over time. If the value of β is positive, this is called beta convergence. However, if the value of β is negative, it is called divergence. Sigma convergence is measured by the level of dispersion of log income per capita in each region. If income dispersion continues to fall over time, then the gap between regions is narrowing, or sigma convergence is occurring. In theory, there is no standard formula for calculating sigma convergence. The negative relationship between income and growth rate indicates that rich regions experience low economic growth, suggesting that incomes tend to converge in absolute terms. This process is called absolute convergence.

3.2.3 Endogenous Growth

This theory is basically born out of Romer's idea in his criticism of Solow's long-run growth concept, known as the Solow model. Solow argues that technology is exogenous, whereas Romer argues that technology is endogenous or comes from within the model itself. This model assumes that growth in the long run is increasing returns to scale, not constant returns to scale (neoclassical).

The role of endogenous factors is also created under the assumption of imperfect competition. It is this temporary monopoly power that can encourage innovation in the private sector (Romer, 1987). All the following explanations of the essence of Romer's model are taken from his articles (Romer, 1986, 1987, 1989, 1990, 1994).

The importance of knowledge, innovation, and human capital accumulation in driving long-term growth is emphasized by Romer's model. In contrast to Solow, who utilized the Cobb-Douglas production function, Romer introduced the concept of endogenous technological change, in which knowledge (A) is not assumed to be exogenous but is generated through investment in research and development. In the balanced growth path of the long run, all variables grow at constant rates, and the economy grows endogenously. This model implies that ongoing investments in knowledge and technology are the primary drivers of sustained growth. Unlike exogenous growth models, in which technological progress is treated as a random or external factor, Romer's model demonstrates that policies promoting R&D and education can have a direct impact on economic growth.

3.3 Theoretical position of institutions in explaining economic growth

Referring to Acemoglu et al. (2005) assertion that the most enduring yet pivotal question in the economic growth and development is: why do some countries lag behind in prosperity?

The neoclassical luminary Solow elucidated the pathway to growth, and Romer was renowned for introducing the concept of endogenous growth. While these theoretical traditions persist in economics and offer valuable insights into the mechanisms of economic growth, they have not yielded fundamental insights into their core drivers. According to North and Thomas, factors such as innovation, economies of scale, education, and capital accumulation do not merely contribute to growth; rather, they constitute growth itself. These factors serve as proximate causes of growth, with institutional differences being the most fundamental determinant.

What exactly are these institutions? North (1991) defines institutions as rules (constraints) created by people to organize and shape political, social, and economic interactions. They consist of informal (customs, traditions, social norms, and religion) and formal rules (constitutions, laws, regulations, and property rights). Together, they determine the incentive structure for society, particularly for the economy.

According to Acemoglu et al. (2005), three characteristics of good institutions are particularly relevant to the economy. First, it preserves property rights for the whole society so that each individual has an incentive to invest and participate in economic activities. Second, they constrain the actions of elites, politicians, and other powerful groups so that they cannot deprive others of income and investment, or create unequal opportunities for everyone. Third, it provides equal opportunities for every member of society, so that each individual can invest, especially in human capital, and participate in productive activities.

Furthermore, Acemoglu and Robinson (2012) distinguish two categories of institutions: inclusive and extractive. Inclusive institutions are characterized by 1) supporting broad community participation in economic activities; 2) promoting investment, innovation, and economic growth; 3) guaranteeing property, contract, and individual rights; and 4) reducing inequality and providing opportunities for many people. Meanwhile, the characteristics of extractive institutions are: 1) they tend to favour small groups or elites who control economic resources, 2) they create barriers to broad participation and economic development, 3) they strengthen monopoly and oligopoly, and 4) they create high inequality.

In our opinion, from what has been described by experts in institutional theory in our study, which is related to the impact of corruption control on economic growth at the local level in Indonesia, the implementation of the anti-corruption programme is an implementation of institutional theory. Therefore, the anti-corruption programme in Indonesia can be included as an institutional characteristic that can prevent elites and politicians at the local level from committing acts that fall under the categories of corruption, collusion, and nepotism. The anti-

corruption programme is included as one of the categories of inclusive institutions that can boost the economy by guaranteeing good governance.

3.4 The review of empirical studies so far

3.4.1 The relationship between institution and economic growth: empirical studies

Corruption as sand the wheels

This study commenced by examining the intricate relationship between institutional dynamics and economic growth. The institutional indicators utilized in the literature were assessed based on the World Governance Indicator indicators from the World Bank, Transparency International, and The Inter International Country Risk Guide. We believe that the strength or weakness of an institution in a country can be gauged through the indices in those organizations. Overall, our findings indicate that a global consensus regarding the impact of corruption on economic growth remains elusive. The existing literature suggests that corruption has both detrimental and beneficial effects on economic growth.

This study examines two hypotheses that encapsulate the impact of corruption on the economy. Empirical research supports the 'sand in the wheels' hypothesis, as evidenced by 17 articles from different regions, including the GCC, OECD, and global datasets. This paradigm posits that corruption impedes economic growth. Table 3.1 and 3.2 provide detailed presentation of the findings, including methodologies and supporting variables.

This research, which originated in Indonesia, attempts to elucidate the impact of corruption on economic growth. Alfada (2019) used a provincial-level sample and employed a nonlinear threshold panel effect to identify the threshold at which corruption has a negative impact on economic growth. The results delineate a negative impact at thresholds of ≤ 1.765 and > 1.765 , resulting in a decline of 0.182% and 1.258%, respectively. In particular, when private and government expenditures are included, the impact of corruption on economic growth becomes insignificant. However, when endogeneity issues are addressed through instrumental variables, a complex interaction between corruption and government spending emerges, manifesting as a significantly negative impact of corruption on economic growth. Subsequently, Al Qudah et al. (2020), focusing on Tunisia, used the vector autoregressive distributed lag (ARDL) method from 1995 to 2014. Their results underline the direct negative impact of corruption on GDP per capita in the long run, with a reduction of 0.235%. In addition, corruption indirectly affects economic growth through physical investment. Zeeshan et al. (2022) examined the relationship between political instability, corruption, and economic

growth in Pakistan from 1996 to 2018 using both linear and nonlinear ARDL methods. The study finds that corruption significantly reduces GDP by 0.036% and 0.091% in the long run, using linear and nonlinear ARDL methods, respectively.

The subsequent review is extended to studies that use regional samples. Hakimi dan Hamdi (2017) analyses the effects of corruption, investment and economic growth in 15 Middle East and North Africa (MENA) countries from 1985 to 2013, using the panel vector error correction model (PVECM). Corruption hampers economic growth by hindering direct investment activities, with a long-run impact of 0.557% and short-run impact of 0.465%. Belloumi and Alshehry (2021) focus on the Gulf Cooperation Council, using the PVECM method from 2003 to 2016. The result shows that corruption has a negative impact on economic growth, leading to a reduction of 0.273%, but at the same time has a positive impact on investment.

Further research should focus on regions with sample sizes of less than 30 countries. For example, Das et al. (2020) examined 13 developing Asian countries and used panel quantile regression to identify the effects of innovation and corruption on economic growth. The study found a negative and significant impact of corruption on economic growth, with values of 1.121%, 0.781%, and 0.365% in the OLS, quantile, and robust models, respectively. Urbina and Rodríguez (2022) studied five Latin American countries and five Nordic countries using Bayesian panel vector autoregressive (VAR) and panel error correction VAR methods. The results support the hypothesis of wheels in Chile and Bolivia, while Colombia is consistent with the 'greasing the wheels' hypothesis. The impact of corruption on economic growth is found to be insignificant in Brazil and Peru, while it is found to be significant in the Nordic countries. Furthermore, Paulo et al. (2022) examined 25 countries in Latin America and the Caribbean using a panel regression method with a GMM system and two fixed effects over the period 2000-2018. The fixed effects method shows a negative impact of 12.2% on GDP per capita, whereas the GMM system yields negative and significant results, indicating a 3.5% reduction in economic growth. Azam (2022) examines the relationship between governance and economic growth in 14 Latin American and Caribbean countries using data from the first quarter of 2012 to the fourth quarter of 2018. The study uses the ARDL panel or pooled mean group (PMG) as the test method and finds a negative and significant impact of corruption on economic growth in both the short and long run, with effects of 0.043% and 0.096%, respectively. The authors argue that improving government effectiveness and domestic political stability are potential mechanisms to enhance economic growth in a regional context.

In addition to articles focusing on samples from fewer than 30 countries, eight related studies examining the relationship between corruption and economic growth have been

identified. Spyromitros and Panagiotidis (2022) investigated 83 developing countries from 2012 to 2018, using three corruption indices. Their model, including panel regression, dynamic fixed effects, and ordinary least squares (FM-OLS), showed a negative and significant impact of corruption on economic growth in developing countries, excluding Latin America. Hamdi and Hakimi (2022) examined 38 developing countries from 2009 to 2018 using panel smooth transition nonlinear regression. The findings confirmed the negative and significant impact of corruption on economic growth, which was 1.148% for the whole sample and different effects of 1.492% and 2.161% for African and non-African countries, respectively. In addition, non-African countries with corruption scores below 2.835 tend to import innovations rather than rely on local innovations. Uddin and Rahman (2022) studied 79 developing countries using ARDL panel data from 2002 to 2018 and found a negative impact of corruption on economic growth in both the short and long run, with decreases of 0.045% and 0.0002%, respectively.

In the fourth study, Gründler and Potrafke (2019) examine 179 countries using a dynamic panel with data from 2012 to 2018. The standard regression method showed a negative and significant impact of corruption on economic growth of 0.005%, along with similar effects at the lagged and difference levels. The robust regression method shows a negative impact, recording -0.035% on the lagged rate and -0.012% on the lagged difference. Fifth, Ó. Afonso and Longras (2022) investigated 48 countries from 2012 to 2019 using a dynamic panel method and found a negative effect of corruption on economic growth, quantified at 4.094% using an OLS dynamic model. Sixth, Baklouti and Boujelbene (2020) studied 34 OECD countries using data from 1995 to 2014. Basic regression methods, fixed effects, and GMM systems are used to examine the impact of corruption on economic growth. The results show a negative and significant effect of corruption on economic growth of 0.280 %, 0.011 %, and 0.133 %, respectively, using the three methods. This study suggests that a shadow economy can have an adverse impact on economic growth.

Corruption as grease the wheels

In the previous quinquennium, scholarly discourse has explained the nuanced role of corruption, portraying it as a potential facilitator. It is imperative to emphasize that subjective judgements should be avoided unless expressly stated. This study endeavors to gather scholarly insights into the intersection between corruption and economic growth by appreciating the diverse perspectives inherent in such scholarly endeavors. Zeeshan et al. (2022) conducted a study on the interaction between natural resource wealth, economic growth, and corruption,

with a time span from 1996 to 2018. Using both linear and nonlinear ARDL methodologies, their study revealed a short-term positive impact of corruption on economic growth, recording an increase of 0.023% in both the linear and non-linear ARDL frameworks. In a parallel study, Malanski and Póvoa (2021) examine the link between corruption and economic growth in 19 Latin American and 11 Asia-Pacific countries. Postulating the moderation of this relationship by economic freedom, this study uses panel regression with a system-GMM estimation. The findings highlight a significant positive effect on economic growth in Latin America (0.00016%) and the Asia-Pacific region (0.0013%), arising from the interaction between economic freedom and corruption.

Spyromitros and Panagiotidis (2022) conducted a comprehensive investigation of 83 developing countries over the period 2012-2018. Using three different corruption indices and employing a variety of methodological approaches such as panel regression, AR(-1) fixed-effects dynamic panel regression, and FM-OLS, their study provides noteworthy results. In particular, a positive effect of corruption on economic growth is observed in Latin American countries. Qureshi et al. (2021) expanded their coverage to 54 countries, comprising 28 developed and 26 developing countries, using PVAR methodology from 1996 to 2008. Their findings suggest a bidirectional relationship between corruption and economic growth, with a positive correlation in developing countries and an opposite relationship in developed countries. The PVAR method estimates the impact of corruption on economic growth in developing countries at 35.9%, whereas the GMM model shows a slightly lower impact of 12.2%. The authors argued that the persistence of corruption is due to deficient accountability structures, inadequate institutional frameworks, and compromised independence.

Hamdi and Hakimi (2022) studied the intricacies of the nonlinear relationship among corruption, high-tech imports, and economic growth in 38 developing countries covering the period 2009-2018. Using the panel smooth transition nonlinear regression method, they identify a threshold of 1.666. The results show that corruption has a positive and significant effect on economic growth above a certain threshold, with magnitudes of 1.418%, 1.492%, and 2.161% observed across different sample regions, including Africa and other regions. Similar findings were also found in Das et al.'s (2020) study covering 13 Asian countries from 2008 to 2011, which utilized panel quantile regression, robustness checks (GMM), and threshold regression. Specifically, the latter approach revealed a positive and significant effect of corruption on economic growth at various innovation thresholds (1%, 5%, 10%, and 20%) with magnitudes of 1.706, 1.651, 1.522, and 1.508%, respectively.

In a cross-continental exploration, Urbina and Rodríguez (2022) investigated the impact of corruption on economic growth, human development, and natural resources in Latin American and Nordic countries using data from 1998 to 2017. Using Bayesian panel VAR and panel error correction VAR methods, their findings, although not statistically significant, temporarily support the grease-the-wheel hypothesis for Colombia, Brazil, and Peru. A different aspect is introduced by a study conducted by A. Afonso & de Sá Fortes Leitão Rodrigues, (2022) on 48 countries from 2012 to 2019, which shows that the correlation between corruption and economic growth can be affected by the size of the government. Using a dynamic panel method, this study highlights positive and significant results for economic growth across different government sizes and country development statuses, with and without control variables. Trabelsi and Trabelsi (2021) examined 88 countries from 1984 to 2011 and found a nonlinear relationship between corruption and economic growth. Using nonlinear panel regression, their findings revealed an acceptable corruption threshold, estimated to be around 2.3 - 3, leading to an average economic growth of 4.7%. This threshold represents the point at which the marginal benefits of corruption are equal to the marginal costs.

In sum, this amalgamation of scholarly research provides a mosaic of insights into the complex dynamics that characterize the relationship between corruption and economic growth, underscored by contextual dependencies, methodological nuances, and nuanced interactions of variables.

Furthermore, we present a comprehensive information of the relationship between institutions and economic growth, which is informed by the results of the aforementioned studies. Our presentation includes an overview of the data and variables employed, as well as the methods and contributions of the research findings. The relevant information is summarized in Table 3.1 and Table 3.2 below.

Table 3.1 Sand the wheels

No	Author(s) & Country's study	Measurement of corruption	Economic Growth	Econometrics strategy & time frame	Statistical result	Other variable (including control variables)
1	<ul style="list-style-type: none"> Alfada (2019) Indonesia 	<ul style="list-style-type: none"> Cases of corruption in provinces level in Indonesia by CEC Indonesia 	<ul style="list-style-type: none"> Real regional GDP per capita by Statistic Indonesia 	<ul style="list-style-type: none"> Panel regression threshold 2004 – 2015 	<ul style="list-style-type: none"> Model 1: Regime 1 & 2, corruption ≤ 1.765 and >1.765: impact of corruption to economic growth are -0.182* and -1.258*. Model 1: Regime 1 & 2, corruption ≤ 1.765 and >1.765: impact of corruption to economic growth are -0.182* and 0.693***. Model 3: Regime 1 & 2, corruption ≤ 1.765 and >1.765: impact of corruption to economic growth are -0.181 and -0.686***. Model 4: Regime 1 & 2, corruption ≤ 1.765 and >1.765: impact of corruption to economic growth are -0.178** and -0.373***. Model 5: Regime 1 & 2, corruption ≤ 1.765 and >1.765: impact of corruption to economic growth are -0.182* and -0.390***. 	<ul style="list-style-type: none"> Investment (% of regional GDP) by Statistics Indonesia Government consumption (% of regional GDP) by Statistic Indonesia Trade (% of regional GDP) by Statistics Indonesia Government investment expenditure (% regional GDP) by Statistics Indonesia Schooling (years) by Statistics Indonesia
2	<ul style="list-style-type: none"> Al Qudah et al. (2020) Tunisia 	<ul style="list-style-type: none"> Corruption Perception Index by TI 	<ul style="list-style-type: none"> Real GDP per capita 	<ul style="list-style-type: none"> Autoregressive Distributed Lag (ARDL) – Error correction model 1995 – 2014 	<ul style="list-style-type: none"> Long run estimation: impact of \ln corruption to economic growth is -0.235*** and \ln corruption t-1 is 0.161***. Long term dynamic model – ECM: Dcorruption has -0,235***. Statistical gap along this study has evaluated around 8.71%. 	<ul style="list-style-type: none"> Government consumption expenditure (% of GDP) Fix capital formation (% of GDP) Government spending on education (% of GDP)

3	<ul style="list-style-type: none"> • Zeeshan et al. (2022) • Pakistan 	<ul style="list-style-type: none"> • Corruption Perception Index by TI 	<ul style="list-style-type: none"> • Real GDP per capita 	<ul style="list-style-type: none"> • ARDL linear and ARDL non-linear • 1996 – 2018 	<ul style="list-style-type: none"> • Short run ARDL linear: Model 1, 2, & 3 are 0.023**, 0,028**, and 0.020. • Long run ARDL linear: Model 1, 2, & 3 are -0.036*, -0047*, and -0.035** • Short run ARDL non-linear: Δ corruption positive shock has impact 0.023 to the economic growth, and 0.065** with negative shock to the economic growth. • Long run ARDL non-linear: Δ corruption negative shock has impact -0.091* to the economic growth, and 0.144* with negative shock to the economic growth. 	<ul style="list-style-type: none"> • Political instability index by ICRG • Political instability2 index by ICRG • Natural resources (Total natural resources rent, % of GDP) by WDI
4	<ul style="list-style-type: none"> • Hakimi & Hamdi (2017) • 15 Middle East & North Africa countries 	<ul style="list-style-type: none"> • Corruption index (CI) by international country risk guide (ICGR) 	<ul style="list-style-type: none"> • Log of real GDP per capita 	<ul style="list-style-type: none"> • Panel vector error correction model (PVECM) • Granger causality • 1985 – 2013 	<ul style="list-style-type: none"> • Long run estimation: impact corruption to economic growth is 0.557*** (means that negative to the growth) • Short run estimation: impact of $Dcorruption(-1)$ to economic growth is 0.465*, and $Dcorruption(-2)$ to economic growth is -0.188. • Granger causality: corruption-GDP is 0.419 (means that negative to the growth) 	<ul style="list-style-type: none"> • FDI (% of GDP) by the World Bank • Domestic investment (% of GDP) by the World Bank • Total credit to the private sector (% of GDP) by the World Bank: IMF
5	<ul style="list-style-type: none"> • Belloumi & Alshehry (2021) • Gulf Cooperation Council Countries 	<ul style="list-style-type: none"> • Corruption Perception Index by TI 	<ul style="list-style-type: none"> • Growth rate of real GDP per capita 	<ul style="list-style-type: none"> • Panel vector error correction model • 2003 – 2016 	<ul style="list-style-type: none"> • Short run causality: 0.623 • Long run causality: 11.99** • Panel FMOLS: -0.273** 	<ul style="list-style-type: none"> • Trade openness index by WDI • Domestic credit (% of GDP) by WDI • Domestic investment (% of GDP) • FDI (% of GDP)

6	<ul style="list-style-type: none"> • Das et al. (2020) • 13 Asian Countries 	<ul style="list-style-type: none"> • Corruption Perception Index by TI 	<ul style="list-style-type: none"> • Real GDP per capita 	<ul style="list-style-type: none"> • Panel regression, quantile, robustness check (GMM) and sensitivity test (threshold). • 2008 – 2011 	<ul style="list-style-type: none"> • OLS: Model 1, 2, 3, are -1.121*, -0.071, 1.267*. • Quantile: Model 1, 2, 3 are -0.781*, -0.536*, -0.404*** • Robustness check - GMM: Model 1, 2 are -0.365*, and 0.190 • Sensitivity test (threshold): Model 1, 2, 3 are 1.706*, 1.651*, 1.522* 	<ul style="list-style-type: none"> • Innovation index by Global innovation index • Financial development index by IMF • Inflation by WDI • Economic freedom by Heritage foundation
7	<ul style="list-style-type: none"> • Urbina & Rodríguez (2022) • 5 countries of Latin America & 5 countries of Nordic 	<ul style="list-style-type: none"> • Corruption Perception Index by TI 	<ul style="list-style-type: none"> • Growth rate of real GDP per capita 	<ul style="list-style-type: none"> • Bayesian Panel Vector Autoregressive • Panel error correction VAR • 1998 – 2017 	<ul style="list-style-type: none"> • There is sand the wheels hypothesis in Chile and Bolivia. • Colombia is greasing the wheels. Brazil and Peru are not significant. • The shock of corruption has significant to the Nordic Countries 	<ul style="list-style-type: none"> • Natural resources export (WB Development Indicators) • HDI by UNDP • Growth rate of Commodity Export Price index by IMF
8	<ul style="list-style-type: none"> • Paulo et al. (2022) • 25 countries of Latin America & Caribbean 	<ul style="list-style-type: none"> • Corruption Perception Index by TI 	<ul style="list-style-type: none"> • Real GDP per capita by IMF 	<ul style="list-style-type: none"> • Panel regression: Sys GMM and two-way fixed effect • 2000 – 2018 	<ul style="list-style-type: none"> • Fixed effect: corruption has negative and significant effect on GDP per capita level about -0.002. Corruption increases by 1 standard deviation (15.287) decrease GDP per capita by 12.2%. • SYS GMM: Corruption increases by 1 standard deviation (15.287) decrease GDP per capita by 0.03%. 	<ul style="list-style-type: none"> • Physical capital: gross capital formation (% of GDP) by WDI • Human capital (years of length of schooling) by WDI • Population by WDI • Government size (total government size, % of GDP) by WDI • FDI by WDI • Economic openness: sum of export and import. (% of GDP) by WDI • Inflation rate by WDI
9	<ul style="list-style-type: none"> • Azam (2022) 14 Latin America & Caribbean countries. 	<ul style="list-style-type: none"> • Corruption Index by World Governance Indicator 	<ul style="list-style-type: none"> • Real GDP per capita 	<ul style="list-style-type: none"> • Panel Autoregressive Distributed Lag (Pooled Mean Group) 	<ul style="list-style-type: none"> • PMG long run: impact corruption to economic growth is -0.0969* 	<ul style="list-style-type: none"> • FDI inflows (US\$) • Export (% of GDP) • Inflation (annual %)

				<ul style="list-style-type: none"> Q1 2002 – Q4 2018 	<ul style="list-style-type: none"> PMG short run: impact corruption to economic growth is -0.0423*** 	<ul style="list-style-type: none"> Personal remittance (US\$) Population growth (WDI) Indicators of WGI
10	<ul style="list-style-type: none"> Spyromitos & Panagiotidis (2022) 83 developing countries 	<ul style="list-style-type: none"> Corruption Perception Index (CPI) by TI Control of corruption index (CCI) by the World Bank Corruption index (CI) by ICGR 	Log GDP per capita by the World Bank	<ul style="list-style-type: none"> Panel regression Dynamic AR(1) FEM FM-OLS 2012 – 2018 	<ul style="list-style-type: none"> AR(1): Using 3 models, impact of CPI to economic growth are -0.232**, -0.21854 and -0.195* AR(1): Using 3 models, impact of CCI to economic growth are -0.105, -0.07, and -0.05. AR(1): Using 3 models, impact of CI to economic growth are -1.810, -2,088 and -2.249* FM-OLS: Using 3 models, impact of CCI to economic growth are -4.769***, -0.739* and -1.232***. FM-OLS: Using 3 models, impact of CCI to economic growth are -4.463***, -0.342, -0.612. FM-OLS: Using 3 models, impact of CCI to economic growth are -4.458***, -8.056 and -8,091. 	<ul style="list-style-type: none"> Total investment (% of GDP) by the World Bank FDI (% of GDP) by the World Bank Population growth (annual %) by the World Bank Education (% of citizen in secondary education) by the World Bank. Government consumption (% of GDP) the World Bank Total export and import (% of GDP at constant price) by Global Economy Broad money (M3/GDP) by IMP & OECD
11	<ul style="list-style-type: none"> Hamdi & Hakimi (2022) 38 of developing countries 	<ul style="list-style-type: none"> Corruption index by international country risk guide (ICGR) 	<ul style="list-style-type: none"> Growth of GDP (%) by WDI 	<ul style="list-style-type: none"> Panel smooth transition regression – non-linear 2009 – 2018 	<ul style="list-style-type: none"> For whole sample: corruption has impact 1.148*** to economic growth. For African countries: corruption has impact 1.492*** to economic growth. For non-African countries: corruption has impact 	<ul style="list-style-type: none"> Import of high technology (ln) by OECD. Gross fixed capital (% of GDP) by WDI FDI (% of GDP) by WDI Trade (% of GDP)

					<p>2.161** to economic growth.</p> <ul style="list-style-type: none"> The threshold for all countries and African countries is corruption > 1.666. For non-African countries is corruption > 3.000. 	<ul style="list-style-type: none"> Individual using internet (% of population) by WDI
12	<ul style="list-style-type: none"> Uddin & Rahman (2022) 79 Developing countries 	<ul style="list-style-type: none"> Corruption Index by World Governance Indicator 	<ul style="list-style-type: none"> Log real GDP per capita 	<ul style="list-style-type: none"> Panel ARDL 2002 – 2018 	<ul style="list-style-type: none"> Panel ARDL long run: impact of corruption to economic growth is -0.0435 Panel ARDL short run: impact of corruption to economic growth is -0.0002 Panel causality test: 2.991 	<ul style="list-style-type: none"> Unemployment Inflation Governance by WGI Government effectiveness by WGI Political stability by WGI Rule of law by WGI
13	<ul style="list-style-type: none"> Gründler & Potrafke (2019) 175 countries 	<ul style="list-style-type: none"> Corruption Perception Index by TI 	<ul style="list-style-type: none"> Real GDP per capita 	<ul style="list-style-type: none"> Panel dynamic 2012 – 2018 	<ul style="list-style-type: none"> Regression Result: Contemporaneous corruption at level: impact of corruption to economic growth is -0.005*** Lagged corruption at level: -0.005*** Lagged corruption at difference: -0.002*** Robustness Check: Contemporaneous corruption at level: impact of corruption to economic growth is -0.035* Lagged corruption at level: -0.041** Lagged corruption at differences: -0.012** 	<ul style="list-style-type: none"> Democracy by Gründler & Krieger (2016) Openness by WB Election year by Potrafke, 2019) Investment by WB Fertility by WB FDI by WB Interpersonal (Globalization) by Gygli et al. (2019) and Dreher (2006) Economic (Globalization) by Gygli et al. (2019) and Dreher (2006) Net migrant by UN 2017 Rails by UIC 2019 Inflation by WB 2019 Gov Consumption by WB

						<ul style="list-style-type: none"> • Tax revenue by WB • Persistence to last grade by WB • Public spending (Education) by WB • Rule of law by WB • Government effectiveness by WB
14	<ul style="list-style-type: none"> • Afonso & de Sá Fortes Leitão Rodrigues (2022) • 48 countries 	<ul style="list-style-type: none"> • Corruption Perception Index • By TI 	<ul style="list-style-type: none"> • Real GDP per capita 	<ul style="list-style-type: none"> • Panel dynamic • 2012 – 2019 	<ul style="list-style-type: none"> • 1. Dynamic model • OLS: -4.094 • FE: 39.409* • GMM: 89.621*** • 2. GMM model (Small, medium & Big Government): • Model 1: 79.791*** • Model 1 Diff: 93.032*** • Model 2: 77.099*** • Model 2 Diff: 44.839 • 3. GMM model (Small gov. Developed & Developing countries) • Model 1: 85.515*** • Model 1 Diff: 82.780 • Model 2: 84.441** • Model 2 Diff: 72.333 • 4. GMM model (medium & big gov. Developed & Developing countries) • Model 1: 114.479** • Model 1 Diff: -42.154 • Model 2: 139.720** • Model 2 Diff: -18.834 	<ul style="list-style-type: none"> • Government size: small, medium, big. Based on public expenditure to GDP ratio. Small < 40%, medium 40 – 50, big > 50%. • General government final consumption (% of GDP) by WB • Expenses (% of GDP) by WB
15	<ul style="list-style-type: none"> • Baklouti & Boujelbene (2020) • 34 OECD countries 	<ul style="list-style-type: none"> • Corruption Perception Index by TI 	<ul style="list-style-type: none"> • Real GDP per capita 	<ul style="list-style-type: none"> • Baseline regression • Fixed effect • System GMM • 1995 – 2014 	<ul style="list-style-type: none"> • Baseline regression: • OLS: -0.280*** • Fixed effect: -0.011 • System GMM: -0.133 	<ul style="list-style-type: none"> • Control of corruption index by WGI • Shadow economy SE1 (% of GDP) by Schneider et al. (2010)

					<ul style="list-style-type: none"> • System GMM: • Model 1: -0.879** • Model 2: -0.304*** • Model 3: 0.666** 	<ul style="list-style-type: none"> • Shadow economy SE1 (% of GDP) by Elgin & Oztunali (2012) • Government expenditure (% of GDP) by Heritage foundation • FDI by WDI • Unemployment (ILO estimated) by WDI • Gross fixed capital formation (% of GDP) by WDI • Gross enrolment ratio both sexes (%) by WDI • Tax revenue (% of GDP) by WDI
16	<ul style="list-style-type: none"> • Dokas et al. (2023) • 109 countries 	<ul style="list-style-type: none"> • Corruption Perception Index by TI • International country risk guide (ICGR) corruption index 	<ul style="list-style-type: none"> • Real GDP per capita (natural logarithm) 	<ul style="list-style-type: none"> • FM-OLS • FM-OLS (corruption & innovation) • Robustness • 2010 – 2018 	<ul style="list-style-type: none"> • FM-OLS: -0.0104*** • FM-OLS corruption and innovation: -0.015*** • Long term FM-OLS in the low and high development countries: low dev. (35 sample): -0.0052***; high dev. (74 samples): -0.0159***. 	<ul style="list-style-type: none"> • Total investment (% of GDP) by WB • Population growth (annual %) by WB • Secondary education by Global Economy • Government final consumption expenditure (% of GDP) by WB • Total export and import by Global Economy • Broad money (M3/GPD) by IMF • R & D expenditure (% of GDP) by WB • Trademark application (per capita, per million) by WB • Patent application (per capita per million) by WB

17	<ul style="list-style-type: none"> Saha & Sen (2021) 100 countries 	<ul style="list-style-type: none"> Corruption Perception Index by TI Corruption index by International Country Risk Guide 	<ul style="list-style-type: none"> Real GDP per capita 	<ul style="list-style-type: none"> Panel regression 1984 – 2016 	<ul style="list-style-type: none"> OLS: -0.891*** 5 years panel least square: -0.0877 5 years panel fixed effect: 0.060 	<ul style="list-style-type: none"> Democracy index by WDI Kapital per capita by WDI R & D (% of GDP) by WDI Human capital (schooling years) by WDI Economic freedom by WDI Money supply (M2 to GDP) by WDI
18	<ul style="list-style-type: none"> Trabelsi & Trabelsi (2021) 88 countries 	<ul style="list-style-type: none"> International country risk guide (ICGR) corruption index, by Quality of Government Institute 	<ul style="list-style-type: none"> GDP per capita 	<ul style="list-style-type: none"> Panel non-linear 1984 – 2011 	<ul style="list-style-type: none"> Linear: impact of corruption to economic growth is -0.866*** and <i>corruption</i>² is 0.145. Marginal effect of corruption is 2.985 which is the moderate corruption between 2.5 – 3 and the average of the economic growth become 4.47% 	<ul style="list-style-type: none"> FDI (% of GDP) Inflation (annual %) Total trade (export + import, % of GDP)

Table 3.2 Grease the wheels

No	Author(s) & Country's study	Measurement of corruption	Economic Growth	Econometrics strategy & time frame	Statistical result	Other variable (including control variables)
1	<ul style="list-style-type: none"> Zeeshan et al. (2022) Pakistan 	<ul style="list-style-type: none"> Corruption Perception Index by TI 	<ul style="list-style-type: none"> Real GDP per capita 	<ul style="list-style-type: none"> ARDL linear and ARDL non-linear 1996 – 2018 	<ul style="list-style-type: none"> Short run ARDL linear: Model 1, 2, & 3 are 0.023**, 0,028**, and 0.020. Long run ARDL linear: Model 1, 2, & 3 are -0.036*, -0047*, and -0.035** 	<ul style="list-style-type: none"> Political instability index by ICRG Political instability² index by ICRG Natural resources (Total natural resources rent, % of GDP) by WDI

					<ul style="list-style-type: none"> • Short run ARDL non-linear: Δ corruption positive shock has impact 0.023 to the economic growth, and 0.065** with negative shock to the economic growth. • Long run ARDL non-linear: Δ corruption positive shock has impact -0.091* to the economic growth, and 0.144* with negative shock to the economic growth. 	
2	<ul style="list-style-type: none"> • Malanski & Póvoa (2021) • 19 Latin America countries & 11 Asia-Pacific countries 	<ul style="list-style-type: none"> • Corruption Perception Index by TI. 	<ul style="list-style-type: none"> • Growth of GDP per capita by the World Bank 	<ul style="list-style-type: none"> • Panel regression. • Estimation: one-step Sys-GMM. • 2000 – 2017. 	<ul style="list-style-type: none"> • Estimation one-step Sys-GMM in Latin America: impact of corruption to economic growth is - 0.00924*** (EFI) and - 0.01627** (EFW). • Estimation one-step Sys-GMM in Pacific Asia: impact of corruption to economic growth is - 0,01076** (EFI) and - 0.02604*** (EFW) • Estimation one-step Sys-GMM in Latin America: impact of corruption x economic freedom to economic growth is 0.000168* (EFI) and 0.002729** (EFW). • Estimation one-step Sys-GMM in Pacific Asia: impact of corruption to economic growth is 0,000136** (EFI) and 0.003020*** (EFW) 	<ul style="list-style-type: none"> • Economic freedom index by the Fraser Institute • Urbanization (% in urban) by the World Factbook CIA • FDI (% GDP) by the World Bank • Domestic capital (% of GDP) by the World Bank • Economic development (HDI) by the World Bank • Growth of inflation rate (%) by IMF • Level of education (years) by UNDP • Life expectancy (years) by the World Bank • Fertility rate (years) the World Bank • Population growth (%) by the World Bank • Voice by WGI • Political stability by WGI

						<ul style="list-style-type: none"> • Government effectiveness by WGI • Regulatory quality by WGI • Rule of law by WGI • Democracy by WGI • Geographic location (%) by Esri ArcGIS online
3	<ul style="list-style-type: none"> • Spyromitros & Panagiotidis (2022) • 83 developing countries 	<ul style="list-style-type: none"> • Corruption Perception Index (CPI) by TI • Control of corruption index (CCI) by the World Bank • Corruption index (CI) by ICGR 	<ul style="list-style-type: none"> • Log GDP per capita by the World Bank 	<ul style="list-style-type: none"> • Panel regression • Dynamic AR(1) FEM • FM-OLS • 2012 – 2018 	<ul style="list-style-type: none"> • AR(1): Using 3 models, impact of CPI to economic growth are -0.232**, -0.21854 and -0.195* • AR(1): Using 3 models, impact of CCI to economic growth are -0.105, -0.07, and -0.05. • AR(1): Using 3 models, impact of CCI to economic growth are -1.810, -2,088 and -2.249* • FM-OLS: Using 3 models, impact of CCI to economic growth are -4.769***, -0.739* and -1.232***. • FM-OLS: Using 3 models, impact of CCI to economic growth are -4.463***, -0.342, -0.612. • FM-OLS: Using 3 models, impact of CCI to economic growth are -4.458***, -8.056 and -8,091. 	<ul style="list-style-type: none"> • Total investment (% of GDP) by the World Bank • FDI (% of GDP) by the World Bank • Population growth (annual %) by the World Bank • Education (% of citizen in secondary education) by the World Bank. • Government consumption (% of GDP) the World Bank • Total export and import (% of GDP at constant price) by Global Economy • Broad money (M3/GDP) by IMP & OECD
4	<ul style="list-style-type: none"> • Qureshi et al. (2021) • 28 developed countries and 26 developing countries 	<ul style="list-style-type: none"> • Control corruption index (CCI) by World Governance Indicator 	<ul style="list-style-type: none"> • Growth of GDP by World Development Indicator 	<ul style="list-style-type: none"> • Panel vector autoregressive (PVAR) • 1996 – 2008 	<ul style="list-style-type: none"> • Model PVAR in developing countries: $CCI_{t\#s}$ has -35.9% and -31.2% to GDP • Model PVAR in developed countries: $CCI_{t\#s}$ has impact 16.4% and 14.2% to GDP 	<ul style="list-style-type: none"> • Growth of FDI (% of GDP) by WDI • Growth of trade openness (% of GDP) by WDI

					<ul style="list-style-type: none"> • Model GMM in Developing countries: $CCI_{t\#\\$}$ has impact -12.2%** and -12%** to GDP. • Model GMM in Developed countries: $CCI_{t\#\\$}$ has impact 11.4%** and 8.4%** to GDP. 	<ul style="list-style-type: none"> • Growth of total credit to private sector (% of GDP) by WDI • Growth of exchange rate volatility (/USD) by WDI
5	<ul style="list-style-type: none"> • Hamdi & Hakimi (2022) • 38 of developing countries 	<ul style="list-style-type: none"> • Corruption index by international country risk guide (ICGR) 	<ul style="list-style-type: none"> • Growth of GDP (%) by WDI 	<ul style="list-style-type: none"> • Panel smooth transition regression – non-linear • (2009 – 2018) 	<ul style="list-style-type: none"> • For whole sample: corruption has impact 1.148*** to economic growth. • For African countries: corruption has impact 1.492*** to economic growth. • For non-African countries: corruption has impact 2.161** to economic growth. • The threshold for all countries and African countries is corruption > 1.666. For non-African countries is corruption > 3.000. 	<ul style="list-style-type: none"> • Import of high technology (ln) by OECD. • Gross fixed capital (% of GDP) by WDI • FDI (% of GDP) by WDI • Trade (% of GDP) • Individual using internet (% of population) by WDI
6	<ul style="list-style-type: none"> • Das et al. (2020) • 13 Asian Countries 	<ul style="list-style-type: none"> • Corruption Perception Index 	<ul style="list-style-type: none"> • Real GDP per capita 	<ul style="list-style-type: none"> • Panel regression, quantile, robustness check (GMM) and sensitivity test (threshold). • 2008 – 2011 	<ul style="list-style-type: none"> • OLS: Model 1, 2, 3, are -1.121*, -0.071, 1.267*. • Quantile: Model 1, 2, 3 are -0.781*, -0.536*, -0.404*** • Robustness check - GMM: Model 1, 2 are -0.365*, and 0.190 • Sensitivity test (threshold): Model 1, 2, 3 are 1.706*, 1.651*, 1.522* 	<ul style="list-style-type: none"> • Innovation index by Global innovation index • Financial development index by IMF • Inflation by WDI • Economic freedom by Heritage foundation

7	<ul style="list-style-type: none"> • Urbina & Rodríguez (2022) • 5 countries of Latin America & 5 countries of Nordic 	<ul style="list-style-type: none"> • Corruption Perception Index by TI 	<ul style="list-style-type: none"> • Growth rate of real GDP per capita 	<ul style="list-style-type: none"> • Bayesian Panel Vector Autoregressive • Panel error correction VAR • 1998 – 2017 	<ul style="list-style-type: none"> • There is sand the wheels hypothesis in Chile and Bolivia. • Colombia is grease the wheels. Brazil and Peru are not significant. • The shock of corruption has significant to the Nordic Countries 	<ul style="list-style-type: none"> • Natural resources export (WB Development Indicators) • HDI by UNDP • Growth rate of Commodity Export Price index by IMF
8	<ul style="list-style-type: none"> • Afonso & de Sá Fortes Leitão Rodrigues (2022) • 48 countries 	<ul style="list-style-type: none"> • Corruption Perception Index • By TI 	<ul style="list-style-type: none"> • Real GDP per capita 	<ul style="list-style-type: none"> • Panel dynamic • 2012 – 2019 	<ul style="list-style-type: none"> • 1. Dynamic model • OLS: -4.094 • FE: 39.409* • GMM: 89.621*** • 2. GMM model (Small, medium & Big Government: • Model 1: 79.791*** • Model 1 Diff: 93.032*** • Model 2: 77.099*** • Model 2 Diff: 44.839 • 3. GMM model (Small gov. Developed & Developing countries) • Model 1: 85.515*** • Model 1 Diff: 82.780 • Model 2: 84.441** • Model 2 Diff: 72.333 • 4. GMM model (medium & big gov. Developed & Developing countries) • Model 1: 114.479** • Model 1 Diff: -42.154 • Model 2: 139.720** • Model 2 Diff: -18.834 	<ul style="list-style-type: none"> • Government size: small, medium, big. Based on public expenditure to GDP ratio. Small < 40%, medium 40 – 50, big > 50%. • General government final consumption (% of GDP) by WB • Expenses (% of GDP) by WB
9	<ul style="list-style-type: none"> • Trabelsi & Trabelsi (2021) • 88 countries 	<ul style="list-style-type: none"> • International country risk guide (ICGR) 	<ul style="list-style-type: none"> • GDP per capita 	<ul style="list-style-type: none"> • Panel non-linear • 1984 – 2011 	<ul style="list-style-type: none"> • Linear: impact of corruption to economic growth is -0.866*** and <i>corruption</i>² is 0.145. 	<ul style="list-style-type: none"> • FDI (% of GDP) • Inflation (annual %) • Total trade (export + import, % of GDP)

		corruption index, by Quality of Government Institute			<ul style="list-style-type: none"> • Marginal effect of corruption is 2.985 which is the moderate corruption between 2.5 – 3 and the average of the economic growth become 4.47% 	
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*** significant at $\alpha < 1\%$; ** sig. at $\alpha < 5\%$; and sign at $\alpha <$

3.5 Impact of anti-corruption programme in economy: the global experience

Research on the impact of anti-corruption programmes at the district and city levels remains scarce, particularly on how these programmes affect local economic growth. We highlight relevant literature that, while not directly addressing this issue, is promising for advancing our understanding.

First, Rodríguez-Pose and Zhang (2019) argue that corruption is an institutional problem that affects development. Defining institutions is challenging given the subjective definitions in the existing literature. This study uses an endogenous growth model employing a panel regression to explore the influence of institutions on city growth in China. The result indicates that factors such as human resources, innovation, agglomeration, Foreign Direct Investment (FDI), and social filters significantly impact economic growth. Notably, the anti-corruption efforts in Chinese cities demonstrated a noteworthy 0.011% effect on economic growth.

Second, Balaguer-Coll et al. (2022) investigated the connection between government efficiency and economic growth in 1,820 Spanish cities. Their study employed various indicators to measure government efficiency considering factors such as road infrastructure, lighting, and waste collection. This finding suggests a positive and significant influence of government efficiency on economic growth, supported by the instrumental variables. However, measuring institutional quality through corruption eradication poses challenges due to the lack of clear indicators.

Third, Wu and Zhu (2011) examined the impact of anti-corruption programmes on regional income disparities in China. Using district-level data from 2002 to 2013, they employed ordinary least squares estimates and identified three indicators of anti-corruption. The results indicate a positive and significant effect on GDP at the district level, emphasizing the role of anti-corruption policies in explaining regional income disparities.

Fourth, Kong et al. (2020) explored the causal impact of anti-corruption campaigns on total factor productivity at the firm level in China. Their study, using non-financial Chinese public companies from 2011 to 2017, concluded that the anti-corruption campaign significantly increased total factor productivity by 1.7%. This increase was particularly observed in non-state-owned companies without political networks, in a weak legal environment.

Additionally, a study by Qi et al. (2023) conducts experimental testing of anti-corruption policies in Mongolia. Using a quasi-natural experiment with staggered difference-in-differences, this study provides empirical evidence to support the crucial role of anti-corruption

policies in boosting economic growth. The positive and significant effect on economic growth suggests the importance of adopting a zero-tolerance approach to corruption.

The cited studies highlight the important role of institutions and corruption-fighting efforts in economic development, particularly in China and Spain. Rodríguez-Pose and Zhang (2019) emphasise that corruption is an institutional issue that affects development, although the definition of institutions can be subjective. Balaguer-Coll et al. (2022) found a positive and significant relationship between government efficiency and economic growth in Spanish cities. Meanwhile, Wu and Zhu (2011) highlighted the impact of anti-corruption programmes on regional income disparities in China, showing a positive and significant effect on GDP at the district level. Kong et al. (2020) show that anti-corruption campaigns have a causally positive impact on total factor productivity at the firm level in China, particularly in non-state-owned firms without political networks, in a weak legal environment. In addition, an experimental study by Qi et al. (2023) in Mongolia shows that anti-corruption policies can potentially boost economic growth, emphasising the importance of adopting a zero tolerance approach to corruption. Thus, the literature suggests that fighting corruption and improving government efficiency can play a significant role in promoting economic growth in various contexts.

Relationship between (anti) corruption, political institutions, and economic growth

In this section, we review the theoretical and empirical literature on the relationship between anti-corruption programme, political institutions, and economic growth. In the existing literature, anti-corruption does not have a direct relationship with the two indicators above, because the supporting literature, both theoretical and empirical, only examines the relationship between corruption and the other two variables. It can be understood that anti-corruption has the opposite meaning; for example, the most common is that corruption can be an obstacle to the economy. However, anti-corruption measures have become a lubricant for the economy. Additionally, from the perspective of political institutions, democracy and non-democracy are often used as proxies for political institutions. The same terms were used in this study.

The relationship between corruption and economic growth in both democratic and non-democratic countries remains unclear. Theoretically, corruption has a smaller negative effect on economic growth in non-democracies than in democracies because of more efficient bribery (Ehrlich & Lui, 1999; Shleifer & Vishny, 1993). Aidt (2009) proposed a theoretical model explaining that leaders in non-democratic countries try to trade power or engage in corruption

in the formal sector to increase their incomes. Corruptions in informal sectors can undermine economic growth. Political leaders in non-democratic countries cannot be held accountable and transparent.

A handful of the heterodox literature highlights the role of political institutions in mitigating the impact of corruption on economic growth. Khan and Sundaram (2000) argued that corruption is unlikely to have a negative impact on non-democratic countries. Politicians in non-democratic countries may accept bribes from firms that receive long-term investment guarantees. An advantage of non-democratic countries is that investment policies are bound to be stable and long term (Bardhan, 2002; Khan, 1996). According to Pritchett and Werker (2012) and Sen (2013), bribes paid by firms seeking investment in politicians in non-democratic countries are unlikely to have a negative impact on economic growth and investment, because firms are confident that politicians will honor their agreements. Saha and Sen (2021) believe that in democratic regimes, firms cannot trust politicians, as regime changes often occur in the short term, ultimately affecting future investment policies.

Some scholars have highlighted East Asia in the heterodox literature. East Asia has a paradox of corruption and growth, but South Asia is contradictory, with high corruption and low economic growth (Ndulu & O'Connell, 1999; Saha & Sen, 2021). In Africa, Rose-Ackerman and Coolidge (1995) found that autocrats who feared military coups extracted rent from the private sector, leading to high corruption and low growth. Meanwhile, East Asian regimes are more concerned with a stable and long-term investment climate, in which case, corruption is a lubricant because of the credible commitment of business-friendly autocrats to provide long-term security for firms (Saha et al., 2014).

Several authors have examined the relationship between corruption, democracy, and economic growth in democratic countries. For example, Drury et al. (2006) examine the role of democracy in mitigating the negative effects of corruption on economic growth. The power of citizens to punish elected officials provides a strong incentive for politicians to confine their behavior to areas that have no impact on the economy. Accordingly, the negative impact of corruption on economic growth is lower in democracies than it is in authoritarian regimes. In summary, democracy can mitigate the negative effects of corruption on economic growth, providing insights into the complex interactions among political systems, corruption, and economic performance.

Shabbir (2017) asserts that the effect of corruption depends on institutional performance. The coefficients of corruption and democracy were positive and significant for economic growth. As they interact, their impact on economic growth becomes negative and significant.

Corruption promotes growth at lower levels of democracy, but inhibits growth in countries with a longer history of democracy. Corruption reduces growth in Bangladesh, Indonesia, Malaysia, and Turkey, but promotes growth in Egypt, Iran, Nigeria, and Pakistan. The policy implication is that democracy promotion is essential to reduce the impact of corruption on growth because, as democracy progresses, monitoring systems improve and investment increases, ultimately boosting economic growth.

Rivera-Batiz (2002) finds that democracies with broader political rights facilitate public participation in politics. This study demonstrates that democratic institutions have a positive and significant effect on enhanced governance. The development of an endogenous growth model revealed that democratic institutions that contribute to improved governance can foster economic growth by diminishing corruption and fostering technological innovation.

Saha and Sen (2021) presented intriguing research that offers valuable insights into the intricate interactions among corruption, political regimes, and economic growth. This study utilizes data from the International Country Risk Guide (ICRG) through a panel regression. The results reveal varying relationships between the level of corruption and political regime. This finding indicates that corruption may contribute to increased economic growth in authoritarian countries, whereas corruption tends to have a negative impact on economic growth in democratic countries.

3.6 Hypothesis development

Many studies have suggested that excellent institutional quality can sustain economic growth. Additionally, research findings indicate that corruption control provides positive and significant evidence of economic growth (Akıncı et al. 2022; Mehmood et al. 2022; Nedić et al. 2020; Olaoye and Aderajo 2020; Singh and Pradhan 2022). However, it exhibits the opposite trend in the GCC and Eastern Europe (Avdulaj et al., 2021; Al-Naser & Hamdan, 2021). Meanwhile, at the local level, Wu & Zhu (2011), Rodríguez-Pose & Zhang (2019), and Balaguer-Coll et al. (2022) confirm that institutional quality and anti-corruption efforts at the local level has positive impact on local economic growth. Therefore, we propose the following hypothesis:

H1: *local anti-corruption programme has positive impact on the local economic growth.*

The following is hypothetical breakdown of the programme:

- H1a: *local anti-corruption programme of local planning and budgeting has a positive impact on the local economic growth.* Also, districts-cities with anti-corruption scores

above the national average in the area of planning and budgeting have higher economic growth than districts-cities below the national average.

- H1b: *local anti-corruption programme of local procurement has a positive impact on the local economic growth.* Also, districts-cities with anti-corruption scores above the national average in the area of procurement of goods and services have higher economic growth than districts-cities below the national average.
- H1c: *local anti-corruption programme of local licensing has a positive impact on the local economic growth.* Also, Districts-cities with anti-corruption scores above the national average in the area of licensing have higher economic growth than districts-cities below the national average.

In addition, this study is based on the endogenous growth theory promoted by Barro and follows Saha and Sen's (2021) construction study. We use several alternative control variables derived from economic (domestic investment, foreign investment, and financial institutions) and demographic (agglomeration, labor force, and human capital) aspects (Balaguer-Coll et al., 2022; Qi et al., 2023; Rodríguez-Pose & Zhang, 2019).

Interaction between local anti-corruption and local political aspect

The binding nature of anti-corruption efforts undoubtedly has a positive impact on local economic growth. Therefore, it is imperative to examine the interactive effects of anti-corruption programmes with political concentration in local parliaments on local economic growth. This is supported by several previous studies suggesting that the quality of political institutions in the era of democracy plays a crucial role in economic growth (Alesina and Rodrik, 1994; Barro, 1996; Saha & Sen, 2021). Additionally, countries with political institutions that encourage broad public participation in politics can facilitate governance improvements, ultimately benefiting from economic growth. However, given the continued prevalence of political corruption at the local level, involving members of local parliaments, we suspect that anti-corruption efforts in these areas will be blunted as political oligarchy increases in local parliaments. Therefore, we contend that parliamentary interference undermines the local economic growth.

H2a: *The interaction between local anti-corruption programme and local political concentration has a negative effect on local economic growth.* Also

The interaction between districts-cities with scores above the national average in the three of anti-corruption areas with parliamentary political concentration scores above 50 percent has a negative impact on local economic growth.

Subsequently, the effect of democracy at the local level is the devolution of authority at the local level. Authority in an era of decentralization pertains to two aspects: local governance and fiscal autonomy. Therefore, the focus of the local political economy in this study is fiscal independence. Several researchers examined the role of fiscal independence (Balaguer-Coll et al., 2022; Canavire-Bacarreza et al., 2020; Ebel & Yilmaz, 2002). We hypothesize that when anti-corruption measures are implemented and supported by strong fiscal autonomy, local-level growth increases.

H2b: *The interaction between local anti-corruption programme and local fiscal independence has a positive effect on local economic growth. Also, The interaction between districts-cities with scores above the national average in the three of anti-corruption areas with fiscal independence scores above 50 percent has a positive impact on local economic growth.*

The affiliation of local leaders with the presidential coalition party serves as a significant indicator of local development. It is common for budgetary and developmental policies to be influenced by shared political identity. This indicator has been utilized by previous researchers such as Asher & Novosad (2017) and Bernhard et al. (2018). Given the nature of political institutions in extractive developing countries, supported by the realities observed in Indonesia, we hypothesize that the interaction between anti-corruption measures and the political affiliation of regional leaders with the ruling coalition party at the national level will negatively impact growth.

H2c: *The interaction between anti-corruption programme and affiliation of political party of local leader has a negative effect on economic growth. Also, The interaction between districts-cities with scores above the national average in the three of anti-corruption areas with political party affiliation of local leaders has a negative impact on local economic growth.*

The fourth interaction embedded in the testing model is anti-corruption against the incumbent status. The local government's tenure regulated by law in Indonesia spans five years, during which regional heads can seek re-election for one additional term. Incumbents in their second term tend to prioritize personal gains or recoup campaign expenses by focusing on local programmes (Purwaningsih and Widodo, 2020) and also undermine the reform in the local government (Berenschot, 2018). This variable has been utilized by several researchers, such as Ferraz and Finan (2011), Klačnja (2015), and Rakhman (2019). In our view, the combination of anti-corruption measures and incumbent status is likely to have a detrimental effect on economic growth at the local level.

H2d: *The interaction between anti-corruption programme and incumbent status of local leader has a negative effect on local economic growth. Also, The interaction between districts-cities with scores above the national average in the three of anti-corruption areas with incumbent status of local leaders have a negative impact on local economic growth.*

In addition, we have formulated hypotheses that will be tested using the difference-in-differences method in this study.

H3a: *Districts and cities will have experience negative economic growth after the anti-corruption programme is implemented.*

H3b: There is a negative difference in local economic growth in the district-cities that are treated (anti-corruption implementation), which also have high levels of corruption compared to areas with low levels of corruption.

Chapter 4

Corruption Eradication Commission (KPK): design, performance, and anti-corruption programme

4.1 Establishment of KPK

Transition of Indonesia to democracy has been marked by significant changes, shifting from a highly centralized government under President Sukarno in the late 1950s to an authoritarian regime characterized by strong military influence during the New Order period. This period ended with a political crisis in 1998, which also resulted in a financial and monetary crisis, leading to the bankruptcy of many Indonesian corporations (Robison & Rosser 2003).

After 32 years of authoritarian rule, Indonesia entered a new era known as the Reform Era, which brought about a renewed sense of hope and a revival of the discourse on the appropriate form of governance system, including federal, centralized, and decentralized models (Erawan, 1999). A consensus eventually emerged among all segments of society, leading Indonesia to embrace democracy as a shared ideal. Democratic elections were held on June 7, 1999, to elect local and national representatives. Since then, the president was elected by the People's Consultative Assembly. Direct elections were held on April 5, 2004, to elect the president and members of parliament directly, making Indonesia an open democratic country.

Through a democratic state system, checks and balances function effectively. Executive power is directly monitored by the parliament. Indonesia adheres to the *Trias Politika*, which divides power into three parts: executive, legislative, and judicial. Executive power in Indonesia comprises the president, ministers, governors, regents/mayors, and bureaucratic apparatuses at various levels of the region. Legislative power is under the control of parliament, while judicial power is vested in judicial institutions.

The President, as the head of the state and government, oversees and administers the government entirely. State institutions directly under the president are fully responsible for the president. However, according to Ziegenhain (2021), this political system is not entirely embedded in a complete democratic system but rather in a flawed democratic order. In our view, Indonesian democracy was on track during the era of President Susilo Bambang Yudoyono (SBY) between 2004 and 2014. After SBY, according to Power (2018), the elected president, Joko Widodo, is not democracy-oriented.

Between 1999 and 2004, Law No. 32/2002 on the Corruption Eradication Commission (KPK) was enacted, which served as the basis for the establishment of the Corruption Eradication Commission (KPK). Using this legal framework, the KPK was officially established on December 29, 2003. The establishment of this official institution was intended to address concerns from all quarters regarding rampant corruption at various levels of the government and society. Corruption was not confined to the halls of power but permeated all corners of the region. The presence of the KPK was a response to public skepticism about the lackluster performance of other law enforcement agencies, such as the Police and the Attorney General's Office (Asyikin & Setiawan, 2020). In addition, the KPK needed strong public support to bolster its efforts in tackling major corruption cases (Diprose et al., 2019). The KPK is currently confronting new difficulties from a variety of sources, particularly the executive and legislative branches of the government. This is due to the fact that the KPK has begun to lose some of its authority, and its institutional structure is now subject to direct control by the president. Despite these challenges, the KPK remains committed to fulfilling its mission and upholding principles of good governance.

One of the recent pledges made by the Corruption Eradication Commission (KPK) in Indonesia is the establishment of a monitoring center for prevention (MCP) programmes. This initiative was introduced in 2018 to curb corruption among Indonesian local governments. The programme focuses on eight key areas: local planning and budgeting, procurement of goods and services, licensing, strengthening government internal supervisory apparatus, management of state civil apparatus, optimization of local revenue, management of local assets, and village funds. The programme aimed to identify and eliminate corruption loopholes at the local level.

Accordingly, three questions are raised in this chapter:

RQ 4.1 How has the institutional dynamics of the KPK changed since its establishment in 2003?

RQ 4.2 How has the performance of the KPK despite the recurring crises that have rocked the institution from time to time?

RQ 4.3 What aspects of local government administration were intervened upon by the MCP programme of KPK?

The chapter is structured as follows: the second section discusses the institutional design of the KPK; the third section covers the scandals that have plagued the KPK; the fourth section

examines the performance of KPK amid political pressure; and the sixth section explores the anti-corruption programme (MCP KPK) implemented at the local level.

4.2 Institutional design of KPK

The KPK was established by law as an independent institution with a mandate for addressing extraordinary instances of corruption. Since its inception in 2003, the KPK has taken a more aggressive and systematic approach to combat corruption in both the public and private sectors, as well as in law enforcement agencies, such as the police, prosecutors' offices, and the judiciary (Isra et al., 2017). The KPK is responsible for overseeing corruption in the executive branch of the Indonesian government; however, despite significant efforts to eradicate corruption, there have been discrepancies between expectations and reality. These discrepancies are not solely attributable to corrupt individuals but also to other stakeholders, such as the government and parliament. In 2002, two amendments were made to Law No. 30, which weakened KPK. While efforts to revise the KPK Law have been ongoing for some time, it was only in 2019 that amendments were successfully implemented. The weakening of the KPK has been met by polemics, criticism, and demonstrations (Santika, 2020; Syahrums, 2022). Despite initial efforts to bolster KPK's authority, it has since eroded under the influence of the president.

4.2.1 Institutional design of the KPK before and after the second revision of the KPK Law

The KPK is a product of legal reforms. The KPK has been given strong power to organize the fight against corruption in Indonesia. These powers include simultaneously investigating and prosecuting corrupt crimes (Kurniawan, 2018). The main functions of the KPK in the first law include 1) coordinating with agencies empowered to eradicate corruption in corruption offenses; 2) supervising agencies empowered to commit corruption offenses; 3) investigating, prosecuting, and punishing corruption offenses; 4) preventing corruption offenses; and 5) monitoring the implementation of state governance.

Since 2003, the institutional design of the KPK has not changed until 2018. However, after the KPK Law was revised in 2019, significant institutional changes have occurred. We identified six changes due to the revision, which are considered to be a mechanism that weakens KPK (Syahuri et al., 2022; Umam et al., 2020). Therefore, we provide insights into the trend of corruption eradication since the KPK Law was enacted.

The most significant political reason why the KPK is perceived as a threat to executive, legislative, and judicial institutions is that it impedes government activities and disrupts investments in regions where regional heads and staff are arrested. These arrests can have a significant impact on the economies of these regions. Furthermore, the KPK's arrest of individuals at the national level targeting ministries can also hinder government activities, which are closely related to local governments. This presents a dilemma for current governments.

Another controversial issue is the number of legislators who have been arrested by the KPK since its establishment at local and national levels. The pressure from the legislature to reduce the KPK's authority has been strong in recent years. This is an attempt to retaliate against the KPK for the arrest of parliament members. The KPK law was revised in 2019. However, there are at least three reasons for the revision of the KPK law needs to be revised (Syahrums, 2022). First, without effective supervision, there is a tendency for the abuse of power by the KPK, such as violating the law and code of ethics, conducting discriminatory investigations, fabricating evidence, and bringing false charges.

Under the amended law, the KPK has a five-member board and five-member KPK executive (Asyikin & Setiawan, 2020). Furthermore, the proposed supervisory board with the intervention of the President and Parliament is a conflict of interest requirement, which means that the KPK is no longer independent (Syahrums, 2022). According to Asyikin and Setiawan (2020), the Supervisory Board has a great deal of power when it receives reports on wiretapping carried out by the KPK working team. As the Supervisory Board is 'entrusted' by the President and Parliament, it is suspected that the information received by the Supervisory Board is also received by the President and Parliament. In this case, the KPK can no longer be considered an independent anti-corruption institution. The Board is given the power to authorize searches, wiretaps, or seizures, which is equivalent to the role of the judiciary, namely judges (Syahrums, 2022). The power granted to the Board in the second revision of the KPK Law implies that its position of the KPK Board is higher than that of the KPK leadership (Syahuri et al., 2022). In addition, the Supervisory Board can dismiss KPK leaders and employees, who are not regulated by the authority of the Supervisory Board at the KPK.

4.2.2 The first of KPK Law in 2002: story and performance

The KPK Law was passed in 2002 to guide the fight against corruption across the country. There are six crucial points after this regulation was implemented and revised, among others:

a. Delegation of powers to Police and Prosecutors

The lack of progress in combating corruption by the Police and Attorney General's Office following the 1998 reform led to the emergence of the KPK in Indonesia. The widespread corruption at the regional level has made the situation unmanageable. Corruption has penetrated almost all levels of institutions, including the police and prosecutors. Consequently, the KPK granted extensive authority to investigate, prosecute, and punish corruption offenses.

The KPK played a significant role in investigating, prosecuting, and punishing corruption offenses during this time. As an independent institution, the KPK earned great public appreciation for its efforts. Prior to the revision of the KPK Law, the KPK was involved in three major cases involving the police. First, in 2011, there was a break in Bank Negara Indonesia, where two former heads of the Criminal Investigation Unit of the Indonesian National Police were charged with accepting bribes in connection with handling the case. Second, in 2011, there was a bribery case involving convicted tax corruption and a tax employee named Gayus Tumbunan. Two former officers from the Indonesian National Police Criminal Investigation Agency were involved in this case. Third, in 2012, state losses of 198 billion rupiah (equivalent to US\$ 12,740,000) were incurred owing to the procurement of driving license simulator equipment. Two police leaders were subsequently sentenced to 18 years and 5 years in prison for their involvement in this case.

The passage describes the tension between the Corruption Eradication Commission (KPK) and the police, who sometimes obstruct the KPK's efforts to eradicate corruption. The law enacted in 2002 gives the KPK the authority to organize its own corruption eradication efforts, and since its enactment, 155 regional heads have been named corruption suspects, with many of them arrested. Additionally, 274 members of the National Parliament and Local Parliament have been targeted by the KPK. Attempts have been made to weaken the KPK through parliamentary action, with some members of parliament calling for the KPK's authority to be curtailed. During this period, the KPK arrested 22 judges and 10 prosecutors in addition to police officers.

b. Supervisory board of KPK

The establishment of a KPK Supervisory Board is essential. Its primary function is to oversee the performance of KPK. The KPK Supervisory Board operates independently, mainly from civil society, and is not affiliated with the government. As a result,

members of the supervisory board can be ensured to be unbiased and free from any external pressure or influence.

c. Use of tapping equipment

One of the initiatives undertaken by the KPK is the authorization of wiretapping to detect corrupt behavior by state officials. This effort was successful, and prior to the revision of the law, KPK's performance was highly praised. The practice of arresting corrupt officials is a result of KPK's tapping power, and therefore, it is not surprising that many corruption cases begin with the wiretapping process. The use of wiretapping tools by KPK members and leaders does not require approval from supervisory boards, as they are entitled to perform wiretapping duties without intervention from the Supervisory Board.

d. Civil servant status

In light of the current status of KPK employees, it is imperative that a change in their designation is considered in the forthcoming revision of the law. Although these employees continue to receive salaries from the state, their present status as independent KPK personnel, rather than civil servants, creates a dilemma. Therefore, it is crucial to address this issue and rectify it in the near future.

e. Election of legal leaders

The process of selecting the five KPK leaders was conducted by the DPR and then handed to the president. After the five KPK leaders were elected, they discussed and agreed to determine who became the chairman among the five leaders. Therefore, during this phase, the election of the KPK chairperson still adheres to the collective collegial system.

4.2.3 The first revision of KPK Law in 2015: story and performance

The revision of KPK Law No. 30/2002 is not solely motivated by the vacant positions within the KPK leadership, as there are several other factors that are believed to be attempts to undermine the KPK's independence. We are currently analyzing six critical aspects of the law's revision, including various considerations.

a. Delegation of powers to Police and Prosecutors

In this first revision phase, the roles of the Police and the Attorney General's Office in the investigation and prosecution of corruption cases were restored and strengthened.

The KPK is no longer an institution that has full control over the eradication of corruption but is asked to coordinate with the Police and the Prosecutor's office. On the one hand, this is sufficient, with so many law enforcement officials involved that cases can be followed up quickly. On the other hand, this division of roles also confirms that there is an effort so that corruption cases involving elites and certain groups can be dealt with by the Police and the Attorney General's Office where the President can fully control the two institutions.

The upside is that corruption cases at the local level can be handled directly by the Police and the Attorney General's Office, which structurally has branches at all levels of government, provincial, district, and city. This can cover one of the weaknesses of the KPK, which does not have branches at the local level. However, once again, the issue of trust in these two institutions is questionable because of conflicts of interest and favoritism.

b. Supervisory board of KPK

After the initial amendment to the KPK Law, the Supervisory Board continued to exist with no alterations to its structure or responsibilities. Despite changes to the law, the Supervisory Board's role and duties remained unchanged.

c. Use of tapping equipment

The instructions for utilizing the tapping equipment adhere to the guidelines established by the prior legislation. As a consequence, the performance of KPK following the initial revision remained consistent.

d. Civil servant status

The government and Central Parliament have taken steps to address the issue of KPK's status by designating its employees as Civil Servants. This decision has sparked controversy due to the government's conflict of interest in controlling civil servants, who may not align with their interests. The potential to transfer civil servants who do not conform to the ruler's wishes to other agencies adds to the controversy surrounding this decision.

e. Election of legal leaders

In this phase, the selection process for the five KPK leaders followed the same procedure as in previous instances. Furthermore, the collective collegial process was applied during the first revision phase of the KPK.

4.2.4 The second revision of KPK Law in 2019: story and performance

During this phase, there were significant changes in the six indicators that were determined previously. For this second revision, the executive and legislative branches seem to have agreed to severely limit the KPK's authority since 2019.

a. Delegation of powers to Police and Prosecutors

The power to eliminate corruption was no longer exclusively held by the KPK. The revised KPK law enacted in 2019 stipulates that the KPK can now collaborate with police and prosecutors to address corruption. This legislative change permitted the KPK to undertake further investigations and prosecutions. Consequently, it is anticipated that significant corruption cases will be managed by the Police and the Attorney General's Office rather than by the KPK. Nevertheless, given the low level of public confidence in these two institutions, potential conflicts of interest in handling corruption cases within law enforcement agencies cannot be ruled out entirely.

b. Supervisory Board of KPK

With the implementation of the second revision of the KPK law, the structure of the KPK Supervisory Board underwent transformation. The board consists of five civil society members. However, with this revision, the number of Supervisory Board members has increased to nine. Of these nine members, five were from the government and the remaining four were from civil society. This increase in the number of government representatives on the board raises concerns about potential conflicts of interest, particularly regarding the approval of KPK leadership decisions by the Supervisory Board. Furthermore, Article 37B (Syahrudin, 2022) highlights the involvement of the President and the DPR in the formation of KPK leaders and Supervisory Board members. It is important to note that this information should not be rephrased because it includes citations and references that must remain unchanged.

c. Use of Tapping Equipment

The use of tapping equipment by the KPK is now subject to several procedures that must be performed prior to use. In addition, the Supervisory Board must first grant permission to tap. Seeking permission from the Supervisory Board signifies that their position is equal to that of the judiciary (Syahrudin 2022).

d. Civil servant status in KPK

The transition from KPK employees to civil servants was intended to uphold the first revision, thereby establishing that KPK fell within the purview of the executive branch.

Consequently, all KPK employees are now subject to regulations overseen by the ministry, which is also part of the executive branch.

e. Election of KPK Leaders

The articles governing the appointment of leaders were abolished. Leadership elements can be elected directly by the president.

4.3 The tempest of KPK

To date, KPK has undergone five leadership periods. From the first to the fifth term, KPK leadership consists of a chairman and four members. Decision making in the leadership element is collective. From the first to the fifth term, the leadership of the KPK consisted of police officers, prosecutors, judges, businessmen, lawyers, anti-corruption activists, bureaucrats, and academics.

The selection process for KPK leaders is open to all, and is administratively organized by a Selection Committee that is directly appointed by the president, with several stages to follow: 1) Announcement of registration that is widely announced to the public; 2) Announcement of applicants who passed the selection; and 3) Competency test. This test was conducted to test the candidates' knowledge related to legislation concerning the KPK, as well as their vision and mission; 4) psychological test and profile assessment; 5) public test; 6) interview selection; 7) submission of 10 candidates to the president; 8) fit and proper test in parliament; and 9) election of five KPK leaders.

Several legal cases involving KPK have become endless public consumption. Some of these cases include¹:

1. Antazari Ashar

Antazari Ashar was the chairman of the KPK from 2007 to 2011 who was convicted of the premeditated murder of Nasarudin Zulkarnaen in 2009.

2. Bibit Samad Rianto and Chandra M. Hamzah

The Samad and Chandra cases captured the public's attention. The drama has left popular terminology until now: "lizard vs crocodile confrontation" lizard vs. crocodile confrontation. The KPK was personified as a lizard, while the police were crocodiles. It started with KPK's wiretapping of a high-ranking police officer at the

¹ Quoted from the official report of Indonesian Corruption Watch, period 2009 - 2023. In addition, information was extracted from the website of the Indonesian Supreme Court for the same period.

time, Susno Duadji, who was the head of the Criminal Investigation Agency. The case started in 2009 and was eventually halted by the president due to ongoing polemics.

3. Abraham Samad

Abraham Samad was the third Chairman of the KPK from 2011 to 2015. Abraham Samad was charged with forgery of legal identity documents and was directly dismissed by President Joko Widodo in 2015.

4. Bambang Widjojanto

Bambang Widjojanto is an anti-corruption activist who served as deputy chairman of the KPK from 2011 to 2015. He was dismissed along with KPK Chairman Abraham Samad by President Joko Widodo on charges of giving false testimony in a trial at the Constitutional Court.

5. Lili Pintauli

On 11 of July 2022, the ethics Board of charged KPK deputy chair, Lili Pintauli, with graft that was outside her authority. Finally, she resigned from the KPK.

6. Firli Bahuri

Firli Bahuri was the Chairman of the KPK from 2019 to 2024. He became a suspect in November 2023 for extortion in a legal case at the Ministry of Agriculture led by Syahrul Yasin Limpo, who was also the Minister and suspect in the corruption he was handling.

In the case of Firli, public trust in KPK collapsed. This case is a major blow to the KPK institution, which has been the foundation of efforts to eradicate corruption in Indonesia (Divania et al. 2023). Indeed, the current KPK leadership in the fifth period leaves many cases that entangle them. Therefore, KPK must be saved by leaders who lack integrity and have a weak anti-corruption spirit.

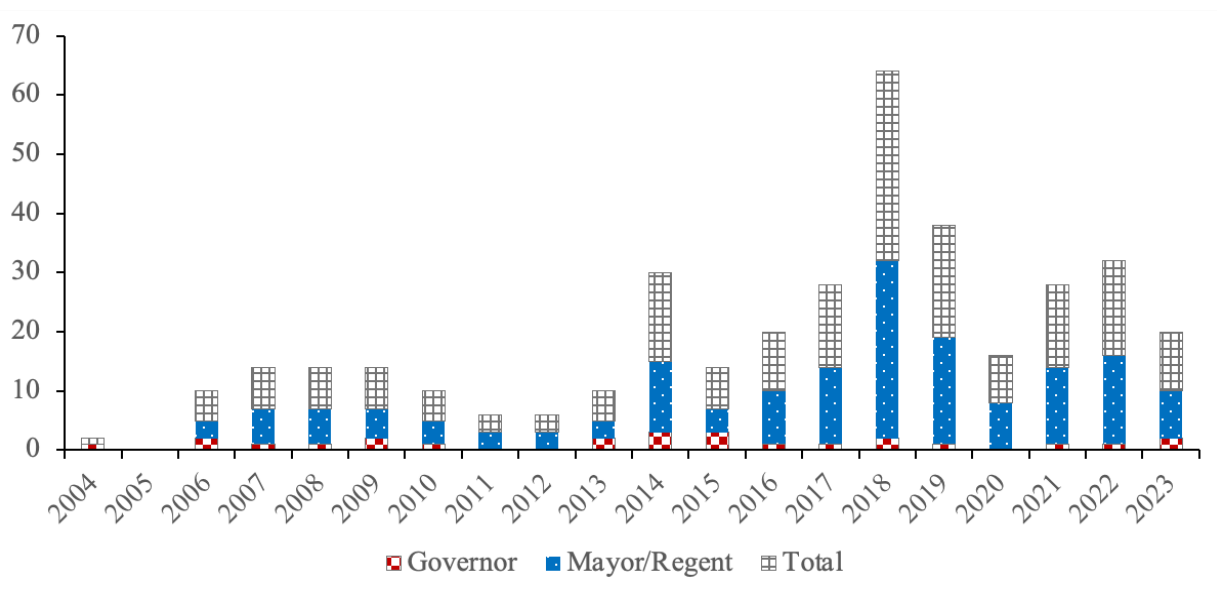
4.4 Performance of KPK

The institutional design of the KPK is centralized, with five branches in the certain areas. The space for monitoring corruption is narrow when the KPK is the sole entity relied upon. Eradicating corruption at the elite level of local government, depending solely on the KPK, is highly unlikely. However, to date, KPK has demonstrated impressive performance, despite having a wide level of supervision and a limited number of investigators. Collaboration with the Police and Attorney General's Office, which has institutional branches at all levels of government administration, offers new hope for eradicating corruption in Indonesia.

Institutional improvements are vital to the economy, as many developing countries have longed (Acemoglu & Robinson, 2008; Docquier, 2014; Nakabashi et al., 2013; Uddin et al., 2021).

The KPK has made many spectacular breakthroughs in the fight against corruption. The KPK handled major corruption cases very well. Central and local officials were the main targets of KPK's anti-corruption efforts. In addition to state officials, the KPK targeted private officials. Since its establishment in 2002, the KPK has taken progressive steps to eradicate corruption at all levels: executive, legislative and judicial. Figure 4.1 shows the trend of corruption eradication in the executive branch, especially among regional leaders, such as governors, mayors/deputy mayors, and regents/deputy regents. The KPK moves indiscriminately. From 2004 to 2023, the total number of defendants in corruption cases supervised by the KPK was 183, including 24 governors/deputy governors and 159 mayors/deputy regents throughout Indonesia. This figure was truly depressed. Cases involving regional heads have different motives, such as procurement, conflict of interest, bribery, social welfare corruption, licensing, and corruption in regional revenue and expenditure budgets. Figure 4.1 also shows the distribution of corruption among the local leaders in each region of Indonesia (see Appendix 2).

Figure 4.1 Number of local heads as defendant.



Source: Indonesian KPK, elaboration by author.

Mietzner (2015) explained that between 2004 and 2013, the KPK conducted legal proceedings against sixty-five members of parliament, seven ministers, eight governors, thirty-two regents and mayors, four ambassadors, and seven members of the Indonesian Election

Commission. The KPK even arrested the newly appointed Chief Justice of the Constitutional Court. Therefore, we believe that the number of local heads arrested by the KPK cannot be separated from the high cost of politics and the poor governance of the bureaucracy. First, the cost of becoming a local head at the local level is very high, starting from the cost of owning a political vehicle, the cost of campaigning (which is generally patronage), and the low rewards received in the office. The two axes of unbalanced costs and benefits are the root causes of corruption in the local head. As a result, corruption often occurs in the areas of planning and budgeting, procurement of public goods and services, and granting business licences to private parties. Therefore, according to Mietzner (2015), the poor quality of democracy after Suharto provides strong evidence that maintaining low state subsidies to parties to encourage citizen-led donation campaigns is not a viable solution in transitional societies.

4.5 Monitoring Centre for Prevention (MCP) Programme

The MCP programme was developed by the KPK in 2018. The MCP programme has been using to evaluate local governments in Indonesia. The philosophy of the programme is to reduce corruption in the local government bureaucracy. The KPK implemented three strategies, known as the "Trident," to combat corruption. These strategies include law enforcement, prevention, and education. The MCP programme is a preventive strategy. The MCP programme covers eight areas of intervention: 1) planning and budgeting, 2) procurement of goods and services, 3) licensing, 4) strengthening the government's internal oversight apparatus (APIP), 5) management of the state civil apparatus (ASN), 6) optimization of regional revenues, 7) management of regional property, and 8) village funds. Each area had detailed indicators and sub-indicators. Further details are provided in Table 4.1.

Table 4.1 Intervention area of MCP Programme

No	Area	Indicator	Sub Indicator
1	Planning and budgeting	<ul style="list-style-type: none"> Standard unit price (SUP) 	<ul style="list-style-type: none"> Implementation of SUP Determination of SUP
		<ul style="list-style-type: none"> Analysis of budgeting standard (ABS) 	<ul style="list-style-type: none"> Determination of ABS Implementation of ABS
		<ul style="list-style-type: none"> Budgeting of "local Planning and Budgeting" (LPB) 	<ul style="list-style-type: none"> Regional parliament approval Publication of LPB Submission of draft General Budget Policy (GBP) and Temporary Budget Ceiling Priorities (TBCP) Submission of draft LPB Agreement on the draft of GBP & TBCP

No	Area	Indicator	Sub Indicator
		<ul style="list-style-type: none"> Supervision 	<ul style="list-style-type: none"> Follow-up review of Regional Development Work Plan (RDWP) Follow-up review of SUP and ABS
2	Goods and services procurement	<ul style="list-style-type: none"> Human resources on Good and Services Procurement Work Unit (GSPWU) 	<ul style="list-style-type: none"> Permanent GSPWU of working group. Availability of human resources in GSPWU Availability of functional in GSPWU
		<ul style="list-style-type: none"> Implementation of main duties and functions 	<ul style="list-style-type: none"> Evaluation of GSP activities Advocation of GSP Planning review of GSP Vendor management system
		<ul style="list-style-type: none"> Supporting devices 	<ul style="list-style-type: none"> GSP code of ethics SoP of GSP Special Additional Employee Income of GSP
		<ul style="list-style-type: none"> Screening of "General Procurement Plan Information System" (GPPIS) 	<ul style="list-style-type: none"> Percentage of GPPIS views
		<ul style="list-style-type: none"> control and supervision 	<ul style="list-style-type: none"> Review of Own Estimated Price (OEP) Follow-up on GSP governance Review
3	Licensing	<ul style="list-style-type: none"> Regulation 	<ul style="list-style-type: none"> Regulations on the delegation of licensing authority Local regulations regarding licensing management Local regulations regarding spatial planning
		<ul style="list-style-type: none"> Regulation infrastructure 	<ul style="list-style-type: none"> Location and place of service Publication media Local online licensing system
		<ul style="list-style-type: none"> Control and supervision 	<ul style="list-style-type: none"> Public satisfaction index Follow up on licensing governance review. Supervision
4	Strengthening the Government's Internal Oversight Apparatus (GIOA)	<ul style="list-style-type: none"> Capability of GIOA 	<ul style="list-style-type: none"> Budget availability GIOA independence and objectivity Quality assurance of supervision Assessment of GIOA capabilities Adequacy of human resources
		<ul style="list-style-type: none"> Supervision activities 	<ul style="list-style-type: none"> Routine performance of supervision Oversight of national priorities Implementation of risk-based audits
		<ul style="list-style-type: none"> Internal government controls 	<ul style="list-style-type: none"> Handling of complaints Evaluation of the Government's Internal Control System (GICS)

No	Area	Indicator	Sub Indicator
			<ul style="list-style-type: none"> GICS maturity level Fraud control plan
		<ul style="list-style-type: none"> Follow up on internal and external inspection results 	<ul style="list-style-type: none"> Follow up on internal and external inspection results
		<ul style="list-style-type: none"> Other supervisory activities 	<ul style="list-style-type: none"> Governance audit Probity audit
5	State Apparatus Civil management	<ul style="list-style-type: none"> Regulation of SAC management 	<ul style="list-style-type: none"> Major Decree regarding SAC Management Regulation of the Major about SAC Management
		<ul style="list-style-type: none"> Information system 	<ul style="list-style-type: none"> Personnel Information System
		<ul style="list-style-type: none"> Compliance with State Officials' Asset Reports and control of gratuities 	<ul style="list-style-type: none"> Compliance with State Officials' Asset Reports Control of gratification
		<ul style="list-style-type: none"> Governance of SAC 	<ul style="list-style-type: none"> Promotion, rotation, mutation Job evaluation Additional employee income Individual performance management Enforcement of the code of ethics & employee protection and service Merit system assessment
		<ul style="list-style-type: none"> Prevention of buying and selling positions 	<ul style="list-style-type: none"> Evaluate SAC procurement, promotion, rotation and transfer plans. Evaluate conflicts of interest
6	Optimalization of local revenue	<ul style="list-style-type: none"> Regulation of local tax 	<ul style="list-style-type: none"> Completeness of local tax regulations
		<ul style="list-style-type: none"> Database of local tax 	<ul style="list-style-type: none"> Data on potential regional taxes Data on regional tax arrears
		<ul style="list-style-type: none"> innovation in increasing taxes 	<ul style="list-style-type: none"> Proposed regional tax innovation. Report on the achievements of regional tax innovation
		<ul style="list-style-type: none"> Collection of tax arrears 	<ul style="list-style-type: none"> Achievement of collection of regional tax arrears
		<ul style="list-style-type: none"> Efforts to increase taxes 	<ul style="list-style-type: none"> Achievement of an increase in local taxes
		<ul style="list-style-type: none"> Control of local taxes 	<ul style="list-style-type: none"> Local tax audit Follow up on regional tax reviews
7	Asset management	<ul style="list-style-type: none"> Regulation of local government assets 	<ul style="list-style-type: none"> Completeness of assets regulations
		<ul style="list-style-type: none"> Administration of local government assets 	<ul style="list-style-type: none"> Assets database Assets inventory Asset reconciliation
		<ul style="list-style-type: none"> Law enforcement 	<ul style="list-style-type: none"> Funding and registration of asset certificates Legalization of assets
		<ul style="list-style-type: none"> Controlling of local government assets 	<ul style="list-style-type: none"> Controlling of local government assets

No	Area	Indicator	Sub Indicator
		<ul style="list-style-type: none"> Control and supervision 	<ul style="list-style-type: none"> Asset integrity pact Follow up on asset management reviews
8	Village fund	<ul style="list-style-type: none"> Regulation 	<ul style="list-style-type: none"> Village financial regulations
		<ul style="list-style-type: none"> Publication 	<ul style="list-style-type: none"> Publication of Village Fund & Planning (VFP) Publication of VFP accountability reports
		<ul style="list-style-type: none"> Village financial system 	<ul style="list-style-type: none"> Online village financial system
		<ul style="list-style-type: none"> consolidated report 	<ul style="list-style-type: none"> Consolidated report of VBP
		<ul style="list-style-type: none"> Supervision 	<ul style="list-style-type: none"> Community monitoring mechanisms Audit of village fund Village asset database

Source: KPK Indonesia, 2022

Based on Table 4.1, the indicators in the intervention areas are comprehensive. The MCP programme appears to have been carefully designed to close corruption loopholes in the local governments. First, corruption occurs in two ways: expenditure and revenue. Interventions in "Planning and Budgeting" are therefore crucial. Budget transparency must begin during the development-planning stage. Therefore, the indicators used in this study are appropriate for supporting transparency.

Second, in public procurement, indicators are representative of corruption loopholes. This area is a corruption hotspot, where most corruption cases originate. Technically, the procurement process uses technology and is thus transparent. However, strict supervision of the quality of human resources is required to manage this system, including maintaining independence.

Third, in terms of licensing, both petty- and large-scale corruption are common. This is due to efforts to avoid time-consuming bureaucratic processes (Leff 1964). Transparency is crucial in this process. Over the past few years, the Ministry of Home Affairs has ordered all local governments to establish one-stop integrated services with the aim of simplifying all licensing processes.

Fourth, strengthening the government's internal supervisory apparatus (APIP) to oversee various aspects of the government sector is very important. APIP, which is a specialized section in the local government, namely the Inspectorate Agency, must be given special attention. Employees assigned as auditors in various fields in local governments must be strengthened and given immunity. This is important for identifying and improving the weaknesses in governance.

Fifth, regulation of SAC management has become an important issue because of the rampant practice of buying and selling positions in local governments. For example, money is often required as a bribe to obtain the position of the Principal or Head of Department. This is often organized by the Success Team of the Regional Head who won the election. To prevent such practices and ensure that competent people occupy important positions, the MCP Programme provides a warning and focuses on SCA management.

Sixth, local revenue was optimized. One of the corruption loopholes to watch out is the revenue from the local tax sector. For some reason, the realization of local tax revenue is sometimes below its potential. Therefore, considerable research attention is required in this field. It also aims to help local governments track the potential revenue in their regions.

Seventh, category is the regional asset management. One area that often suffers losses to local governments is asset ownership. In regions that are less innovative in recording local assets, government assets often cannot be proven even though they have been recorded in asset administration. Conflicts among governments, entrepreneurs, and communities often arise from asset management issues. Therefore, the MCP programme was created to pay more attention to public goods.

Eight, village funds required careful supervision. The supervision of village funds through the inspectorate is the responsibility of the local government. Although the authority to manage village funds is given to village governments, the role of local governments is important given the low level of financial literacy in rural areas. Therefore, local governments, together with the Financial and Development Supervisory Agency, provide education and supervision to ensure accountability for the use of village funds.

Literature of MCP Programme in Indonesia

The literature on MCP covers a wide range of issues, including oversight by public auditors in specific areas, critical evaluations of planning and budgeting processes, assessments of the programme's implementation by the Corruption Eradication Commission (KPK), analyses of its impact on corruption and public complaints, examinations of procurement design, and considerations of its impact on private investment.

For example, Baiti and Soemitra (2022) demonstrated that the performance score of the Medan city government in 2021 is 77.25, indicating suboptimal performance and highlighting the need for improvement at the municipal level. In particular, they highlight the importance of a sophisticated procedural framework in the area of planning and budgeting to develop

comprehensive cost standard analyses and basic unit prices for activities, thereby reducing potential errors in planning and budgeting processes.

Abadi (2023) explained that the evaluation of the MCP programme in Riau Province, which focused on civil servants, resulted in a score of 71%. To strengthen the programme, efforts should focus on improving the competence of civil servants and ensuring auditor independence. The main recommendation is to formulate the specific regulatory independence of local auditors, which serves as a key indicator within the MCP framework in the professional development of government internal auditors. Despite the ongoing monitoring of the MCP, persistent anomalies in corruption cases highlight the need to broaden the scope of the programme to comprehensively eradicate corruption.

Two academic articles examined the crucial role played by institutions such as the KPK, Inspectorate Agency, and Electronic Procurement Agency as providers in the implementation of the MCP programme. According to Bintana and Mayasari (2023), anti-corruption initiatives in the local revenue sector and the 7-C protocol model significantly influenced the local tax optimization programme. The KPK's ability to identify problems related to local tax revenue targets can motivate local government bodies to improve bureaucracy. Conversely, Nopirina (2023) criticizes the role of the Inspectorate, suggesting that its function has changed from a mere 'watchdog' to a collaborative role with the KPK in the MCP programme. Nopirina (2023) emphasises that improving the skills of auditors in order to prevent corruption is crucial point.

Astuti et al. (2023) claimed that the intervention area within the MCP programme had a negative and significant impact on both the incidence of corruption cases and public complaints, especially in the procurement of goods and services at the provincial level. In addition, Tua and Mahi (2023) elaborate on the sustained positive and significant effects of anticorruption measures on investment accumulation in Indonesian districts and cities. To improve MCP performance at the local government level, the authors recommend a stricter criterion for the allocation of local incentive funds, aligned with the performance indicators of the MCP programme.

Chapter 5

Relationship of anti-corruption, politics, and economic growth: data and method

5.1 Introduction

As previously outlined, the primary objective of this research is to gauge the influence of anti-corruption initiatives on the economic growth of districts and cities across Indonesia. This study employs a multiparadigm approach, as outlined by Guba & Lincoln (1994), which encompasses a set of fundamental beliefs that significantly impact research methodologies. The first paradigm, which is quantitative and positivist in nature, is utilized to investigate the impact of anti-corruption programmes at the local level, taking into account the political aspects, on the local economy. The second paradigm, which is qualitative and critical, employs a structuralist approach to explore in-depth how anti-corruption interventions by local political institutions affect the local economy through power structures, resource distribution, and economic dynamics in society.

This study uses data from several sources, such as the Corruption Eradication Commission (KPK), Central Bureau of Statistics in all districts and cities in Indonesia, Ministry of Finance of the Republic of Indonesia, and General Election Commission of the Republic of Indonesia. The data set collected is a unique data set that we collected ourselves according to the needs of this study.

The anti-corruption data used were the three anti-corruption areas described in Chapter 4. The three anti-corruption areas included intervention areas for local planning and budgeting, procurement of goods and services, and licensing. The other five intervention areas were excluded because the researcher felt that they were more closely related to human resource management and village fund. In addition, the three anti-corruption areas used in this study are those with the most corruption loopholes according to the KPK.

In this chapter, we propose two questions:

RQ 5.1 what indicators are used as variables to estimate the anti-corruption, political impact on economic growth?

RQ5.2 what is the structure of the data and model variation used to estimate the anti-corruption impact on economic growth?

Based on the availability of data, we utilized the two-period panel data method and a quasi-experiment with the difference-in-differences method. Variations in difference-in-differences in this study are described in the next subsection. In addition, we examine the interaction between anti-corruption programme and local politics on economic growth at the local level. By using a qualitative approach, this study utilizes several data sources, including in-depth interviews with several stakeholders, observation and documentation. Explanations of the methods and data sources are explained in detail at the end of this chapter specifically.

Chapter 5 is organized as follows. The second section outlines the data and variables used in this study. The third section describes the methodology, detailing the procedures and methods used in the estimation process.

5.2 Data and variables

After the demise of the New Order in 1998, Indonesia shifted towards the Reform Order. Advocates for reform urged that Indonesia adopt local autonomy and eliminate the reliance on a centralized system. Ultimately, in 1999, a local autonomy law was enacted to govern the allocation of authority between the central government and the locals. At the conclusion of the New Order era, there were 27 provinces. Following the 1998 reforms, the push for local expansion intensified. By 2012, the total number of provinces had grown to 34, comprising 416 and 98 districts. Consequently, the overall count of cities-districts reached 514. In this study, we utilized data exclusively from cities and districts in 33 provinces, amounting to a total of 508 which is containing 93 cities and 415 districts. We did not include several administrative cities in Jakarta Province because this Province is a Special Capital Province where Local House of Representative (LHR) only exist at the provincial level and do not extend to other administrative city level. Obtaining data on political variables, especially on the political concentration of LHR, is essential for this study. Thus, we have made this decision thoughtfully.

This study uses data obtained from several credible sources. The data include real local gross domestic product (LGDP) per capita, anti-corruption, domestic investment, foreign investment, number of financial institutions, agglomeration, employment rate, human capital, political concentration in LHR, political affiliation of local heads, and incumbent status of local heads. The time periods utilized in this research comprise data in 2019 and 2022.

Furthermore, the **dependent variable** in this study is real LGDP per capita (constant prices with a base year of 2010). Data is obtained from the official source of the Indonesian Central Bureau of Statistics. Real LGDP per capita is a measure of economic growth that is

most often used by several researchers related to corruption control and economic growth (Afonso & Rodrigues, 2022; Al Qudah et al., 2020; Alfada, 2019; Azam, 2022; Baklouti & Boujelbene, 2020; Balaguer-Coll et al., 2022; Belloumi & Alshehry, 2021; Das et al., 2020; Gründler & Potrafke, 2019; Hakimi & Hamdi, 2017; Hamdi & Hakimi, 2022; Paulo et al., 2022; Spyromitros & Panagiotidis, 2022; Uddin & Rahman, 2022; Urbina & Rodríguez, 2022; Zeeshan et al., 2022).

The anti-corruption data is an index of anti-corruption with an interval of 0 – 100. The anti-corruption variable is the main variable used as a predictor of local economic growth. The control variables are domestic investment, foreign investment, the number of financial institutions, population density, employment rate, and human capital. Meanwhile, proxies of democracy, namely the political concentration of the LHR, political affiliation of the mayor, and incumbent status of the mayor, are used as interactions with the anti-corruption variables.

Anti-corruption variables

The independent variables are anti-corruption variables developed by KPK Indonesia. This index assesses the level of anti-corruption in all districts and cities across Indonesia. In order to gauge the anti-corruption efforts in various sectors, several sub-indicator calculations are necessary. A comprehensive breakdown of these sub-indicators can be found in Table 3.1 of Chapter 3. The time periods for the data in these three variables are 2019 and 2022. This study concentrated on three anti-corruption areas that are particularly susceptible to corruption, and it was observed that some of the individuals caught engaging in corrupt practices hailed from these areas.

1. Supervision of local planning and budgeting, in all districts and cities with index of 1 – 100.

The local planning and budgeting index is a composite average rating based on several indicators, including: 1) the implementation of unit price standard; 2) the analysis of budget standard; 3) local budget planning; and 4) supervision. In the first indicator, evaluated points include how unit price standard is implemented and how they are determined. In the second indicator, evaluated points include how budget analysis standard is determined and how they are implemented. In the third indicator, local budget planning, factors considered include the approval of planning and budgeting documents by local councils, publication of these documents, submission of draft general budget policies and temporary budget ceiling priorities, submission of local

budget planning drafts, and agreement on general budget policies and temporary budget ceiling priorities. In the fourth indicator, emphasized points include monitoring the implementation of local development work plans and conducting reviews of unit price and budgeting standards.

2. Supervision of local procurement of goods and services in all district and cities with index of 1 – 100.

The procurement index is a composite index calculated from the average of each indicator. There are five main monitoring indicators in the area of anti-corruption procurement of goods and services, including: 1) human resources in the procurement unit; 2) implementation of tasks and functions; 3) supporting devices; 4) screening of general procurement plan information system; and 5) control and supervision. The first indicator includes sub-indicators that are part of the evaluation, such as the working group of procurement processing permanently, availability of human resources in procurement working unit, and availability of procurement working unit functionally. Some sub-indicators that are given attention in the first indicator are the evaluation of procurement activities, advocacy for procurement, review of procurement planning, and vendor management system. The third indicator is evaluated based on special income for employees in the procurement process, standard operational procedures for procurement, and codes of ethics in procurement. The fourth indicator only has one sub-indicator, which is the percentage of procurement information system views. Meanwhile, the last procurement indicator has two sub-indicators, which are the review of the estimated price and following up on procurement governance.

3. Supervision of licensing aspects in all districts and cities with index of 1 – 100.

The local licensing index is the composite average that is calculated based on the anti-corruption score in each sub-indicator under each indicator. In the area of licensing, there are three indicators, namely 1) regulation; 2) infrastructure of regulation; and 3) control and supervision. For the first indicator, the sub-indicators used for assessment are regulations on the delegation of licensing authority, local regulations regarding licensing management, and local regulations regarding spatial planning. Meanwhile, for the second indicator, there are two sub-indicators, namely location and place of service, publication media, and local online licensing system. Finally, for the last indicator, there are three main sub-indicators, namely public satisfaction index, follow-up on licensing governance review, and supervision.

Control Variables

The control variables used in this study included two aspects: economic and demographic. The time periods for data in these variables were 2017 and 2022, respectively. These aspects have been adopted from previous literature by Balaguer-Coll et al. (2022) and Rodríguez-Pose & Zhang (2019).

Economic aspect

We have designated three control variables for the economic aspect. These variables are as follows:

1. Domestic investment. Domestic investment is the amount of investment by local and national investors in each district or city in Indonesian rupiah exchange rates. We then adjust it to the US dollar. Domestic investment as percentage of LGDP in each district or city.
2. Foreign investment. Foreign investment is the amount invested by foreign investors from abroad in each district/city in US dollars. Foreign investment as percentage of LGDP in each district or city.
3. Financial institutions. In this case, financial institutions are the number of bank branches and the number of cooperatives in each district/city throughout Indonesia.

The investment variables, which represent the percentage of LGDP, has been adopted from previous studies, such as those conducted by Alfada (2019), Baklouti & Boujelbene (2020), Belloumi & Alshehry (2021), Dokas et al. (2023), Hakimi & Hamdi (2017), Hamdi & Hakimi (2022), Paulo et al. (2022), Spyromitros & Panagiotidis (2022), and Trabelsi & Trabelsi (2021). Meanwhile, the financial institution is adapted from Balaguer-Coll et al. (2022).

Demographic aspect

Demographic aspects are often used as reference in control variables. The three demographic variables used in this study include (Rodríguez-Pose & Zhang, 2019):

1. Agglomeration. Agglomeration is measured through population density, namely the number of residents per unit area (square km).

2. Labor force participation rate. The labor force participation rate is the percentage of the labor force to the population aged 15 years and over. This variable is measured in each district/city in Indonesia.
3. Human Capital. The human capital proxy is the average number of years of schooling for the population in each district/city in Indonesia.

Political aspect as mediating

The political aspect is one of the indicators of democracy considered as a control variable. The role of democracy in various literatures has been proven as a growth lever. Even in the latest literature from Saha & Sen (2021) states that the interaction of democracy variables with aspects of corruption greatly affects economic growth. This study attaches local democracy variables from the political lens as interactive variables with anti-corruption variables.

1. Concentration of political coalition in LHRs. Political concentration is the percentage of parliament members from political party support for the incumbent in parliaments each district and city.

$$\frac{\text{Total seats of supporting parties}}{\text{Total of local parliamentary seats}} \times 100$$

In local head elections in Indonesia, especially for Regents and Mayors, candidates are allowed to register with certain conditions.

- Districts and cities with a permanent voter that of 0 – 250,000 people, must have 10 percent support.
- Districts and cities with a permanent voter that of 250,000 – 500,000 people must receive 8.5 percent support.
- Districts and cities with a permanent voter that of 500,000 – 1,000,000 people must have 7.5 percent support.
- Districts and cities with a permanent voter > 1,000,000 voters, the support requirement is 6.5 percent.

Therefore, in some data, the political concentration data is 0, meaning that the winner of the local head election is an independent candidate without political party. However, the requirement for candidates supported by political parties is 15 percent of the seats in political parties in local elections before 2015. There was 20 percent

support for parliamentary seats after 2015. In some data, the coalition was up to 100 percent. This support is given to certain candidates by all political parties in the parliament in each district or city. Data on political concentration in 2017 and 2022 are calculated based on the legislative election results at the local level before 2017 and 2022. Local head elections and legislative elections in Indonesia are not simultaneous for the whole of Indonesia. These were held separately.

2. Political affiliation. Political affiliation is the political affiliation of the regent/mayor to the coalition of political parties supporting the president (national level). Given a value of 1 if there is affiliation and 0 if there is no political affiliation. We added this variable as a new indicator for local politics.
3. Incumbent. Incumbent is a local head who served in the previous period and was re-elected as the local head the following year. We give 1 for incumbent and 0 for non-incumbent.
4. Fiscal independence. Fiscal independence in this case is a percentage of

$$\frac{\text{Local generated revenue}}{\text{National transfer fund}} \times 100$$

Fiscal independence is an indicator of a region's ability to finance its own activities without depending on external assistance, including that from the central government. This variable was also used by Balaguer-Coll et al. (2022) as local political variable.

We provide additional information on the variables in Table 5.1. The table contains variable names, variable measurements, data period, and data sources.

Table 5.1 Variables nomenclature

Variable	Name	Measurement	Period	Source
Dependent				
Economic growth	Log of real LGDP per capita (Y)	Log real LGDP per capita in US\$ in each area	2017 & 2022	Statistics Bureau of Indonesia
Independent				
Anti-corruption 1	AC1	Score of AC1, 0 – 100 in each area	2019 & 2022	MCP programme KPK Indonesia
Anti-corruption 2	AC2	Score of AC2, 0 – 100 in each area	2019 & 2022	MCP programme KPK Indonesia
Anti-corruption 3	AC3	Score of AC3, 0 – 100 in each area	2019 & 2022	MCP programme KPK Indonesia
Control				

Domestic investment	E1	Percentage of EI per capita / GRDP per capita in each area	2017 & 2022	Statistics Bureau of Indonesia and Ministry of Investment
Foreign investment	E2	Percentage of E2 per capita / GRDP per capita in each area	2017 & 2022	Statistics Bureau of Indonesia and Ministry of Investment
Financial institutions	Log E2	Log of financial institutions in each area	2017 & 2022	Statistics Bureau of Indonesia
Agglomeration	Log D1	Log of agglomeration in each area	2017 & 2022	Statistics Bureau of Indonesia
Labor force	D2	Percentage of labor force in each area	2017 & 2022	Statistics Bureau of Indonesia
Human capital	D3	Number of people in schooling years in each area	2017 & 2022	Statistics Bureau of Indonesia
Political concentration	P1	Percentage of political concentration in LHR in each area	2017 & 2022	Indonesian General Election Commission
Fiscal independence	P2	Percentage of fiscal independence in each area	2017 & 2022	Ministry of Finance, Indonesia
Affiliation of political party	P3	Binary: 1 have affiliation, 0 is not, in each area	2017 & 2022	Indonesian General Election Commission
Incumbent status	P4	Binary: 1 is incumbent, 0 is not in each area	2017 & 2022	Indonesian General Election Commission

The dependent variable and some of the independent variables mentioned in Table 4.2 such as financial institutions and agglomeration have unsymmetrical distributions. Therefore, these variables are transformed into logs to obtain symmetrical data.

We present the descriptive statistics result in Table 5.2 as an initial overview of the data we have provided in this study. The table below is an overview.

Table 5.2 Descriptive statistic

Variable	Mean	Std. Dev.	Min	Max
Y	1953.191	1054.897	302.649	12982
AC1	74.871	25.350	0	100
AC2	67.243	25.635	0	100
AC3	78.686	21.963	0	100
E1	4.536	11.274	0	174.875
E2	2.809	8.910	0	94.859
E3	292.823	416.476	0	8649
D1	867.438	1864.228	0	15307
D2	69.435	7.510	43.41	97.53
D3	8.270	1.641	0.97	13.03
P1	42.605	21.393	0	100
P2	16.866	21.189	0.042	195.206

P3	0.493	0.500	0	1
P4	0.449	0.497	0	1

Source: own calculation.

Table 5.2 illustrates the results of the descriptive statistics. The first variable pertains to economic growth, utilizing real LGDP per capita as a proxy. The average LGDP per capita is US\$1,953.191, with the lowest recorded value at US\$302.649 and the highest at US\$12,982. The average anti-corruption score for planning and budgeting is 74.871, while for procurement it is 67.243, and for licensing, it is 78.686. Across all three anti-corruption domains, the scores range from 0 to 100, suggesting that some surveyed districts-cities lack established anti-corruption mechanisms in areas susceptible to corruption.

This study incorporates control variables encompassing economic and demographic. Economic variables comprise E1 (domestic investment), E2 (foreign investment), and E3 (financial institutions), with average values of 4.536% and 2.809% of the real LGDP per capita for E1 and E2, respectively. The variable E3 averages 292,823 units per observation area. Three variables are considered from a demographic perspective: D1 (agglomeration), D2 (workforce), and D3 (human capital), with average values of 867,438 km², 69,435, and 8,270 per year, respectively.

Political variables are represented by P1 (political concentration in the LHR), P2 (fiscal independence), P3 (political party affiliation of the mayor/regent), and P4 (incumbency status) with average percentages of 42.605 of P1, 16.866 for P2, P3 and P4 are binary variables. A score of 42.605% for P1 indicates a moderate level of political concentration within parliament, which may contribute to the potential for democratization at the local level. However, low average fiscal independence (P2) indicates continued reliance on central government transfers despite over two decades of decentralization, constraining districts-cities fiscal autonomy.

5.3 Methodology

5.3.1 Quantitative approach

This study uses two methods based on data availability. We consider the use of two-period panel to examine the effect of anti-corruption variables on economic growth. In addition, we also conduct a quasi-experiment using the difference-in-differences method to observe whether there is a difference in economic growth in locals where the mayor is caught in corruption cases.

5.3.1.1 Two-period panel data

According to Wooldridge (2010), a set of panel data is extremely useful for policy analysis, especially for programme evaluation. In this study, we use the two-period panel data method to observe the relationship between anti-corruption programmes and their interaction with local political indicators of local economic growth. This study applied two-period panel data adopted from Wooldridge (2010) which uses a basic model (equation 1) and a time fixed effect (equation 2). The equation used is as follows:

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \delta Dum_{2t} + \varepsilon_{it} \quad (1)$$

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \delta Dum_{2t} + \varepsilon_{it} \quad (2)$$

In addition, we also observe the interaction between each anti-corruption variable and the democracy variable proxied by local politics variables. We draw the model in the equation 3.

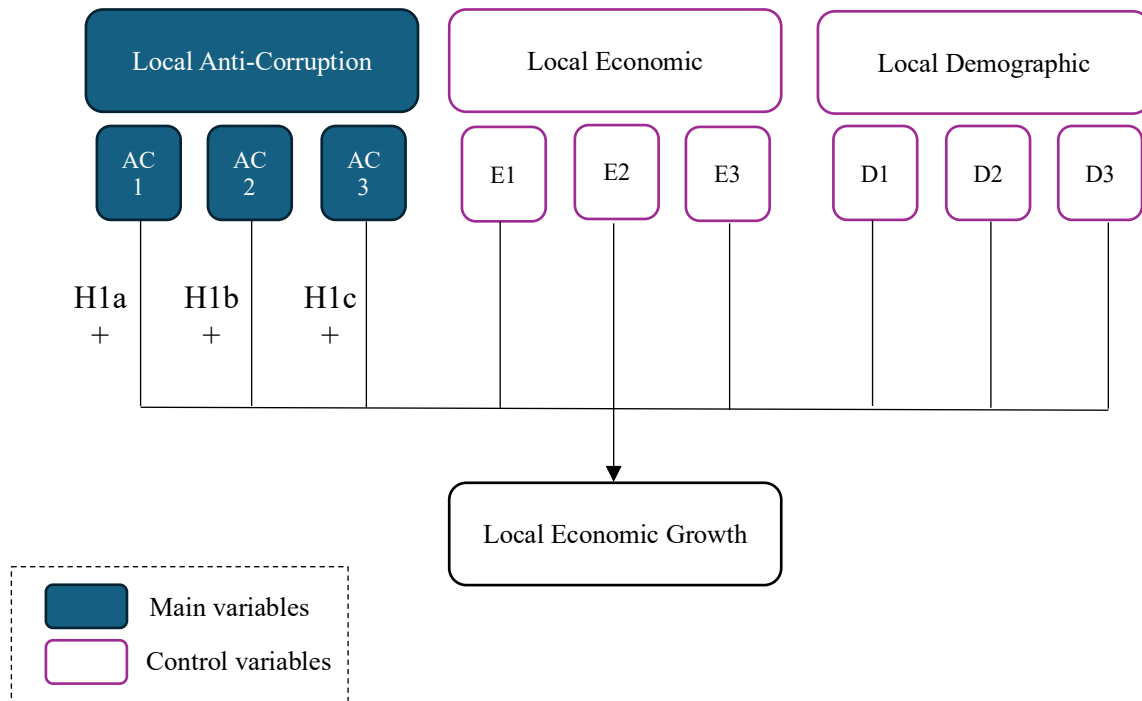
$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \gamma \sum_{k=1}^3 \log AC_{kit} \times \sum_{k=1}^4 P_{kit} + \delta Dum_{2t} + \varepsilon_{it} \quad (3)$$

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \gamma \sum_{k=1}^3 \log AC_{kit} \times \sum_{k=1}^4 P_{kit} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \delta Dum_{2t} + \varepsilon_{it} \quad (4)$$

where $\log Y$ is log of economic growth. i is districts-cities. t is period. $\log AC1$ is log of anti-corruption programme in planning and budgeting area. $\log AC2$ is log of anti-corruption programme in procurement of goods and services. $\log AC3$ is log of anti-corruption programme in licensing. P_{kit} is political variables for districts-cities i in period t with $k = 1, 2, 3, 4$. E_{kit} is control variables of economic for districts-cities i in period t with $k = 1, 2, 3$. D_{kit} is control variables of demographic for districts-cities i in period t with $k = 1, 2, 3$. Dum_{2t} is a dummy variable that equals to zero when $t = 1$ or 2019 and one when $t = 2$ or 2022, it does not change across i or we called as time fixed effects. α is constant. $\beta_1, \beta_2, \beta_3$ are coefficient of regression for anti-corruption variables. γ is coefficient of each interaction between anti-corruption variables and political variables. ζ_k is coefficient of control variables in economic. η_k is coefficient of control variables in demographic. δ is parameter of dummy years. ε is error term. We provide the result of these model in the Table 6.1 to Table 6.5.

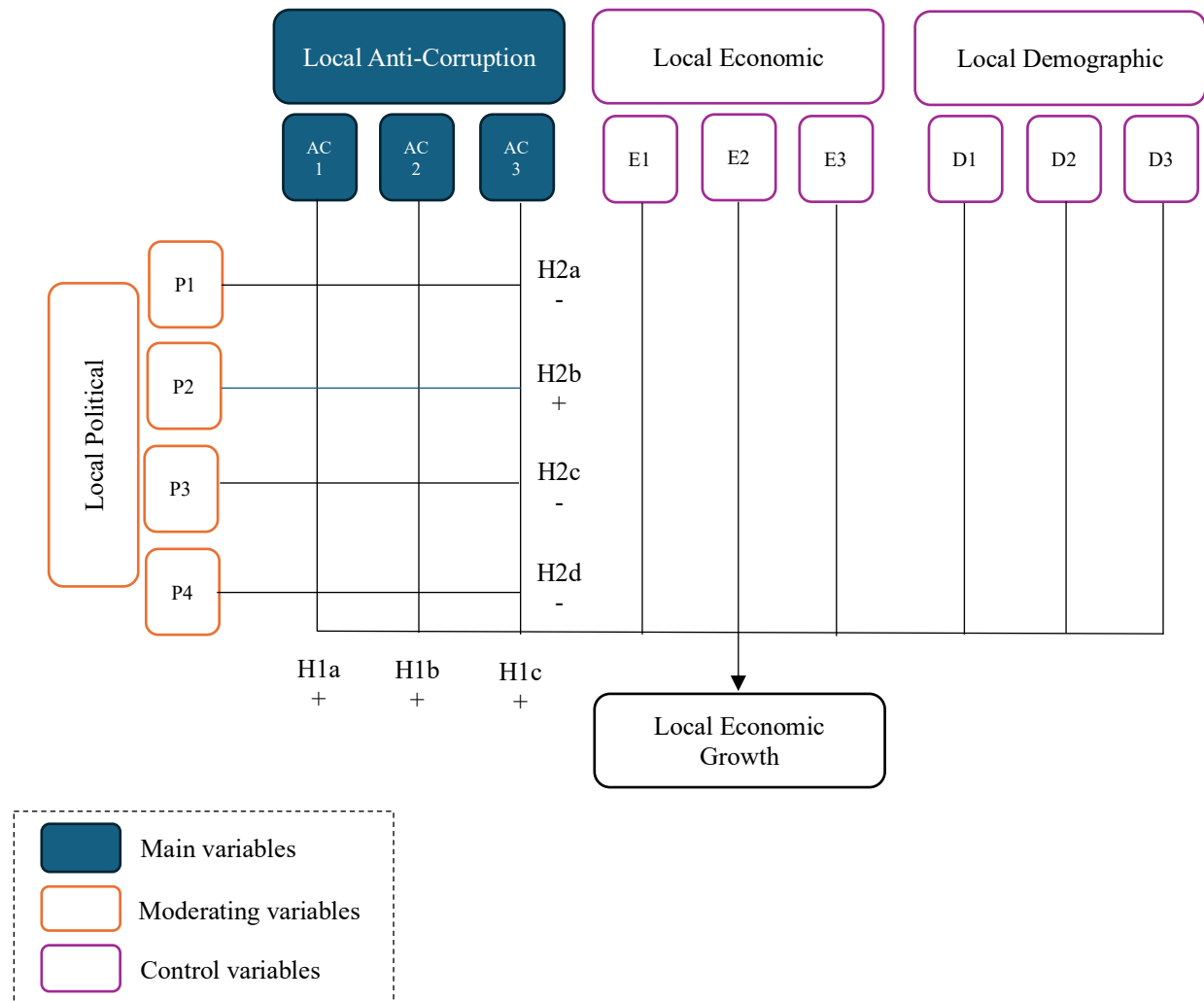
The two-period panel data offers visualizations for equations 1 and 2. These visualizations are presented in Figure 5.1 and 5.2, respectively.

Figure 5.1 Basic model



Recent research at the global level shows that efforts to combat corruption have a positive impact on economic growth. At the local level, studies by Wu and Zhu (2011), Rodríguez-Pose and Zhang (2019), and Balaguer-Coll et al. (2022) support this finding and demonstrate that anti-corruption efforts at the local level can have a positive impact on local economic growth. Moreover, we examined the relationship between local anti-corruption variables and local political variables, taking into account previous research findings at the global level, which highlight the role of institutional quality in economic growth (Alesina and Rodrik, 1994; Barro, 1996; Saha & Sen, 2021). We argue that the quality of local politics in Indonesia, specifically political concentration, political affiliation of local heads with the national leadership coalition (Asher & Novosad, 2017; Bernhard et al., 2018), and incumbent status (Purwaningsih & Widodo, 2020; Ferraz & Finan, 2011; Klašnja, 2015), can have a positive impact on economic growth. However, it should be noted that fiscal independence can also have a positive impact on economic growth (Balaguer-Coll et al., 2022; Canavire-Bacarreza et al., 2020; Ebel & Yilmaz, 2002).

Figure 5.2 Large model



5.3.1.2 Difference-in-differences

Simple Differences

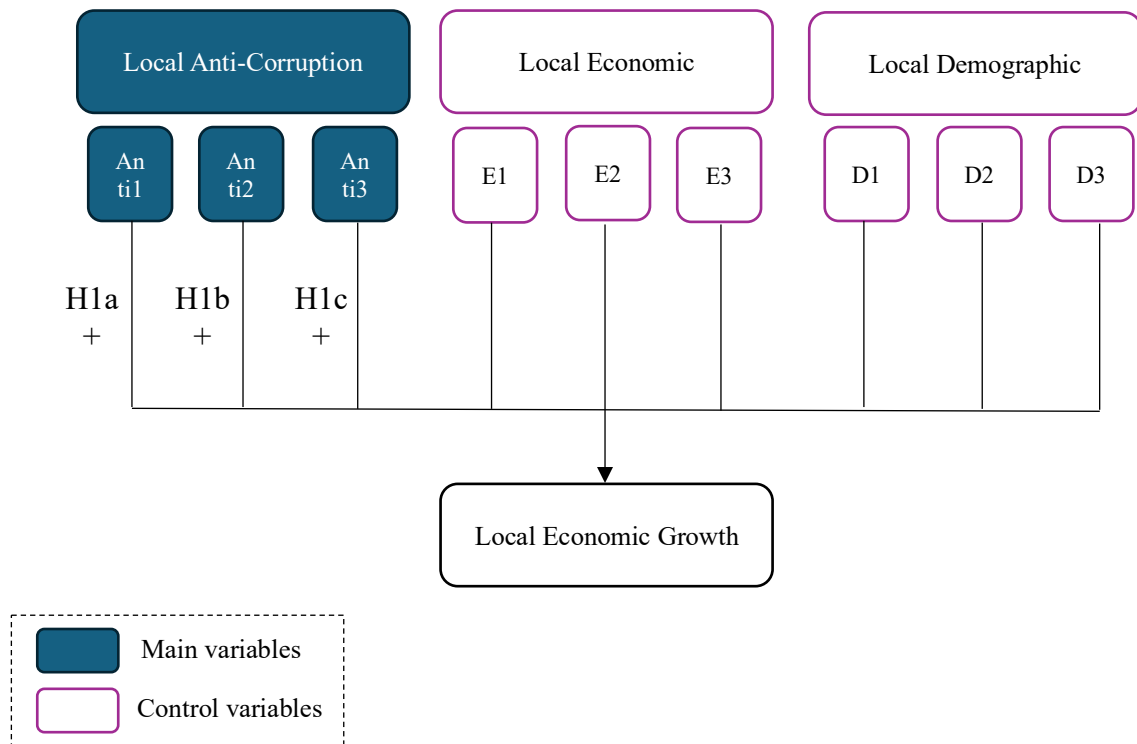
This study also examines the differences in economic growth between areas with high and low anti-corruption index. To accomplish this, we employ a simple difference using two-period data that is currently available. We contrast the results between districts-cities that score above and below the national average. The data we utilize was collected after the programme was established. Previously, Kiel and McClain (1995) employed a similar model, although the context was different. Initially, we segregate the anti-corruption data into two binary classes.

$$2019 \begin{cases} 1 & \text{if score of anti - corruption} > 69 \\ 0 & \text{if score of anti - corruption} < 69 \end{cases}$$

$$2022 \begin{cases} 1 & \text{if score of anti - corruption} > 76 \\ 0 & \text{if score of anti - corruption} < 76 \end{cases}$$

The national averages in 2019 and 2022 were 69, and 76 respectively. The anti-corruption scores are binary. In 2019, a district-city with an anti-corruption score of < 69 scored 0, and a score of 1 if > 69 . The same applies to the year 2022. 1 if > 76 , and 0 if < 76 . In this case, we refer to it as the anti-corruption dimension. Although the anti-corruption programme only started in 2018, we use 2019 anti-corruption data as pre-treatment data. We assume that there was no significant change in the three anti-corruption variables used in this study. Then, the period was 2019 as pre-treatment and 2022 as post-treatment.

Figure 5.3 Simple difference



The simple difference model used was as follows:

$$\log Y_{it} = \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \varepsilon_{it} \quad (5)$$

$$\log Y_{it} = \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \varepsilon_{it} \quad (6)$$

where $\log Y$ is log of economic growth. i is districts-cities. t is period. $Anti1$ is binary variable; 1 if the district-city has the score of anti-corruption in planning and budgeting $>$ the average of national score, and 0 if $<$ the average of national score. $Anti2$ is binary variable; 1 if the district-city has the score of anti-corruption in procurement $>$ the average of national score, and 0 if $<$ the average of national score. $Anti3$ is binary variable; 1 if the district-city has the score of anti-corruption in licensing $>$ the average of national score, and 0 if $<$ the average of national score. E_{kit} is control variables of economic for districts-cities i in period t with $k = 1, 2, 3$. D_{kit} is control variables of demographic for districts-cities i in period t with $k = 1, 2, 3$. α is constant. $\beta_1, \beta_2, \beta_3$ are coefficient of regression for anti-corruption variables. ζ_k is coefficient of regression for economic variables. η_k is coefficient of regression for demographic variables. ε is error term. The result of this model provided in Table 6.7 on the Chapter 6.

Difference-in-differences Model

As stated earlier, this study applies a natural quasi-experiment using the difference-in-differences (DiD) method. This method adopts several studies related to anti-corruption in different contexts such as Kong et al. (2017), Kong et al. (2020), and Qi et al. (2023) dan another text book by Brumback (2021) and Callaway (2023). This method is used to observe whether there is a difference in economic growth after the implementation of an anti-corruption programme. In the natural quasi-experiment, we set two regions: corrupt "High" and non-corrupt "Not High." Corrupt regions are districts where the head of the district, either the regent, deputy regent, or mayor and deputy mayor, has been caught in a corruption case handled by the KPK. The list of corrupt regions can be found in the list of corrupt local heads in Chapter 3. Therefore, we set these corrupt regions as treatment region. We set the non-corrupt region as the control region. Thus, in accordance with the rules of the game in the quasi-experimental method, the treatment region was given a score of 1, and the control region was given a score of 0.

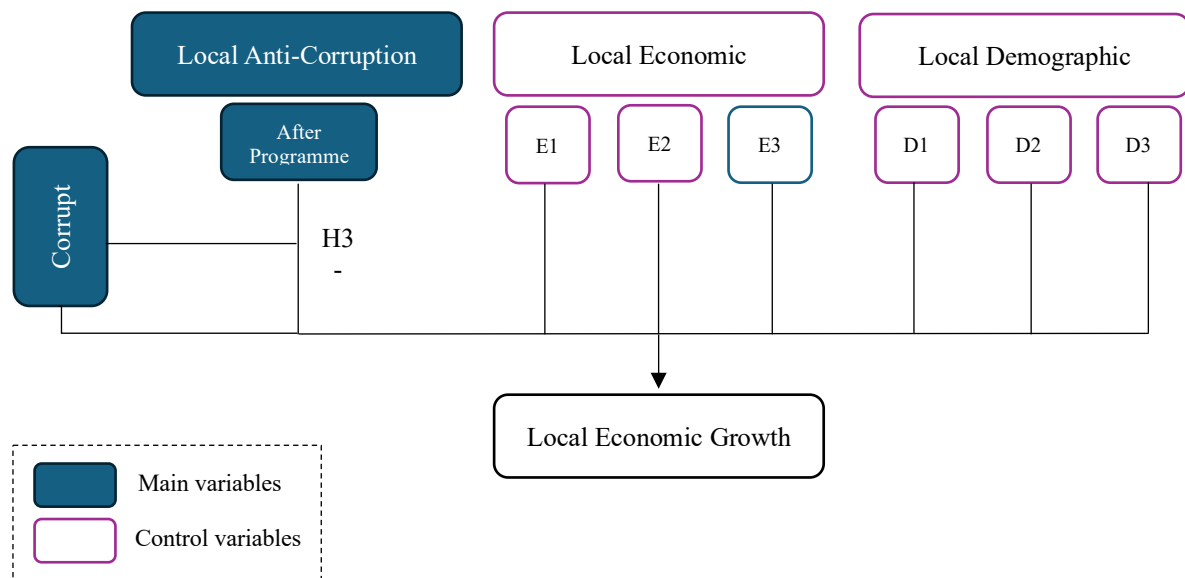
Therefore, the DiD regression equation that can be given is:

$$\log Y_{it} = \alpha + \beta \text{corrupt}_i + \gamma \text{afterprogram}_t + \delta \text{corrupt}_i \times \text{afterprogram}_t + \varepsilon_{it} \quad (7)$$

$$\log Y_{it} = \alpha + \beta \text{corrupt}_i + \gamma \text{afterprogram}_t + \delta \text{corrupt}_i \times \text{afterprogram}_t + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \varepsilon_{it} \quad (8)$$

where: $\log Y_{it}$ is log of economic growth, i represent districts and cities, and t is period. $corrupt$ is corruption districts-cities which is containing dummy, 1 for districts-cities that have Mayor/Vice Mayor corruptor and 0 is not. $afterprogram$ is represent time dummy, 1 for after Programme and 0 for before Programme. $corrupt \times afterprogram$ is the interaction due to collinearity. E_{kit} is control variables of economic for districts-cities i in period t with $k = 1, 2, 3$. D_{kit} is control variables of demographic for districts-cities i in period t with $k = 1, 2, 3$. α is intercept. β is coefficient that measures the difference between the treatment group and the control group before treatment. γ is a coefficient that measures the effect of time (before or after treatment) in the control group. δ is coefficient measuring the treatment effect (interaction between $corrupt$ and $afterprogram$) in the treatment group. ζ_k is coefficient of regression for economic variables. η_k is coefficient of regression for demographic variables. ε is error term. The result of these model can be seen in the Table 6.12 on the Chapter 6.

Figure 5.4 Difference-in-differences model



To understand the concept, we use the illustrative difference-in-differences in the Table 5.3 below to facilitate the parameter calculation steps in this study.

Table 5.3 Difference-in-differences parameters

	Pre mean	Post mean	Δ (post – pre)
Treatment	$\alpha + \beta$	$\alpha + \beta + \gamma + \delta$	$\gamma + \delta$
Control	α	$\alpha + \gamma$	γ
Δ Treatment - control	β	$\beta + \delta$	δ

The first difference formula is established. $\Delta \text{DiD} = (\text{Post of growth in corrupt districts and cities} - \text{Pre of growth in corrupt districts and cities}) - (\text{Post of growth in non-corrupt districts and cities} - \text{Pre of growth in non-corrupt districts and cities})$. The purpose of the first difference formula is to control for similar characteristics that do not change over time. The purpose of the second first difference (the difference between the treatment group and the control group) is to control the common time factor/effect. Thus, there are factors that change over time, and the factors that change over time affect the corrupt and non-corrupt regions.

We then use a **fully interacted regression** to allow all the coefficients to change over time. We use political variables as proxies of democracy, as proposed by Saha and Sen (2021). The four political variables include political concentration, fiscal independence, mayor's party affiliation, and incumbency status. Then, we use another measurement of anti-corruption variable that is *Anti*. DiD basic is:

$$\log Y_{it} = \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \gamma \text{Corrupt}_i + \delta \sum_{k=1}^3 \text{Anti}_{kit} \times \text{Corrupt}_i + \varepsilon_{it} \quad (9)$$

where $\log Y_{it}$ is log of economic growth of district-city i in year t . *Anti1* is binary variable; 1 if the district-city has the score of anti-corruption in planning and budgeting > the average of national score, and 0 if < the average of national score. *Anti2* is binary variable; 1 if the district-city has the score of anti-corruption in procurement > the average of national score, and 0 if < the average of national score. *Anti3* is binary variable; 1 if the district-city has the score of anti-corruption in licensing > the average of national score, and 0 if < the average of national score. *corrupt* is a dummy indicating whether the districts-cities belongs to the “High” corruption and “low” corruption in the subsample. *Anti_{kit}* is anti-corruption variables for districts-cities i in period t with $k = 1, 2, 3$. E_{kit} is control variables of economic for districts-cities i in period t with $k = 1, 2, 3$. D_{kit} is control variables of demographic for districts-cities i in period t with $k = 1, 2, 3$. α is a constant. $\beta_1, \beta_2, \beta_3$ are parameter of programmes anti-corruption fixed effect. γ is a parameter of districts-cities fixed effect. δ is parameter of interaction impact of the anti-corruption programme impact with *corrupt*. ε is error term. We provide the result of this model in the Table 6.13 on Chapter 6.

Our subsequent step is to incorporate a relaxation model that involved the *afterprogram* and *westregion* variables. The *afterprogram* variable is identical to those used in the previous models. The *westregion* variable is a dummy variable, where 1 represented the western region

of Indonesia and 0 represented the eastern region of Indonesia. The purpose of this was to determine whether corruption in the western region of Indonesia had an impact on local economic growth.

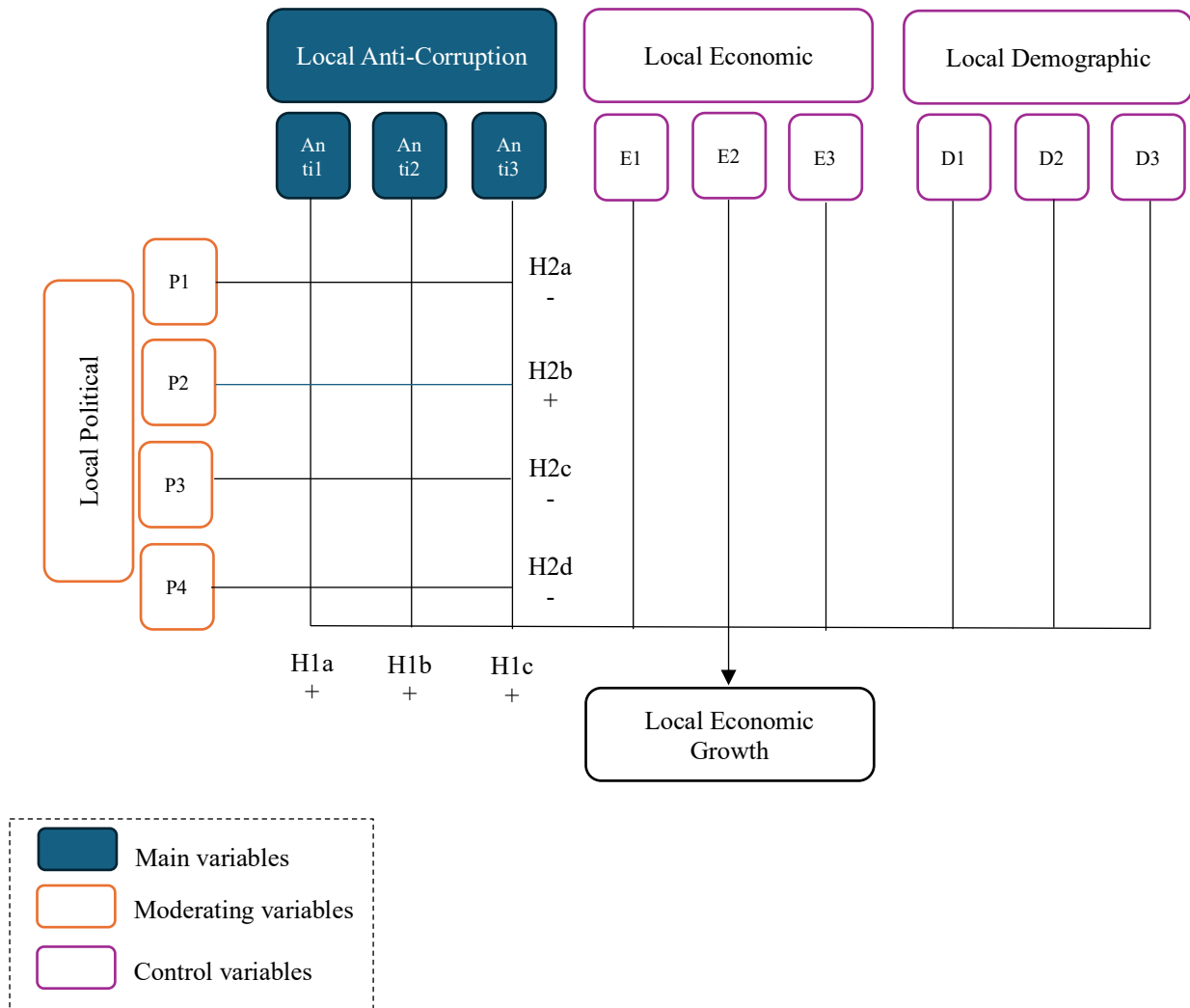
$$\begin{aligned}
\log Y_{it} = & \alpha + \beta_1 Anti1_{it} + \beta_2 Anti2_{it} + \beta_3 Anti3_{it} + \gamma Corrupt_i \\
& + \delta \sum_{k=1}^3 Anti_{kit} \times Corrupt_i + \theta_1 afterprogram_t + \theta_2 westregion_i \\
& + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \varepsilon_{it}
\end{aligned} \tag{10}$$

where $\log Y_{it}$ is log of economic growth of district-city i in year t . $Anti1$ is binary variable; 1 if the district-city has the score of anti-corruption in planning and budgeting > the average of national score, and 0 if < the average of national score. $Anti2$ is binary variable; 1 if the district-city has the score of anti-corruption in procurement > the average of national score, and 0 if < the average of national score. $Anti3$ is binary variable; 1 if the district-city has the score of anti-corruption in licensing > the average of national score, and 0 if < the average of national score. $corrupt$ is a dummy indicating whether the districts-cities belongs to the “High” corruption and “low” corruption in the subsample. $afterprogram$ is represent time dummy, 1 for after Programme and 0 for before Programme. $westregion$ is represent region dummy, 1 for the west region and 0 for the east region. $Anti_{kit}$ is anti-corruption variables for districts-cities i in period t with $k = 1, 2, 3$ E_{kit} is control variables of economic for districts-cities i in period t with $k = 1, 2, 3$. D_{kit} is control variables of demographic for districts-cities i in period t with $k = 1, 2, 3$. α is a constant. $\beta_1, \beta_2, \beta_3$ are parameter of programmes anti-corruption fixed effect. γ is a parameter of district fixed effect. δ is parameter of the anti-corruption programme impact in $corrupt$. ζ_k is coefficient of regression for economic variables. η_k is coefficient of regression for demographic variables. ε is error term We present the result of this model in the Table 6.14 on the Chapter 6.

Model with political interaction

In this model, the estimation was carried out by applying the interaction estimation between each anti-corruption variable and the political variables. Additionally, we also added control variables in economics and demographics. The illustration of the interaction can be seen in Figure 5.5 below, as well as in its mathematical representation in equations 11 and 12.

Figure 5.5 Model of interaction with local political



$$\log Y_{it} = \alpha + \beta_1 Anti1_{it} + \beta_2 Anti2_{it} + \beta_3 Anti3_{it} + \theta \sum_{k=1}^3 Anti_{kit} \times \sum_{k=1}^4 P_{kit} + \varepsilon_{it} \quad (11)$$

$$\log Y_{it} = \alpha + \beta_1 Anti1_{it} + \beta_2 Anti2_{it} + \beta_3 Anti3_{it} + \theta \sum_{k=1}^3 Anti_{kit} \times \sum_{k=1}^4 P_{kit} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \varepsilon_{it} \quad (12)$$

where $\log Y_{it}$ is log of economic growth of district-city i in year t . $Anti1$ is binary variable; 1 if the district-city has the score of anti-corruption in planning and budgeting > the average of national score, and 0 if < the average of national score. $Anti2$ is binary variable; 1 if the district-city has the score of anti-corruption in procurement > the average of national score, and 0 if <

the average of national score. $Anti3$ is binary variable; 1 if the district-city has the score of anti-corruption in licensing $>$ the average of national score, and 0 if $<$ the average of national score. $corrupt$ is a dummy variable indicating whether the districts-cities belongs to the “High” corruption and “low” corruption in the subsample. $Anti_{kit}$ is anti-corruption variables for districts-cities i in period t with $k = 1, 2, 3$. P_{kit} is political variables for districts-cities i in period t with $k = 1, 2, 3, 4$. E_{kit} is control variables of economic for districts-cities i in period t with $k = 1, 2, 3$. D_{kit} is control variables of demographic for districts-cities i in period t with $k = 1, 2, 3$. α is a constant. $\beta_1, \beta_2, \beta_3$ are parameter of programmes anti-corruption fixed effect. γ is a parameter of district fixed effect. δ is parameter of the anti-corruption programme impact in $corrupt$. ζ_k is coefficient of regression for economic variables. η_k is coefficient of regression for demographic variables. ε is error term. We present the result of this model in the Table 6.15 on the Chapter 6.

5.3.2 Qualitative approach

This study adopts a second paradigm, qualitative structuralism. Instead of using a humanistic structuralist approach, this study focuses on a radical structuralist paradigm due to its relevance to subject matter. According to Burrell & Morgan (2019: 33), this paradigm aims to provide an explanation of the fundamental relationships in social contexts, for example, focusing directly on internal contradictions that are rooted, or focusing on structure and power analysis. Additionally, we use a critical perspective to understand the root of the problem at the local level, related to corrupt practices that have caused injustice and inequality and are the focus of the critical perspective (Lapan et al., 2011).

This paradigm allows us to understand the complex relationship between local anti-corruption programmes and local political dynamics that affect growth at the local level. Corruption at the executive-legislative level has become the focus of research because of its impact on economic development. The radical structuralist paradigm provides a strong framework for analysing power structures, conflicts, and social transformations, especially in studies. With this approach, researchers can not only uncover visible symptoms but also delve into deeper causes and effects. On the other hand, the structuralist approach views society as a complex system in which social phenomena are not only influenced by individuals or policies, but also by the institutional structure, power dynamics, and deeply ingrained norms.

As for the design of data collection and analysis, this study relies on literature by Burrell & Morgan (2019), Creswell (2013), Guba & Lincoln (1994) and Lapan et al. (2011). The research involves qualitative data collection through in-depth interviews, participant

observation, and document analysis. In-depth interviews with an semi-structure (Creswell, 2013), were conducted with various stakeholders, including local government officials, LHR members, anti-corruption activists, local consultants. All of these stakeholders are typically involved in mutual corruption. Therefore, the information gathered from them is highly valuable.

The determination of information in anti-corruption practices is based on expertise. In this case, the information used includes local anti-corruption programme implementers and government auditors. Additionally, we also gather information from some local and national anti-corruption activists to gain an understanding of corruption and anti-corruption practices that have been carried out by the government.

In this study, we anticipate that the anti-corruption programme may encounter obstacles due to the formidable influence of local and national political networks. To gather insights, we have engaged key informants such as members of the LHR's Budget Committee and leaders of local political parties. Moreover, we have also sought the perspectives of local businessman who actively support certain candidates in local elections, as some research suggests that business oligarchs finance the elections of local heads.

The data sources used are not only derived from in-depth interviews, but also from secondary sources in the form of relevant documents related to this study obtained from local government institutions and mass media outlets. The use of diverse information sources enables us to gain a comprehensive and holistic understanding of the phenomenon under investigation.

5.4 Conclusion

The methodology utilized in this study was adjusted in accordance with the intended goals. In particular, the difference-in-differences method is a highly relevant technique for assessing the influence of a policy or programme in non-experimental settings (Fredriksson & Oliveira, 2019). Consequently, employing the DiD approach to gauge the impact of anti-corruption measures on economic growth at the local level is appropriate. Furthermore, the investigation of the relationship between local anti-corruption factors and political aspects is worth anticipating. It is not uncommon for politics to play a dominant role in democratic developing countries such as Indonesia, where government policy often follows political interventions that are prone to corruption. Therefore, we place considerable emphasis on exploring the interaction between politics and anti-corruption initiatives and its impact on local economic growth. In order to mitigate the potential weakness of quantitative analysis, we anticipate using a qualitative approach to enrich and fully understand the root of the issues in

this study. Critical perspectives supported by institutional theory will serve as the foundation for delving into the analysis in this study.

Chapter 6

The relationship of local anti-corruption and local economic growth: does local politics matter in Indonesia?

6.1 Introduction

The current chapter focuses on estimating the impact of anti-corruption programme on local economic growth. Additionally, it also discusses the interaction between anti-corruption programme and local political aspects, as well as their effects on local economic growth. The study by Rodríguez-Pose & Zhang (2019) revealed that the strength of local anti-corruption has an impact on local economic growth. This finding was also confirmed by Balaguer-Coll et al. (2022), who conducted a comprehensive sample at the local level in Spain. This study subsequently generated a review by Saha and Sen (2021) that utilized democracy as a measure of institutional quality, which has an impact on economic growth. We adopted the functional role of local political freedom as a proxy for democracy in several literatures.

The purpose of this chapter to fill a large gap in our knowledge by asking two fundamental questions:

RQ 6.1 How does the anti-corruption programme affect local economic growth?

RQ 6.2 To what extent can the interaction of local political factors with anti-corruption influence local economic growth?

This study used a unique and large dataset obtained from all the districts and cities in Indonesia. We used several statistical methods that were considered relevant to the data in this study. This study rely on the panel two-period method and difference-in-differences method. As explained in Chapter 5, there are data adjustments for the anti-corruption variables in the difference-in-differences method. Most estimation results are in line with the hypotheses of this study.

This study employed linear models utilizing the ordinary least squares method. Prior to model testing, classical assumptions were verified to ensure the absence of multicollinearity and heteroscedasticity, thus confirming the validity of the model. Outlier detection using box plots revealed significant concerns and we removed from data set. The initial amount of data was 1016. Following outlier inspection, several data points were removed from the data set because of significantly differing values, which resulted in a sample size of 903. Later, during testing of the model involving control variables, the sample size became 679 due to the presence of a value of 0 for the investment variables. This 0 value was automatically eliminated

during data processing. Most of these 0 values originated from districts in eastern Indonesia that did not have any investment. Visualization of these investment data can also be seen in Appendix 3. Also, appendix 3 provides the estimation results.

This chapter highlights the proof of the hypotheses presented in Chapter 3. There are three major hypotheses to be proved in this chapter.

Hypothesis 1 we expect a positive relationship between local anti-corruption programme and local economic growth in Indonesia.

Hypothesis 2 we assume that there is a negative relationship between local anti-corruption and local political on local economic growth, such as political concentration in the Local House of Representative (LHR), political party affiliation of local leaders with the presidential coalition, and the incumbent status of local leaders.

Meanwhile, the only local political variable that we expect to have a positive relationship with the local anti-corruption variable is fiscal independence.

Hypothesis 3 we assume that there is a decline in local economic growth due to local anti-corruption programmes in highly corrupt districts and cities in Indonesia.

The following is the organization of this chapter. Section 5.2 examines the estimated local impact of anti-corruption efforts on economic growth. Section 5.3 analysis of difference-in-differences, including simple differences, difference-in-differences, and difference-in-differences with a political interaction model. Finally, Section 6.4 discusses anti-corruption programme, local political aspect and their impact on local economic growth.

6.2 Estimation of local anti-corruption impact on local economic growth

The initial examination in this study assesses the primary predictor, namely, the local anti-corruption variables, concerning their impact on local economic growth. Subsequently, the analysis incorporates control variables into the estimation process. The results of the estimations are presented in Table 6.1.

Table 6.1 Basic model with time fixed effects

Variable	Model 1	Model 2	Model 3	Model 4
log AC1	0.080** (0.043)	0.081* (0.048)	0.157*** (0.049)	0.157*** (0.050)
log AC2	-0.043 (0.040)	-0.043 (0.045)	-0.046 (0.046)	-0.046 (0.044)
log AC3	0.460***	0.460***	0.329***	0.329***

	(0.056)	(0.067)	(0.072)	(0.076)
log E1			0.014* (0.008)	0.014* (0.008)
log E2			0.026*** (0.006)	0.026*** (0.006)
log E3			-0.029* (0.017)	-0.029* (0.016)
log D1			-0.026*** (0.010)	-0.026*** (0.011)
D2			-0.006*** (0.002)	-0.005*** (0.002)
D3			0.162*** (0.011)	0.162*** (0.012)
Year 2022	-0.237*** (0.032)	-0.237*** (0.032)	-0.280*** (0.032)	-0.280*** (0.032)
Constant	5.426 (0.159)	5.426 (0.210)	5.092*** (0.315)	5.092*** (0.328)
Time fixed effect	Yes	Yes	Yes	Yes
R-squared	0.186	0.186	0.359	0.359
Adj. R-squared	0.182		0.350	
F statistics	51.24***	34.95***	37.51***	41.71***
Obs.	903	903	679	679

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$. Model 2 and Model 4 are robust.

Table 6.1 demonstrates the consequences of the three important variables related to local anti-corruption. While the second local anti-corruption variable has a detrimental impact on local economic growth, the remaining two variables have favorable effects. The result on the model is based on the equation 1 and equation 2.

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \delta Dum_{2t} + \varepsilon_{it} \quad (1)$$

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \delta Dum_{2t} + \varepsilon_{it} \quad (2)$$

$$\log Y_{it} = 5.426 + 0.081 \log AC1_{it} - 0.043 \log AC2_{it} + 0.460 \log AC3_{it} + 0.237 D_{2t} + \varepsilon_{it}$$

$$\log Y_{it} = 5.092 + 0.157 \log AC1_{it} - 0.046 \log AC2_{it} + 0.329 \log AC3_{it} + 0.040 \log E1_{it} + 0.026 \log E1_{it} - 0.029 \log E3 - 0.026 \log D1 - 0.005 D2 + 0.162 D - 0.280 D_{2t} + \varepsilon_{it}$$

These findings align with the inclusion of the control variables in the analysis. Specifically, an increase of one unit in local anti-corruption in local planning and budgeting

(AC1) corresponds to a 15.7% increase in local economic growth. Conversely, increasing local anti-corruption in procurement (AC2) was associated with a 4.6% reduction in local economic growth. However, a one-unit improvement in local anti-corruption licensing (AC3) correlates with a 32.9% increase in local economic growth. Addressing vulnerabilities to corruption in local planning and budgeting is crucial, as these three domains are frequently implicated in local government corruption involving leaders and operational units. The authority and influence exerted by local leaders and operational units in these areas often facilitates corruption in local planning and budgeting, which is compounded by inadequate budgetary transparency at the local level.

Spending on infrastructure accounts for approximately 30% of the GDP in many developing countries, as indicated by Chan and Owusu (2022). A portion of this spending is directed towards physical and nonphysical infrastructure projects through local government procurement of goods and services. These procurement processes often involve high-value project auctions that are advertised on e-procurement platforms. The prevalence of corrupt networks in procurement practices may explain the adverse impact of corruption on economic growth. In such cases, tender winners may maintain relationships with local government officials who have contacted high-ranking officials prior to tender announcements. Corruption involving local leaders and high-ranking officials may involve bribes or "promises" exchanged with local officials to secure project tenders. The results of the pooled cross-sectional model revealed a positive association between local anti-corruption measures in local planning and budgeting (AC1), and local economic growth, which supports the alternative hypothesis. However, the results pertaining to local anti-corruption procurement (AC2) do not support the alternative hypothesis, as they exhibit a negative correlation with economic growth. Finally, the efficacy of local anti-corruption measures in licensing (AC1) aligns with an alternative hypothesis.

The results differ between the basic model with time fixed effects and the model without time fixed effects (see Appendix D). As shown in Table D1, local anti-corruption in the procurement area has a significant negative impact on local economic growth. Specifically, a one-unit increase in local anti-corruption in the procurement (AC2) area is associated with a 6% decrease in local economic growth. Similarly, negative and statistically significant results are observed for the 2022 time effects in Table 6.1, where the average local economic growth is 28% lower than the overall average. We can compare the R-square values between Tables 6.1 and the result of non-time fixed effect (Appendix D in Table D1), it is evident that the basic time fixed effects model has a higher R-square value than the model without fixed effects. In

Table 6.1, the R-squared is 35.9%, which implies that approximately 35.9% of the variation in local economic growth can be explained by the variation in local anti-corruption variables, control variables, and time-fixed effects in the observed years.

Table 6.2 Interaction with local political concentration in the LHR: time fixed effects

Variable	Model 1	Model 2	Model 3	Model 4
log AC1	-0.012 (0.092)	-0.012 (0.097)	0.050 (0.104)	0.050 (0.106)
log AC2	0.122 (0.086)	0.122 (0.092)	0.172 (0.111)	0.172 (0.107)
log AC3	0.397*** (0.102)	0.397*** (0.121)	0.211 (0.133)	0.211 (0.149)
log AC1 x P1	0.002 (0.002)	0.002 (0.002)	0.003 (0.002)	0.003 (0.002)
log AC2 x P1	-0.004** (0.002)	-0.004** (0.002)	-0.006** (0.003)	-0.006** (0.003)
log AC3 x P1	0.002 (0.002)	0.002 (0.002)	0.003 (0.003)	0.003 (0.003)
log E1			0.013 (0.009)	0.013 (0.009)
log E2			0.026*** (0.006)	0.026*** (0.006)
log E3			-0.027 (0.018)	-0.027* (0.016)
log D1			-0.027*** (0.010)	-0.027*** (0.011)
D2			-0.005*** (0.002)	-0.005** (0.002)
D3			0.163*** (0.011)	0.163*** (0.012)
Year 2022	-0.230*** (0.032)	-0.230*** (0.032)	-0.274*** (0.033)	-0.274*** (0.034)
Time fixed effect	Yes	Yes	Yes	Yes
Constant	5.430*** (0.159)	5.430*** (0.210)	5.111*** (0.316)	5.111*** (0.326)
R-squared	0.190	0.190	0.364	0.364
Adj. R-squared	0.184		0.352	
F statistics	30.12***	21.66***	29.34***	34.24***
Obs	903	903	679	679

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$. Model 2 and Model 4 are robust.

In a democratic state, the role of parliament as a government watchdog is paramount. Parliament oversees all executive activities, which is a fundamental aspect of Indonesia's governance framework, even with the current decentralization system. LHR closely monitor all aspects of local government operations, including planning, budgeting, implementation, and

performance evaluation, thereby exerting significant political influence on local governance. However, the absence of supportive party coalitions in LHR can hinder local government initiatives, potentially leading to the failure of programmes that conflict with the parliamentary interests. Nevertheless, generalizations across districts and cities should be approached with caution, as institutional fortification within parliament may strengthen anti-corruption efforts in local governance, supported by the advocacy efforts of numerous non-profit organizations dedicated to promoting clean and anti-corruption parliamentary practices. We provide the result in the Table 6.2 based on the model in the equation 3 and equation 4.

$$\begin{aligned} \log Y_{it} = & \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} \\ & + \gamma \sum_{k=1}^3 \log AC_{kit} \times P1_{it} + \delta Dum_{2t} + \varepsilon_{it} \end{aligned} \quad (3)$$

$$\begin{aligned} \log Y_{it} = & \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \gamma \sum_{k=1}^3 \log AC_{kit} \times P1_{it} \\ & + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \delta Dum_{2t} + \varepsilon_{it} \end{aligned} \quad (4)$$

$$\begin{aligned} \log Y_{it} = & 5.430 - 0.012 \log AC1_{it} + 0.122 \log AC2_{it} \\ & + 0.397 \log AC3_{it} + 0.002 \log AC1 \times P1 - 0.004 \log AC2 \times P1 + 0.002 \log AC3 \times P1 \\ & - 0.230 D_{2t} + \varepsilon_{it} \end{aligned}$$

$$\begin{aligned} \log Y_{it} = & 5.111 + 0.050 \log AC1_{it} + 0.172 \log AC2_{it} + 0.003 \log AC3_{it} \\ & + 0.397 \log AC3_{it} + 0.003 \log AC1 \times P1 - 0.006 \log AC2 \times P1 + 0.003 \log AC3 \times P1 \\ & + 0.013 \log E1 + 0.026 \log E2 - 0.027 \log E3 - 0.027 \log D1 - 0.005 D2 + 0.163 D3 \\ & - 0.274 D_{2t} + \varepsilon_{it} \end{aligned}$$

In Table 6.2, the significance of the local anti-corruption programme decreased with the inclusion of political concentration (P1). The interaction effect between local anti-corruption in planning and budgeting (AC1) and local political concentration (P1) appears positive but insignificant, indicating that, while such efforts positively impact economic growth, their effectiveness is undermined in the presence of a supportive local leadership coalition. Specifically, a one-unit increase in anti-corruption scores within local planning and budgeting (AC1) yields a marginal 0.3% increase in local economic growth, suggesting that LHR is making progress in mitigating the "Dutch disease" phenomenon, with planning and budgeting initiatives emerging as crucial to developmental endeavors.

The correlation between local anti-corruption in procurement (AC2) and local political concentration (P1) revealed a negative and statistically significant relationship with local

economic growth. An increase in local anti-corruption in procurement (AC2) by one unit is associated with a 0.6% decrease in economic growth as LHR coalitions strengthen, confirming a direct link between robust local anti-corruption and local economic slowdown under the influence of LHR politics. This observation highlights the hindrance caused by LHR political dynamics to local economic growth, resulting in a decline from 0.4% (Model 2) to 0.6% (Model 4). In summary, the relationship between $AC2 \times P1$ aligns with the hypothesis that the rejection of null hypothesis. However, the interactions between $AC1 \times P1$ and $AC3 \times P1$ deviate from this hypothesis, leading to acceptance of the null hypothesis.

Table 6.3 Interaction with fiscal independency: time fixed effects

Variable	Model 1	Model 2	Model 3	Model 4
log AC1	0.092 (0.055)	0.092** (0.068)	0.163*** (0.066)	0.163*** (0.074)
log AC2	-0.055 (0.049)	-0.055 (0.060)	-0.050 (0.061)	-0.050 (0.058)
log AC3	0.362*** (0.067)	0.362*** (0.079)	0.297*** (0.091)	0.297*** (0.095)
log AC1 x P2	-0.006 (0.005)	-0.006 (0.006)	0.001 (0.004)	-0.001 (0.004)
log AC2 x P2	-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)
log AC3 x P2	0.009* (0.005)	0.009 (0.005)	0.003 (0.005)	0.003 (0.005)
log E1			0.007 (0.008)	0.007 (0.008)
log E2			0.019*** (0.006)	0.019*** (0.006)
log E3			-0.040** (0.017)	-0.040** (0.017)
log D1			-0.067** (0.012)	-0.067** (0.012)
D2			-0.006*** (0.002)	-0.006*** (0.002)
D3			0.141*** (0.012)	0.141*** (0.012)
Year 2022	-0.236*** (0.031)	-0.236*** (0.031)	-0.272*** (0.318)	-0.272*** (0.316)
Time fixed effect	Yes	Yes	Yes	Yes
Constant	5.742*** (0.157)	5.742*** (0.215)	5.571*** (0.313)	5.571*** (0.337)
R-squared	0.256	0.256	0.401	0.401
Adj. R-squared	0.250		0.389	

F statistic	44.00***	30.38***	34.26***	32.77***
Obs	903	903	679	679

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$. Model 2 and Model 4 are robust.

In Table 6.3, the role of local anti-corruption when interacting with fiscal independence also contributes to local economic growth. The interaction patterns of the three anti-corruption areas with fiscal independence reflect those observed in local planning and budgeting. Initially, the interaction between local planning and budgeting and local fiscal independence was negative and insignificant. We present the model in the equation 5 and equation 6 below.

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \gamma \sum_{k=1}^3 \log AC_{kit} \times P2_{it} + \delta Dum_{2t} + \varepsilon_{it} \quad (5)$$

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \gamma \sum_{k=1}^3 \log AC_{kit} \times P2_{it} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \delta Dum_{2t} + \varepsilon_{it} \quad (6)$$

$$\log Y_{it} = 5.742 + 0.092 \log AC1_{it} - 0.055 \log AC2_{it} + 0.362 \log AC3_{it} - 0.006 \log AC1 \times P2 - 0.001 \log AC2 \times P2 + 0.009 \log AC3 \times P2 - 0.236 D_{2t} + \varepsilon_{it}$$

$$\log Y_{it} = 5.571 + 0.163 \log AC1_{it} - 0.050 \log AC2_{it} + 0.297 \log AC3_{it} - 0.001 \log AC3_{it} - 0.001 \log AC1 \times P2 + 0.003 \log AC2 \times P2 + 0.003 \log AC3 \times P2 + 0.007 \log E1 + 0.019 \log E2 - 0.040 \log E3 - 0.067 \log D1 - 0.006 D2 + 0.141 D3 - 0.272 D_{2t} + \varepsilon_{it}$$

Specifically, a one-unit increase in anti-corruption efforts in local planning and budgeting (AC1) will decrease economic growth by approximately 0.01%. Model 4 of Table 6.3 highlights the negative impact of the interaction between local anti-corruption efforts in procurement and local fiscal independence. With every unit increase in local anti-corruption in procurement (AC2) leads local economic growth diminishes by 0.1%. The adoption of electronic procedures, transparency mechanisms, and stringent partner selection criteria in procurement processes has prompted increased vigilance among local governments, leading to contract awards primarily going to qualified partners, mainly from Java Island. As a result, procurement funds are disproportionately allocated, preventing economic stimulation in non-Javanese regions. This is due to the scarcity of reliable companies capable of bidding tender projects. In addition, a cautious approach to tender awarding results in reduced budget

absorption and limited direct local government spending, thus diminishing the stimulative impact of local government expenditure on the economy.

By contrast, the connection between local anti-corruption measures in licensing (AC3) and local fiscal independence (P2) displays a positive but insignificant correlation with local economic growth. A rise in the licensing area by one unit is associated with a 0.3% increase in local economic growth following an improvement in fiscal independence. This suggests that strengthening the licensing framework, often viewed as a channel for extensive corruption, may reduce corrupt practices and promote local economic growth. Cases of corruption in licensing at the local level, involving several local officials, serve as a vivid reminder of widespread corruption in the investment-licensing process.

In sum, the observed interaction relationships between $AC3 \times P2$ align with the hypothesis H2b. However, the $AC1 \times P2$ and $AC2 \times P2$ interaction show that hypotheses are rejected.

Table 6.4 Interaction with local political party affiliation: time fixed effects

Variable	Model 1	Model 2	Model 3	Model 4
log AC1	0.130** (0.063)	0.130** (0.063)	0.220*** (0.071)	0.220*** (0.073)
log AC2	-0.008 (0.052)	-0.008 (0.066)	0.026 (0.061)	0.026 (0.059)
log AC3	0.384*** (0.070)	0.384*** (0.075)	0.212*** (0.133)	0.212** (0.089)
log AC1 x P3	-0.080 (0.002)	-0.080 (0.090)	-0.110 (0.094)	-0.110 (0.094)
log AC2 x P3	-0.094 (0.079)	-0.094 (0.089)	-0.176** (0.090)	-0.176** (0.080)
log AC3 x P3	0.171* (0.090)	0.171 (0.105)	0.283*** (0.106)	0.283*** (0.109)
log E1			0.014 (0.009)	0.014 (0.008)
log E2			0.026*** (0.006)	0.026*** (0.006)
log E3			-0.027 (0.018)	-0.027* (0.016)
log D1			-0.027*** (0.010)	-0.027** (0.010)
D2			-0.006*** (0.002)	-0.006*** (0.002)
D3			0.162*** (0.012)	0.162*** (0.012)
Year 2022	-0.238*** (0.032)	-0.238*** (0.033)	-0.285*** (0.033)	-0.285*** (0.033)

Time fixed effect	Yes	Yes	Yes	Yes
Constant	5.399*** (0.160)	5.399*** (0.215)	5.011*** (0.316)	5.011*** (0.343)
R-squared	0.189	0.189	0.367	0.367
Adj. R-squared	0.183		0.355	
F statistics	29.82***	20.09***	29.71***	33.57***
Obs	903	903	679	679

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$. Model 2 and Model 4 are robust.

Table 6.4 illustrates the interaction between local anti-corruption measures and the political party affiliations of local leaders. We anticipate a significant role for parties aligned with the national government, reflecting a coalition of supporting parties at the local level. In Indonesia, the party supporting the president often intervenes in local government programmes. Based on our assumptions, we believe that the presence of a local leader belonging to the same political party as the president may facilitate smoother developmental processes by fostering shared interests. However, this situation may also create conflicts of interest that could impede local growth. The outcome of the local anti-corruption in planning and budgeting, as displayed in Table 6.4, appears to have a detrimental effect on local economic growth. It is suggested that conflicting interests between the local leader's party and the central coalition party may hinder the effectiveness of corruption control at the local level, ultimately leading to stagnation in economic growth. We give the model in equation 7 and equation 8.

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \gamma \sum_{k=1}^3 \log AC_{kit} \times P3_{it} + \delta Dum_{2t} + \varepsilon_{it} \quad (7)$$

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \gamma \sum_{k=1}^3 \log AC_{kit} \times P3_{it} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \delta Dum_{2t} + \varepsilon_{it} \quad (8)$$

$$\log Y_{it} = 5.399 + 0.130 \log AC1_{it} - 0.008 \log AC2_{it} + 0.384 \log AC3_{it} - 0.080 \log AC1 \times P3 - 0.094 \log AC2 \times P3 + 0.171 \log AC3 \times P3 - 0.238 D_{2t} + \varepsilon_{it}$$

$$\begin{aligned} \log Y_{it} = & 5.011 + 0.220\log AC1_{it} + 0.026\log AC2_{it} \\ & + 0.212\log AC3_{it} - 0.110\log AC1 \times P3 - 0.176\log AC2 \times P3 + 0.283\log AC3 \times P3 \\ & + 0.014\log E1 + 0.026\log E2 - 0.027\log E3 - 0.027\log D1 - 0.006D2 + 0.162D3 \\ & - 0.285D_{2t} + \varepsilon_{it} \end{aligned}$$

This study identifies a significant negative relationship between local anti-corruption in public procurement (AC2) and the political affiliation of local leaders (P3), which reduces local economic growth. Specifically, an increase in local anti-corruption efforts in public procurement correlates with a 17.6% decline in economic growth at the local level as the average number of politically affiliated local leaders increases with the national coalition. Prior to the interaction (Model 4), corruption restraint in public procurement (AC2) led to a 2.6% positive impact on local growth. However, considering this interaction, economic growth diminishes by 17.6%. Consequently, the affiliation of local leaders with a national coalition (P3) has a destructive effect on the local economy.

The outcomes of local anti-corruption in the licensing (AC3) sector have been encouraging. Local anti-corruption licensing (AC3) has demonstrated a positive impact of 21.2% on local economic growth, regardless of the political affiliation of local leaders (P3). Additionally, when pro-government coalition parties (P3) are involved, the local-level growth increases significantly by 28.3%. These findings suggest that leaders affiliated with the president's political party contribute to the benefits of development politics at the local level. The local level's licensing area has shown a more prominent eradication of corruption thanks to the strict anti-corruption monitoring and wiretapping measures implemented by the KPK. These measures compel local officials to rethink corrupt practices.

The result of the estimation reveals that the interaction relationships between AC1 × P3 and between AC2 × P3 are consistent with the hypothesis H2c, leading to the rejection of the null hypothesis. However, the interaction between AC3 × P3 on local economic growth indicates a positive relationship, resulting in the acceptance of null hypothesis.

Table 6.5 Interaction with incumbent status: time fixed effects

Variable	Model 1	Model 2	Model 3	Model 4
log AC1	0.097* (0.057)	0.097* (0.058)	0.169*** (0.066)	0.169** (0.075)
log AC2	0.054 (0.054)	0.054 (0.051)	0.008 (0.058)	0.008 (0.064)
log AC3	0.355*** (0.067)	0.355*** (0.076)	0.254*** (0.088)	0.254*** (0.099)

log AC1 x P4	-0.032 (0.083)	-0.032 (0.091)	-0.016 (0.093)	-0.016 (0.097)
log AC2 x P4	-0.216*** (0.079)	-0.216*** (0.080)	-0.149 (0.095)	-0.149** (0.082)
log AC3 x P4	0.241*** (0.090)	0.241** (0.100)	0.159 (0.111)	0.159 (0.111)
log E1			0.015* (0.009)	0.015* (0.009)
log E2			0.026*** (0.006)	0.026*** (0.006)
log E3			-0.027 (0.018)	-0.027 (0.016)
log D1			-0.025** (0.010)	-0.025** (0.011)
D2			-0.006*** (0.002)	-0.006*** (0.002)
D3			0.162*** (0.012)	0.162*** (0.012)
Year 2022	-0.229*** (0.032)	-0.229*** (0.032)	-0.269*** (0.033)	-0.269*** (0.033)
Time fixed effects	Yes	Yes	Yes	Yes
Constant	5.399*** (0.160)	5.399*** (0.208)	5.123*** (0.316)	5.123*** (0.326)
R-squared	0.195	0.195	0.362	0.362
Adj. R-squared	0.188		0.350	
F statistics	30.92	22.30	29.09	34.16
Obs	903	903	679	679

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$. Model 2 and Model 4 are robust.

Basic equation we provide in the result of Table 6.5 is:

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \gamma \sum_{k=1}^3 \log AC_{kit} \times P4_{it} + \delta Dum_{2t} + \varepsilon_{it} \quad (9)$$

$$\log Y_{it} = \alpha + \beta_1 \log AC1_{it} + \beta_2 \log AC2_{it} + \beta_3 \log AC3_{it} + \gamma \sum_{k=1}^3 \log AC_{kit} \times P4_{it} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \delta Dum_{2t} + \varepsilon_{it} \quad (10)$$

$$\log Y_{it} = 5.399 + 0.097 \log AC1_{it} + 0.054 \log AC2_{it} + 0.355 \log AC3_{it} - 0.032 \log AC1 \times P4 - 0.216 \log AC2 \times P4 + 0.241 \log AC3 \times P4 - 0.229 D_{2t} + \varepsilon_{it}$$

$$\begin{aligned}
\log Y_{it} = & 5.123 + 0.169\log AC1_{it} + 0.008\log AC2_{it} \\
& + 0.254\log AC3_{it} - 0.016\log AC1 \times P4 - 0.149\log AC2 \times P4 + 0.159\log AC3 \times P4 \\
& + 0.015\log E1 + 0.026\log E2 - 0.027\log E3 - 0.025\log D1 - 0.006D2 + 0.162D3 \\
& - 0.269D_{2t} + \varepsilon_{it}
\end{aligned}$$

Table 6.5 displays the estimated impacts of the anti-corruption programme as well as its interaction with the incumbency status of local leaders. Models 1 to 4 demonstrate that the anti-corruption programme in the local planning and budgeting (P1) area had a statistically significant and positive effect. Nevertheless, when the programme is combined with the incumbent status of local leaders (P4), the impact on local growth remains positive, but insignificant. Interestingly, a one-unit increase in local anti-corruption efforts in planning and budgeting (AC1) leads to a 1.6% decrease in local economic growth when incumbent status (P4) exists in the local government.

Controlling corruption in local public procurement (AC2), when interacting with incumbent status (P4), has a negative and significant impact on the local economy. Consequently, a one-unit increase in local anti-corruption in public procurement (AC2) adversely affects local economic growth by 14.9%, particularly in the presence of incumbent local leaders (P4). According to Purwaningsih and Widodo (2020), local leaders may become more prone to corruption during their second term because of their increased focus on maximizing profits, considering that they are ineligible for re-election in the following terms.

By contrast, corruption control in the licensing (AC3) sector has a positive and significant impact on local economic growth when it interacts with the incumbent status of the local leader (P4). A one-unit increase in anti-corruption efforts in the licensing (AC3) sector corresponds to a 15.9% increase in economic growth when local leaders hold an incumbent status (P4). This finding contradicts the hypothesis that incumbent status reduces local growth through corruption.

The estimation results demonstrated that the interaction between $AC1 \times P4$ and $AC2 \times P4$ align with this hypothesis H2d, leading to the rejection of H_0 . Additionally, the results indicated a positive interaction between $AC3 \times P4$ on economic growth, thereby accepting H_0 . In addition, we also provide a set of hypotheses with and without interaction results of local anti-corruption variables in the three areas with local political variables on economic growth in a summary Table 6.6.

Table 6.6 The summary table of hypotheses

Variable	Coefficient	Status
AC1	0.157*** (0.050)	Accepted H1a
AC2	-0.046 (0.044)	Rejected H1b
AC3	0.329*** (0.076)	Accepted H1c
AC1 x P1	0.003 (0.002)	Rejected H2a
AC2 x P1	-0.006** (0.003)	Accepted H2a
AC3 x P1	0.003 (0.003)	Rejected H2a
AC1 x P2	-0.001 (0.003)	Rejected H2b
AC2 x P2	-0.006** (0.003)	Rejected H2b
AC3 x P2	0.003 (0.005)	Accepted H2b
AC1 x P3	-0.110 (0.094)	Accepted H2c
AC2 x P3	-0.176** (0.003)	Accepted H2c
AC3 x P3	0.283** (0.005)	Rejected H2c
AC1 x P4	-0.016 (0.097)	Accepted H2d
AC2 x P4	-0.149** (0.082)	Accepted H2d
AC3 x P4	0.159** (0.111)	Rejected H2d

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$.

Table 6.6 shows that AC1 and AC3 are consistent with the Hypothesis, while only AC2 x P1 is consistent with the hypothesis in the interaction between the anti-corruption variables and political concentration. In the interaction between the anti-corruption variables and fiscal responsibility, only AC3 x P2 is consistent with the hypothesis. In the third interaction, between anti-corruption variables and political affiliation of regional heads, both AC1 x P3 and AC2 x P3 are consistent with the hypothesis. Finally, in the interaction between anti-corruption variables and incumbent status, both AC1 x P4 and AC2 x P4 are consistent with the hypothesis.

6.3 Difference-in-differences analysis

This study examines the causal effects of the three components. Initially, a simple difference analysis is used to investigate intertemporal variations in the anti-corruption programme's impact on economic growth at the local level. Second, a quasi-experiment is conducted utilizing the difference-in-differences method to determine whether disparities in economic growth exist between the treatment and control regions. Finally, a difference-in-differences estimation is executed using different treatment and control areas from the second method. This approach intends to clarify the extent to which an anti-corruption programme interacts with local political variables.

6.3.1 Simple differences model

This research employs a straightforward approach to estimate differences to uncover discrepancies between the two periods. The method, known as the simple difference method, was introduced by Kiel & McClain (1995) and few of literatures such as Bauer et al. (2017), Bui & Mayer (2003), Davis (2011) and Espey & Lopez (2000). This study provides a comprehensive analysis of the outcomes of an anti-corruption programme implemented by local governments in Indonesia (Table 6.7). The programme is expected to result in differences between the two periods under examination.

Table 6.7 Robust estimation of simple difference

Variable	Dependent variable: log of real Local Gross Domestic Product (LGDP) per capita			
	Before Programme	After Programme	Before Programme	After Programme
	Model 1	Model 2	Model 3	Model 4
Anti1	0.059*** (0.022)	0.015 (0.026)	0.079*** (0.023)	0.048** (0.025)
Anti2	0.001 (0.021)	0.042*** (0.024)	-0.035* (0.019)	0.042* (0.023)
Anti3	0.129*** (0.023)	0.137*** (0.030)	0.089*** (0.025)	0.078** (0.030)
log E1			0.011** (0.005)	-0.002 (0.006)
log E2			0.010*** (0.003)	0.013*** (0.004)
log E3			0.003 (0.024)	-0.059*** (0.025)
log D1			-0.036** (0.014)	-0.024 (0.015)
D2			-0.002 (0.001)	-0.004** (0.002)
D3			0.070*** (0.007)	0.073*** (0.007)
Constant	3.145*** (0.017)	3.058*** (0.022)	2.813*** (0.133)	2.930*** (0.154)

R-squared	0.138	0.110	0.355	0.324
F-Statistics	19.95***	12.55***	18.39***	18.09***
Obs	456	456	313	369

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$

The number of observations for models 1 and 2 was 456, which represented the number of districts-cities that had Anti1, Anti2, and Anti3 values greater than the national average in 2019. The number of observations for model 3 was 313, which represented the number of districts-cities that had Anti1, Anti2, and Anti3 values greater than the national average in 2022. The number of observations changed as certain control variables were introduced, and there were districts-cities that did not have data in those control variables. This also occurred in Model 4 after the anti-corruption programme was implemented.

Before programme

$$\log Y_{it} = \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \varepsilon_{it} \quad (11)$$

$$\log Y_{it} = \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \varepsilon_{it} \quad (12)$$

$$\log Y_{it} = 3.145 + 0.059 \text{Anti1}_{i2019} + 0.001 \text{Anti2}_{i2019} + 0.129 \text{Anti3}_{i2019} + \varepsilon_{it}$$

$$\begin{aligned} \log Y_{it} = & 2.813 + 0.079 \text{Anti1}_{i2019} - 0.035 \text{Anti2}_{i2019} + 0.089 \text{Anti3}_{i2019} + 0.011 \log E1_{i2019} \\ & + 0.010 \log E2_{i2019} + 0.003 \log E3_{i2019} - 0.036 \log D1_{i2019} - 0.002 D2_{i2019} + 0.070 D3_{i2019} \\ & + \varepsilon_{it} \end{aligned}$$

After programme

$$\log Y_{it} = \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \varepsilon_{it} \quad (13)$$

$$\log Y_{it} = \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \varepsilon_{it} \quad (14)$$

$$\log Y_{it} = 3.058 + 0.015 \text{Anti1}_{i2022} + 0.042 \text{Anti2}_{i2022} + 0.137 \text{Anti3}_{i2022} + \varepsilon_{it}$$

$$\begin{aligned} \log Y_{it} = & 2.930 + 0.048 \text{Anti1}_{i2022} + 0.042 \text{Anti2}_{i2022} + 0.078 \text{Anti3}_{i2022} - 0.002 \log E1_{i2022} \\ & + 0.013 \log E2_{i2022} - 0.059 \log E3_{i2022} - 0.024 \log D1_{i2022} - 0.004 D2_{i2022} \\ & + 0.073 D3_{i2022} + \varepsilon_{it} \end{aligned}$$

The outcomes of the simple difference estimation of anti-corruption variables against local economic growth are depicted in Table 6.7. The estimated results additionally demonstrate the disparity between districts and cities that possess anti-corruption indices below and above the national average prior to and following the implementation of the anti-corruption

programme. Before the initiation of the anti-corruption programme, when all control variables were taken into account in the model, all anti-corruption variables in districts and cities with anti-corruption indices exhibited a significant difference in local economic growth. Districts and cities with anti-corruption indices surpassing the national average experienced a 7.9% higher economic growth compared to those below the national average. The same situation was observed in regions with anti-corruption indices higher than the national average in the licensing sector, where there was a substantial difference of 8.9% compared to those that were not. On the other hand, when efforts to combat corruption in the procurement of goods and services were intensified, the results showed a decrease in economic growth of 3.5%. After the anti-corruption programme was implemented, there was a significant difference of 4.8% in economic growth between districts and cities with high levels of corruption in the planning and budgeting sector. Conversely, in the procurement of goods and services sector, after the programme was initiated, districts and cities that made robust efforts to combat corruption in this sector experienced a higher economic growth of 4.2% compared to those with low indices. This also occurred in districts and cities with anti-corruption indices surpassing the national average in the licensing sector, where they had a 7.8% higher economic growth than they did not.

6.3.2 Difference-in-differences model

This study utilizes a difference-in-differences model as the second estimation method, which calculates the difference before and after the implementation of the anti-corruption programme. The results from the conventional computation are displayed in Tables 6.8 to 6.11, and the estimation outcomes generated using software tools are depicted in Table 6.12.

Table 6.8 Descriptive statistics of mean of log LGDP (Y)

Programme	Region	Mean log Y	Mean Y
0	0	3.254	2,005.540
0	1	3.306	2,280.120
1	0	3.193	1,754.620
1	1	3.236	1.992,950

Programme 0 = before anti-corruption programme. Programme 1 is after anti-corruption programme. Region 0 is control region that have zero corruptor in Major level. Region 1 is treatment region where have corruptor in Major level.

Table 6.9 Result of causal effect

	Pre mean	Post mean	Δ (post – pre)
Control	3.254	3.193	-0.061
Treatment	3.306	3.236	-0.070
Δ Treatment - control	0.052	0.043	-0.009

Table 6.10 Result of causal inference

Experiment	Result
After Programme (corrupt) – before Programme (corrupt)	-0.070
After Programme (not-corrupt) – before Programme (not-corrupt)	-0.061

Table 6.11 Result of difference-in-differences

Experiment	Result
<i>Diff “Corrupt” before-after – diff “Not-Corrupt” before-after</i>	-0.009

Diff is differences.

There is declining around 0.92% in economic growth between corrupt and non-corrupt region. That is called as **causal effect**.

Figure 6.1 Causal effect

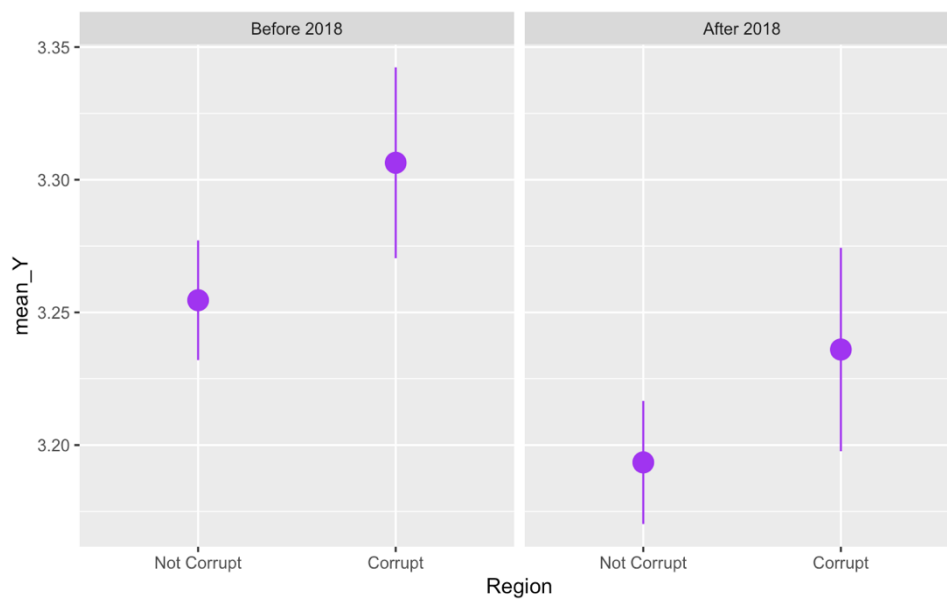


Figure 6.2 Anti-corruption effect

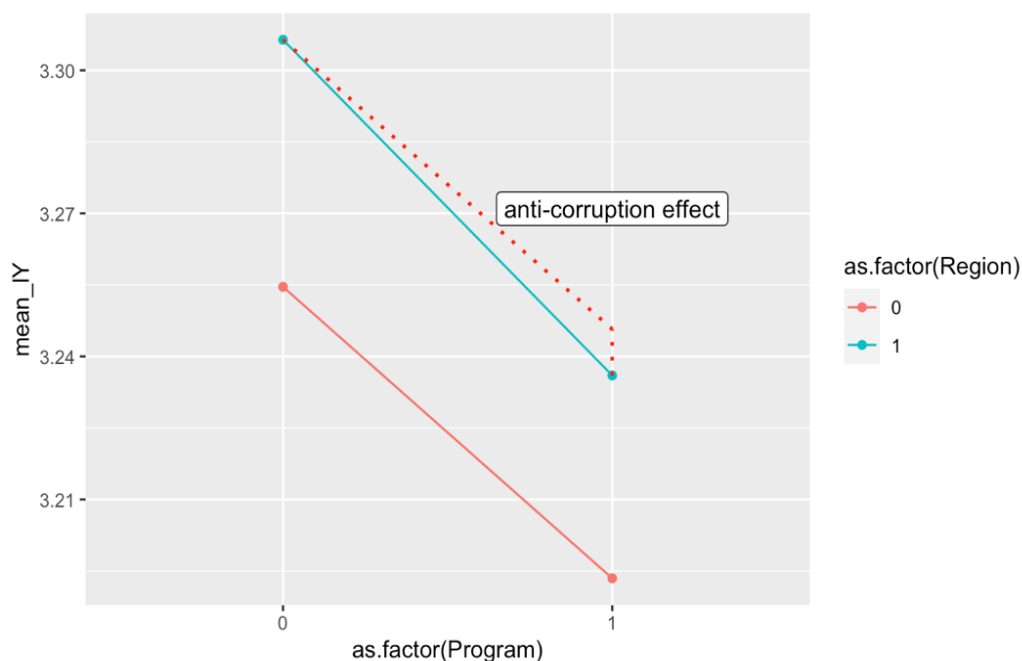


Figure 6.2 presents the impact of the programme implementation on local economic growth in both corrupt and non-corrupt districts-cities. The figure depicts a decline in the average economic growth observed in both corrupt and non-corrupt districts-cities. Figure 6.2 specifically illustrates the decrease in growth attributable to anti-corruption measures in the corrupt region. This aligns with the previous model's findings, attributing the decline to corrupt practices in planning and budgeting, as well as procurement areas. These results also support the findings of prior literature, which posits that corruption in developing countries acts as a lubricant (Afonso & Rodrigues, 2022; Das et al.). However, several scholars argue that controlling corruption positively affects system efficiency (Dokas et al., 2023; Hamdi and Hakimi, 2020; Malanski and Póvoa, 2021; Qureshi et al., 2021; Trabelsi and Trabelsi, 2021; Urbina and Rodríguez, 2022; Zeeshan et al., 2022). To validate these findings, an additional estimation was carried out with the outcomes described in Table 6.12, demonstrating the consequences of anti-corruption measures in the treatment districts-cities.

Table 6.12 Estimation difference-in-differences

Variable	Model 1	Model 2
After Programme	-0.061*** (0.017)	-0.099*** (0.016)
Corrupt	0.052**	0.018

	(0.022)	(0.021)
After Programme x Corrupt	-0.009 (0.031)	-0.005 (0.029)
log E1		0.009** (0.004)
log E2		0.010*** (0.003)
log E3		-0.008 (0.018)
log D1		-0.012 (0.010)
D2		-0.002** (0.001)
D3		0.070*** (0.005)
Constant	3.254*** (0,012)	2.930*** (0.104)
R-squared	0.032	0.300
Adj. R-squared	0.029	0.290
F-Statistics	9.95***	32.02***
Obs	912	682

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$. Model 3 and Model 4 are robust.

We model the results in Table 6.12 based on equation 15 and equation 16.

$$\log Y_{it} = \alpha + \beta \text{corrupt}_i + \gamma \text{afterprogram}_t + \delta \text{corrupt}_i \times \text{afterprogram}_t + \varepsilon_{it} \quad (15)$$

$$\log Y_{it} = \alpha + \beta \text{corrupt}_i + \gamma \text{afterprogram}_t + \delta \text{corrupt}_i \times \text{afterprogram}_t \quad (16)$$

$$+ \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \varepsilon_{it}$$

$$\log Y_{it} = 3.254 + 0.052 \text{corrupt}_i - 0.061 \text{afterprogram}_t - 0.009 \text{corrupt}_i \times \text{afterprogram}_t + \varepsilon_{it}$$

$$\log Y_{it} = 2.930 + 0.018 \text{corrupt}_i - 0.099 \text{afterprogram}_t - 0.005 \text{corrupt}_i \times \text{afterprogram}_t \\ + 0.009 \log E1 + 0.010 \log E2 - 0.008 \log E3 - 0.012 D1 - 0.002 D2 + 0.070 D3 + \varepsilon_{it}$$

Table 6.12, in Model 1, yields results that are consistent with previous conventional calculations. The difference-in-differences estimation indicates a negative figure, suggesting a decrease in the average economic growth before and after the implementation of the anti-corruption programme, although not statistically significant.

The model reveals that the anti-corruption programme has a negative impact on economic growth, amounting to 9.9%, and is statistically significant at $\alpha < 0.01$. Post-programme observations revealed a 0.5% reduction in growth within the treatment region. Moreover,

corrupt regions demonstrate a positive and significant effect on economic growth of 5.2% in Model 1. However, when the control variables are included in the estimation in Model 2, the impact of corruption on economic growth becomes positive but not statistically significant, with a one-unit increase in corrupt regions potentially boosting economic growth by 1.8%. The difference-in-differences estimation provides evidence to support the hypothesis that the anti-corruption programme has a detrimental effect on corrupt districts-cities, which suggests the acceptance of H3 in this study.

The next estimation variant, shown in Table 6.13, presents the estimation outcomes of the anti-corruption policy interaction with the corrupt region variable. The preliminary findings of this refined approach are listed in Table 6.13.

Table 6.13 Robust estimation of anti-corruption

Variable	Model 1	Model 2	Model 3	Model 4
Anti 1	0.121*** (0.017)			0.060* (0.034)
Anti 2		0.025* (0.014)		-0.066** (0.032)
Anti 3			0.168*** (0.020)	0.083** (0.036)
Corrupt	0.080*** (0.031)	0.082*** (0.032)	0.107*** (0.033)	-0.107*** (0.038)
Anti 1 x Corrupt	-0.064* (0.036)			-0.010 (0.039)
Anti 2 x Corrupt		0.043 (0.032)		0.082** (0.035)
Anti 3 x Corrupt			-0.094** (0.038)	0.049 (0.041)
Constant	3.150*** (0.015)	3.144*** (0.016)	3.104*** (0.018)	3.198*** (0.033)
R-squared	0.067	0.070	0.10	0.119
F-statistics	18.70***	14.34***	26.73***	13.24***
Obs.	912	912	912	912

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$.

The estimation results provided in Table 6.13 are based on the equations below.

$$\log Y_{it} = \alpha + \beta \text{Anti1}_{it} + \gamma \text{Corrupt}_i + \delta \text{Anti1}_{it} \times \text{Corrupt}_i + \varepsilon_{it} \quad (17)$$

$$\log Y_{it} = \alpha + \beta \text{Anti2}_{it} + \gamma \text{Corrupt}_i + \delta \text{Anti2}_{it} \times \text{Corrupt}_i + \varepsilon_{it} \quad (18)$$

$$\log Y_{it} = \alpha + \beta \text{Anti3}_{it} + \gamma \text{Corrupt}_i + \delta \text{Anti3}_{it} \times \text{Corrupt}_i + \varepsilon_{it} \quad (19)$$

$$\log Y_{it} = \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \gamma \text{Corrupt}_i + \delta \sum_{k=1}^3 \text{Anti}_{kit} \times \text{Corrupt}_i + \varepsilon_{it} \quad (20)$$

$$\log Y_{it} = 3.150 + 0.121 \text{Anti1}_{it} + 0.080 \text{Corrupt}_i - 0.064 \text{Anti1}_{it} \times \text{Corrupt}_i + \varepsilon_{it}$$

$$\log Y_{it} = 3.144 + 0.121 \text{Anti2}_{it} + 0.082 \text{Corrupt}_i - 0.064 \text{Anti2}_{it} \times \text{Corrupt}_i + \varepsilon_{it}$$

$$\log Y_{it} = 3.104 + 0.168 \text{Anti1}_{it} + 0.107 \text{Corrupt}_i - 0.094 \text{Anti1}_{it} \times \text{Corrupt}_i + \varepsilon_{it}$$

$$\log Y_{it} = 3.198 + 0.060 \text{Anti1}_{it} - 0.066 \text{Anti2}_{it} + 0.083 \text{Anti3}_{it} - 0.107 \text{Corrupt}_i \\ - 0.010 \text{Anti1}_{it} \times \text{Corrupt} + 0.082 \text{Anti2}_{it} \times \text{Corrupt} + 0.082 \text{Anti3}_{it} \times \text{Corrupt} + \varepsilon_{it}$$

The results in Table 6.13, particularly Model 4, indicate that the first and third anti-corruption measures have a positive and statistically significant coefficient, whereas the second anti-corruption measure has a negative and statistically significant coefficient at $\alpha < 0.05$. However, when anti-corruption measures interact with corrupt municipalities, disparities arise. Notably, no significant interaction is observed between the first and third anti-corruption measures. Nonetheless, for the second variable, the interaction yielded positive and significant results. This implies that the influence of anti-corruption policies on economic growth becomes favorable with an increase in the number of corrupt municipalities. Specifically, a unit increase in anti-corruption in local procurement leads to an 8.2% increase in economic growth.

Table 6.14 Estimation of relaxation model

Variable	Model 1	Model 2	Model 3	Model 4
Anti 1	0.095*** (0.019)			0.055* (0.030)
Anti 2		-0.017 (0.024)		-0.046* (0.024)
Anti 3			0.059** (0.030)	0.068** (0.033)
Corrupt	0.050* (0.030)	-0.058** (0.023)	-0.058* (0.034)	-0.064* (0.038)
Anti 1 x Corrupt	-0.053 (0.034)			0.004 (0.035)
Anti 2 x Corrupt		0.079*** (0.029)		0.071** (0.029)
Anti 3 x Corrupt			0.057 (0.037)	0.010 (0.040)
After Programme	-0.099*** (0.013)	-0.108*** (0.014)	-0.108*** (0.013)	-0.105*** (0.013)
West Region	0.025* (0.014)	0.038*** (0.014)	0.020 (0.014)	0.017 (0.014)
log E1	0.007* (0.004)	0.008** (0.004)	0.006 (0.004)	0.005 (0.004)
log E2	0.010***	0.019***	0.011***	0.011***

	(0.003)	(0.003)	(0.003)	(0.003)
log E3	-0.0239 (0.016)	-0.019 (0.016)	-0.021 (0.016)	-0.030* (0.016)
log D1	-0.031** (0.012)	-0.027** (0.012)	-0.026** (0.012)	-0.034*** (0.013)
D2	-0.003*** (0.001)	-0.003** (0.001)	-0.002** (0.001)	-0.003** (0.001)
D3	0.074*** (0.005)	0.071*** (0.005)	0.070*** (0.005)	0.072*** (0.005)
Constant	2.940*** (0.098)	3.003*** (0.102)	2.947*** (0.105)	2.975*** (0.103)
R-squared	0.336	0.321	0.339	0.356
F-statistics	32.87***	31.66***	32.04***	26.05***
Obs.	682	682	682	682

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$.

The estimation results provided in Table 6.14 are based on the equation 21 below.

$$\begin{aligned}
 \log Y_{it} = & \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \gamma \text{Corrupt}_i & (21) \\
 & + \delta \sum_{k=1}^3 \text{Anti}_{kit} \times \text{Corrupt}_i + \theta_1 \text{afterprogram}_t + \theta_2 \text{westregion}_i \\
 & + \sum_{k=1}^3 \zeta_k E_{kit} + \sum_{k=1}^3 \eta_k D_{kit} + \varepsilon_{it}
 \end{aligned}$$

$$\begin{aligned}
 \log Y_{it} = & 2.975 + 0.055 \text{Anti1}_{it} - 0.046 \text{Anti2}_{it} + 0.068 \text{Anti3}_{it} - 0.064 \text{Corrupt}_i \\
 & + 0.004 \text{Anti1}_{it} \times \text{Corrupt}_i + 0.071 \text{Anti2}_{it} \times \text{Corrupt}_i + 0.010 \text{Anti3}_{it} \times \text{Corrupt}_i \\
 & - 0.105 \text{afterprogram}_t + 0.017 \text{westregion}_i + 0.005 \log E1_{it} + 0.011 \log E2_{it} \\
 & - 0.030 \log E3_{it} - 0.034 \log D1_{it} - 0.003 D2_{it} + 0.072 D3_{it} + \varepsilon_{it}
 \end{aligned}$$

Table 6.14 displays the outcomes of the estimation process that takes into account the adjustments or additions of control variables. The effects of the main variables are consistent with those in the previous table. Upon relaxation, a slight variation appears in the results of the second anti-corruption factor concerning local public procurement. Specifically, a one-unit rise in local anti-corruption public procurement leads to a 7.1% increase in economic growth. Furthermore, most of the control variables included in Model 4 showed statistical significance, except domestic investment (E1).

6.3.3 Difference-in-differences: an interaction with political aspect

The outcomes in Table 6.15 demonstrate that the anti-corruption programme, particularly in the first and third areas, consistently exerts a favorable and significant influence on economic growth. In contrast, anti-corruption efforts in the local procurement of goods and services have a detrimental and significant impact (Model 6). Moreover, the estimation results illustrate the

varying effects of local anti-corruption measures in each area when interacting with four local political variables.

Table 6.15 Relaxation model of local political interaction

Variable	Model 1	Model 2	Variable	Model 3	Model 4	Variable	Model 5	Model 6
Anti 1	0.041* (0.024)	0.086*** (0.028)	Anti 1	0.044*** (0.015)	0.072*** (0.017)	Anti 1	0.044*** (0.016)	0.073** (0.017)
Anti 2	-0.012 (0.013)	-0.027* (0.014)	Anti 2	0.027 (0.022)	0.012 (0.023)	Anti 2	-0.012 (0.014)	-0.028* (0.014)
Anti 3	0.119*** (0.018)	0.080*** (0.020)	Anti 3	0.117*** (0.019)	0.078*** (0.020)	Anti 3	0.103*** (0.029)	0.075** (0.034)
Anti 1 x P1 0 1 1 1	-0.070** (0.029) -0.013 (0.017)	-0.059* (0.032) -0.013 (0.017)	Anti 2 x P1 0 1 1 1	-0.052** (0.024) -0.014 (0.018)	-0.046* (0.027) -0.010 (0.017)	Anti 3 x P1 0 1 1 1	-0.070* (0.039) -0.022 (0.015)	-0.018 (0.047) -0.026* (0.016)
Anti 1 x P2 0 1 1 1	0.289** (0.127) 0.263*** (0.031)	0.206*** (0.072) 0.179*** (0.033)	Anti 2 x P2 0 1 1 1	0.346*** (0.043) 0.243*** (0.035)	0.236*** (0.036) 0.163*** (0.037)	Anti 3 x P2 0 1 1 1	0 0.263*** (0.030)	0 0.179*** (0.032)
Anti 1 x P3 0 1 1 1	-0.008 (0.026) -0.014 (0.015)	0.010 (0.028) -0.012 (0.015)	Anti 2 x P3 0 1 1 1	0.011 (0.022) -0.031* (0.017)	0.021 (0.023) -0.023 (0.016)	Anti 3 x P3 0 1 1 1	-0.024 (0.032) -0.006 (0.014)	-0.026 (0.037) -0.001 (0.014)
Anti 1 x P4 0 1 1 1	0.013 (0.026) -0.010 (0.015)	0.018 (0.532) -0.015 (0.015)	Anti 2 x P4 0 1 1 1	0.027 (0.021) -0.029* (0.017)	0.026 (0.022) -0.028* (0.016)	Anti 3 x P4 0 1 1 1	0.005 (0.030) -0.005 (0.014)	0.005 (0.035) -0.009 (0.015)
log E1		0.001 (0.004)	log E1		0.002 (0.003)	log E1		0.001 (0.004)
log E2		0.008*** (0.002)	log E2		0.008*** (0.002)	log E2		0.009*** (0.003)
log E3		-0.025 (0.017)	log E3		-0.019 (0.017)	log E3		-0.026 (0.017)
log D1		-0.044*** (0.012)	log D1		-0.043*** (-0.043)	log D1		-0.044*** (0.012)
D2		-0.003*** (0.001)	D2		-0.003*** (0.001)	D2		-0.003*** (0.001)
D3		0.060*** (0.005)	D3		0.059*** (0.005)	D3		0.060*** (0.005)
Constant	3.133*** (0.022)	3.055*** (0.107)	Constant	3.112*** (0.020)	3.037*** (0.102)	Constant	3.142*** (0.026)	3.075*** (0.106)
R-squared	0.176	0.327	R-squared	0.182	0.333	R-squared	0.175	0.325
F-statistics								
Obs	912	682		912	682		912	682

*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$.

The estimation results provided in Table 6.14 are based on the equations below.

$$\log Y_{it} = \alpha + \beta_1 \text{Anti}1_{it} + \beta_2 \text{Anti}2_{it} + \beta_3 \text{Anti}3_{it} + \theta \sum_{k=1}^3 \text{Anti}_{kit} \times \sum_{k=1}^4 P_{kit} + \varepsilon_{it} \quad (22)$$

$$\log Y_{it} = \alpha + \beta_1 \text{Anti1}_{it} + \beta_2 \text{Anti2}_{it} + \beta_3 \text{Anti3}_{it} + \theta \sum_{k=1}^3 \text{Anti}_{kit} \times \sum_{k=1}^4 P_{kit} + \sum_{k=1}^3 \zeta_k E_{kit} \quad (23)$$

$$+ \sum_{k=1}^3 \eta_k D_{kit} + \varepsilon_{it}$$

$$\log Y_{it} = 3.055 + 0.086 \text{Anti1}_{it} - 0.027 \text{Anti2}_{it} + 0.080 \text{Anti3}_{it} - 0.013 \text{Anti1}_1 \times P1_1$$

$$+ 0.179 \text{Anti1}_1 \times P2_1 - 0.012 \text{Anti1}_1 \times P3_1 - 0.015 \text{Anti1}_1 \times P4_1 + 0.001 \log E1_{it}$$

$$+ 0.008 \log E2_{it} - 0.025 \log E3_{it} - 0.044 \log D1_{it} - 0.003 D2_{it} + 0.060 D3_{it} + \varepsilon_{it}$$

$$\log Y_{it} = 3.037 + 0.072 \text{Anti1}_{it} + 0.012 \text{Anti2}_{it} + 0.078 \text{Anti3}_{it} - 0.010 \text{Anti1}_1 \times P1_1$$

$$+ 0.163 \text{Anti1}_1 \times P2_1 - 0.012 \text{Anti1}_1 \times P3_1 - 0.015 \text{Anti1}_1 \times P4_1 + 0.002 \log E1_{it}$$

$$+ 0.008 \log E2_{it} - 0.019 \log E3_{it} - 0.043 \log D1_{it} - 0.003 D2_{it} + 0.059 D3_{it} + \varepsilon_{it}$$

$$\log Y_{it} = 3.075 + 0.073 \text{Anti1}_{it} - 0.028 \text{Anti2}_{it} + 0.075 \text{Anti3}_{it} - 0.026 \text{Anti1}_1 \times P1_1$$

$$+ 0.179 \text{Anti1}_1 \times P2_1 - 0.001 \text{Anti1}_1 \times P3_1 - 0.009 \text{Anti1}_1 \times P4_1 + 0.001 \log E1_{it}$$

$$+ 0.009 \log E2_{it} - 0.026 \log E3_{it} - 0.044 \log D1_{it} - 0.003 D2_{it} + 0.060 D3_{it} + \varepsilon_{it}$$

In Model 2, the estimation outcomes concerning the interaction between anti-corruption measures in local planning and budgeting, and each political variable are visible. The anti-corruption effect in the first area has a negative impact on economic growth, with an increase in average political concentration. Conversely, a positive and significant relationship is observed between the anti-corruption effect in the first area and economic growth as average fiscal independence increases. Meanwhile, the interaction of anti-corruption in local planning and budgeting with variables, such as the political affiliation of local leaders and incumbency status, exhibits a negative effect on growth, albeit statistically insignificant.

In Model 4, the results of the estimation of the relationship between anti-corruption measures in public procurement and local political indicators are mixed. The impact of anti-corruption efforts in the second area on economic growth is negative when they interact with political concentration in parliament, the party affiliation of the local leader, and the incumbency status of the local leader (significant at $\alpha < 0.10$). However, this variable has a positive and significant influence on local economic growth when the average percentage of local fiscal independence increases. Model 6 shows a different impact of the interaction between anti-corruption in local licensing (Anti3) and local political indicators compared with the first two anti-corruption variables. The effect of anti-corruption in the licensing area on economic growth is negative when the political party affiliation of the local leader or incumbency status of the local leader changes. On the other hand, combating corruption in the licensing sector may reduce economic growth by 2.6% when the average political

concentration in the LHR increases. Furthermore, the interaction between local anti-corruption licensing and fiscal independence enhances economic growth by 17.9%. The results in Table 6.15 indicate that H2a, H2c, and H2d are accepted, as Anti1, Anti2, and Anti3 have a negative effect on growth when interacting with P1, P3, and P4. Additionally, the three anti-corruption areas demonstrated a positive effect when interacting with P2, implying the acceptance of H2b.

Table 6.16 The summarize of result and hypothesis status

Variable & Model	Coefficient	Status
Simple differences		
Anti1	0.048** (0.025)	Accepted H1a
Anti2	0.042* (0.023)	Accepted H1b
Anti3	0.078** (0.030)	Accepted H1c
Relaxation		
Anti1 x P1	-0.013 (0.002)	Accepted H2a
Anti2 x P1	-0.010 (0.017)	Accepted H2a
Anti3 x P1	-0.026* (0.016)	Accepted H2a
Anti1 x P2	0.163*** (0.037)	Accepted H2b
Anti2 x P2	0.243*** (0.035)	Accepted H2b
Anti3 x P2	0.179*** (0.032)	Accepted H2b
Anti1 x P3	-0.012 (0.015)	Accepted H2c
Anti2 x P3	-0.023* (0.016)	Accepted H2c
Anti3 x P3	-0.001** (0.014)	Accepted H2c
Anti1 x P4	-0.015 (0.015)	Accepted H2d
Anti2 x P4	-0.028* (0.016)	Accepted H2d
Anti3 x P4	-0.009 (0.015)	Accepted H2d
Difference-in-difference		
After programme	-0.099*** (0.016)	Accepted H3a

After Programme x Corrupt area	-0.005 (0.029)	Accepted H3b
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*** sig at $\alpha < 0.01$; ** sig at $\alpha < 0.05$; * sig at $\alpha < 0.10$.

Table 6.16 above is the result of all models in the quasi-experiment. The results of each model show that all the hypotheses are accepted. However, some results still appear insignificant, but the direction of the relationship is sufficient to answer the hypothesis.

6.4 Discussion of interaction anti-corruption programme and political institutions

Corruption in developing countries severely impedes economic growth, resulting in an estimated annual cost of \$1000 billion, as reported by the World Bank (2004). In Indonesia, the Corruption Eradication Commission (KPK) has observed that bureaucratic officials often engage in bribery with businessmen. Leff (1964) and Huntington (2006) propose that such bribes can facilitate bureaucratic procedures and support innovative activities by helping to navigate uncertainties and regulatory obstacles. However, the KPK's Monitoring and Control Programme (MCP) has demonstrated mixed effects: although it has had a positive impact on local economic growth in areas such as planning, budgeting, and licensing, increased anti-corruption efforts in procurement have negatively affected economic growth, emphasizing the intricate role that institutions play in this complex process.

Research demonstrates that the effects of corruption control on economic growth vary across different regions. A study by Nedić et al. (2020) revealed a substantial positive impact in the Western Balkans, while Al-Naser and Hamdan (2021) found a minor positive impact in GCC countries. Singh and Pradhan (2022) reported significant positive effects in South Asia, and Akıncı et al. (2022) observed long-term benefits in the EU. On the other hand, Avdulaj et al. (2021) found a negative impact in Eastern European transition economies, which aligns with the negative effects of anti-corruption efforts on public procurement in Indonesia. This underscores the nuanced and region-specific nature of corruption's influence on economic growth.

Rodríguez-Pose and Zhang (2019) research further supports these conclusions by demonstrating that effective governance and anti-corruption initiatives have a positive impact on urban economic development in China. Although the impact at the provincial level was less significant, the authors noted that improvements in innovation and human capital following anti-corruption measures could spur growth. Similarly, Balaguer-Coll et al. (2022) study found that government efficiency, used as a proxy for anti-corruption efforts, positively impacted local economic growth in Spain. This is consistent with the findings in Indonesia, where local

anti-corruption programmes have shown positive effects on economic growth. It is important to note that differences in measuring instruments and approaches between studies did not diminish the overall positive impact of anti-corruption efforts on economic growth.

6.4.1 Local anti-corruption and political concentration interaction on local economic growth

The role of political institutions in driving local growth is undeniable. Jackman and Montinola (2002) estimated that corruption is more prevalent in countries with democratic systems than in those with authoritarian regimes. They also found that political competition in parliament leads to higher levels of corruption within a country. A defining characteristic of democracy is the presence of LHR with a multitude of political parties. Gerring and Thacker (2004) asserted that the more democratic a country is and the longer it experiences competitive and multiparty elections, the more corruption tends to decrease. Despite being a developing country with a nascent level of democracy, Indonesia has undergone four direct multiparty elections over the last two decades, underscoring its democratic nature. Nevertheless, it is plausible that a relatively short period of democracy might deviate from the estimation results of the hypothesis (Gerring and Thacker, 2004).

The findings of Gerring and Thacker (2004) and Jackman and Montinola (2002) have no direct economic implications. Jackman and Montinola (2002) reveal that corruption is rampant in low-income countries, where public sector employees are often paid meagre wages. Consequently, countries can foster an environment conducive to sustainable economic growth by curbing corruption through healthy and transparent party competition within the government. This finding is corroborated by Rezki (2022), who discovered that increased political competition in Indonesia boosted local economic growth by 0.7%. Nonetheless, we argue that corruption may taint such competition.

Local planning and budgeting

Anti-corruption programme appears ineffective against local political dynamics. The concentration of political power in LHR weakens anti-corruption efforts in planning, budgeting, procurement, and licensing, thereby hindering economic growth. Key issues include the dominance of political oligarchies, lack of transparency, and weak monitoring systems. High political concentration fosters oligarchies in which a few control planning and budgeting, leading to corrupt practices for personal or group gains. This lack of transparency allows budget manipulation and corruption, reducing local productivity. Oversight bodies are often

undermined by concentrated political power, turning them into tools for suppressing dissent rather than ensuring accountability.

The negative impact on economic growth is confirmed by data showing inefficient budget allocation due to political interference, diverting funds from critical sectors to private interests. Notable corruption cases in Malang, Medan, and West Papua involved numerous LHR members and highlighted the pervasive corruption in local budgets since the post-1998 reform era. The Indonesian Corruption Watch (ICW) identifies motives for corruption, including bribery for budget approval, illicit income for parliamentarians, and special project allocation. Political corruption manifests in various forms, such as authority abuse and vote buying, undermining good governance. Despite legal measures, recurring political corruption indicates insufficient deterrence, eroding public trust in LHR.

Local public procurement

These findings echo those of a Czech study by Titl and Geys (2019), which suggested that favoritism in procurement contracts stems from company donations to political parties. They explicitly state that companies donating more than 10 percent could experience a 0.5 - 0.65 percent increase in contract value. Similarly, Straub (2015) study underscores the significant role of political connections in Paraguay's democratic era, following the fall of the Paraguayan Colorado Party, which held power for 61 years. In 2008, the coalition parties assumed governance. However, challenges surfaced regarding the availability of suitably qualified companies for projects despite their high contract value, owing to penalties imposed by the incumbent government on companies affiliated with the previous regime, leading to growth impediments from delayed or cancelled large-scale projects.

In Hungary, Fazekas et al. (2015) noted that, to assess the potential link between political influence and the allocation of public procurement, they examined whether company owners or managers were affiliated with political parties. Their findings indicate that heightened political connections can elevate the likelihood of companies winning bids in public tenders by 2% in Hungary's public-goods auction market from 2005 to 2012. Moreover, as asserted by Popa (2021), it is widely acknowledged that most, if not all, public contracts and other forms of public expenditure entail a kickback for local politicians engaged in the process. The selection of contractors or other recipients of public funds depends on the appropriate payment considerations.

Local licensing

The third interaction explored in Table 6.16 examines how local anti-corruption measures in licensing and political concentration affect local economic growth. Political concentration in LHR often leads to licensing decisions driven by political interests rather than technical criteria, fostering nepotism and corruption. Stringent anti-corruption measures in licensing can challenge political oligarchs by enforcing regulations, but they also create policy uncertainty. This uncertainty can deter businesses from making long-term investments due to the perceived high-risk environment.

Corruption in licensing involving local leaders and staff has been prevalent over the past decade. The KPK has handled numerous cases of licensing corruption from 2008 to 2022, including high-profile bribery incidents. Despite electronic systems for licensing, corruption persists due to loopholes in the commitment fulfillment process and investment oversight. Face-to-face interactions between investors and officials provide opportunities for corrupt practices. The 2018 ICW report highlighted that licensing corruption frequently involves mining, tourism, industrial business licenses, and warehouse registration marks, with significant cases detailed in Appendix 2.

6.4.2 Local anti-corruption and fiscal independency interaction on the local economic growth

One factor that drives the local economy is the local government's financial resources. Having substantial financial capacity allows a region to progress more rapidly than others do. In addition, it is important to strengthen institutions in areas where corruption is most likely to occur, such as local planning and budgeting, procurement of goods and services, and licensing.

Local planning and budgeting

The positive and significant relationship between anti-corruption measures and local economic growth highlights their critical role in fostering development (Balaguer-Coll et al., 2022). Three main reasons underpin this finding. Firstly, implementing robust anti-corruption measures in local planning and budgeting facilitates the efficient use of public funds, directing resources towards infrastructure, education, and healthcare (Ebel & Yilmaz, 2002; Canavire-Bacarreza et al., 2020). Secondly, transparent management of public funds instills trust in the private sector, encouraging investment and stimulating economic activity (Kusuma & Badrudin, 2016; Sasana, 2019). Lastly, sound and corruption-free development initiatives

enhance residents' quality of life, improving access to essential services and boosting overall productivity and economic well-being (Balaguer-Coll et al., 2022).

Despite some inconsistencies in findings, studies from Bali and Central Java demonstrate the positive impact of fiscal independence on local economic growth (Kusuma & Badrudin, 2016; Sasana, 2019). While treated as a control variable, fiscal independence's influence on local economic growth remains statistically insignificant in some cases (Balaguer-Coll et al., 2022). However, the overall trend suggests that fiscal autonomy can contribute positively to local development, supporting the notion that efficient fiscal management is crucial for fostering economic growth at the local level.

Local public procurement

The interaction between anti-corruption measures in public procurement and fiscal independence significantly contributes to local economic growth, as revealed in Table 6.16. This positive effect stems from several factors. Firstly, fiscal independence improves the quality of public services by curbing corruption in procurement, ensuring better infrastructure and services, ultimately enhancing the quality of life for local communities and reducing costs associated with inadequate infrastructure. Secondly, it enhances market accessibility by reducing corruption, allowing more local businesses to participate in procurement, fostering entrepreneurship, job creation, and increasing local income. Thirdly, fiscal independence promotes the development of local capacities and skills through transparent procurement processes, boosting competitiveness in the global market. Lastly, it mitigates economic inequality by ensuring a fairer distribution of benefits from public contracts and development projects, thereby reducing disparities and fostering inclusive local economies.

Local licensing

The integration of anti-corruption measures in licensing with fiscal independence emerges as a catalyst for local economic growth. Firstly, it promotes investment and business development by establishing a transparent and fair licensing process, instilling confidence among investors and entrepreneurs and catalyzing private sector growth through the utilization of fiscal resources for infrastructure development. This, in turn, creates employment opportunities and drives local economic expansion. Secondly, it reduces transaction costs by eliminating bribery and extra fees associated with obtaining licenses, facilitating a better business environment and fostering economic growth. Thirdly, it encourages innovation and

competition by providing a transparent and fair platform for businesses to compete and innovate, thereby enhancing efficiency and productivity in the economy.

These findings challenge previous research such as Bonet's study in Colombia, which highlighted uncertainties regarding the role of fiscal decentralization in income inequality. While Bonet suggested widening income gaps due to fiscal decentralization policies, our results indicate a positive contribution to local economic growth, especially when complemented by effective governance and anti-corruption measures. Similarly, studies in Spain and South Korea underscore the importance of local autonomy and decentralization in fostering economic development, aligning with the notion that robust economic growth necessitates effective fiscal management and governance practices at the local level.

6.4.3 Local anti-corruption and political party affiliation interaction on local economic growth

In this section, we analyze the outcomes of estimating the interaction between anti-corruption programme in the three areas and the political party affiliation of the local government leaders and their negative impact on local economic growth.

Local planning and budgeting

In this section, we delve into the adverse effects of the interaction between anti-corruption programmes and the political party affiliation of regional leaders on local economic growth. Firstly, the affiliation of local leaders with coalition parties linked to the president often fosters nepotism and collusion in local planning and budgeting processes, prioritizing political interests over community needs. Secondly, these leaders may prioritize projects aligned with the political agenda of the coalition party, neglecting infrastructure development and economic initiatives crucial for local economic growth. Lastly, excessive ties to coalition parties can lead to disproportionate allocation of resources to areas supporting these parties, exacerbating regional disparities and hindering equitable economic development across the region.

Local public procurement

In examining the repercussions of anti-corruption measures in public procurement amid political alliances between local leaders and the national coalition, a downturn in local economic growth becomes evident. Firstly, the decline is attributed to deteriorating service quality and infrastructure, as leaders aligned with presidential allies engage in nepotism and

favoritism in procurement, leading to inefficient resource allocation and prioritization of projects that may not benefit local communities optimally.

Secondly, the lack of transparency stemming from these political affiliations erodes trust in local governance and procurement processes, deterring both local and foreign businesses from participating in procurement activities. This loss of trust, coupled with policy and investment instability driven by national political directives, further dissuades long-term investments in local economic development. Moreover, the unequal distribution of resources exacerbates regional disparities, as politically favored regions receive more investment, leaving politically disconnected areas underdeveloped and hindering overall economic growth. Additionally, heightened corruption risks stemming from political pressure lead to the misappropriation of public funds intended for development, exacerbating the challenges faced by local economies.

Local licensing

Our comprehensive analysis unveils the detrimental impact of anti-corruption licensing measures on economic growth, particularly concerning the political affiliations of local leaders aligned with the president's coalition party. Firstly, opaque licensing practices foster favoritism among local leaders, potentially leading to corrupt practices like nepotism and collusion during the licensing process (Asher & Novosad, 2017; Ankamah & Khoda, 2018). Secondly, extortion and coercion may occur, as businesses feel pressured to pay additional fees for permits or approvals, hindering economic growth (Bernhard et al., 2018). Moreover, legal uncertainties stemming from political affiliations and misallocation of public funds further impede sustainable economic development (Syarif & Faisal, 2019; Acemoglu et al., 2005, 2018).

Contrary to some research suggesting a strong party may monopolize policies detrimental to growth, our findings highlight the intricate interplay between political affiliations and anti-corruption measures, shedding light on the significant institutional barriers hindering economic progress in Indonesia (Bernhard et al., 2018). The prevailing democratic system in Indonesia appears extractive, with political parties wielding considerable influence over governance, often to the detriment of public welfare and economic growth (Ankamah & Khoda, 2018; Syarif & Faisal, 2019). As such, fostering political will and combating corruption emerge as indispensable steps towards achieving sustainable economic growth and fostering an environment conducive to development (Ankamah & Khoda, 2018).

6.4.4 Local anti-corruption and incumbent status on local economic growth

In this section, we present an analysis of three areas of anti-corruption efforts: local planning and budgeting, local public procurement, and licensing. Each element provides a unique perspective on what occurs at the local level in Indonesia.

Local planning and budgeting

The discussion centers on the intersection of anti-corruption measures and the incumbency status of local leaders, contrasting the Indonesian context with findings from Brazil. Incumbency status, particularly in the second term, is associated with diminished economic growth at the local level. Firstly, second-term incumbents may prioritize maintaining the status quo over implementing reforms conducive to economic growth, potentially stagnating development efforts. Secondly, entrenched incumbents may foster patronage networks, leading to collusion in local planning and budgeting, hindering the efficient use of public funds and discriminating against new businesses or political opponents.

Thirdly, the consolidation of power during second terms may elevate corruption risks, as incumbents become less accountable to voters and more susceptible to engaging in corrupt practices for personal or political gain. Fourthly, long-standing incumbents may face challenges in implementing reforms due to bureaucratic resistance or political risks associated with significant changes, limiting opportunities to rectify inefficient or corrupt policies. Lastly, prolonged incumbency may result in leaders prioritizing personal and political interests over community needs, leading to suboptimal allocation of public funds for local economic growth.

Local public procurement

The examination shifts to the correlation between anti-corruption efforts in procurement and the incumbency status of local leaders, which correlates with a decline in local economic growth. Firstly, second-term incumbents often prioritize maintaining political stability over reforming procurement processes, inhibiting improvements despite pressing needs for efficiency enhancements. Secondly, entrenched incumbents may exhibit favoritism towards established contractors or suppliers, limiting opportunities for newer businesses and stifling local economic growth.

Thirdly, resistance to change is prevalent among incumbents accustomed to existing procurement methodologies, hindering efforts to enhance transparency and efficiency.

Fourthly, incumbent leaders may perpetuate corrupt practices within procurement, leveraging their networks to sustain malpractices over time. Lastly, political and investment uncertainties associated with incumbent leaders' bids for power can deter investors, further hampering local economic growth.

Local licensing

The study delves into the correlation between local anti-corruption measures in licensing areas and incumbent status, leading to reduced local economic growth. Firstly, long-serving incumbents may exhibit apathy towards reforms in licensing systems, prioritizing stability over enhancements for economic growth (Purwaningsih & Widodo, 2020). Secondly, entrenched leaders may resist external scrutiny, limiting oversight and fostering environments conducive to corruption during licensing (Silitonga et al., 2015).

Thirdly, incumbent leaders may prioritize political interests over public service efficiency, hindering investment growth and infrastructure development (Rakhman, 2019). Lastly, prolonged incumbency can lead to authoritarian conduct, consolidating power and stifling community participation, thus impeding inclusive economic growth (Rumayya et al., 2020). Despite the challenges, stringent oversight focusing on electoral recruitment and transparency remains crucial to combat corruption and foster economic impact (Purwaningsih & Widodo, 2020).

6.5 Conclusion

Based on the estimates above, it can be concluded that three things can be determined. Firstly, by using a two-period panel model incorporating the entire sample, two anti-corruption variables of anti-corruption in planning and budgeting, and area licensing, positively impact local economic growth, while strengthening anti-corruption in procurement actually results in negative estimates. Interactions between each anti-corruption variable with local political aspects, when using the entire sample in the panel two-period model, show several interactions that are consistent with the hypothesis, including 1) anti-corruption procurement × parliamentary political concentration; 2) anti-corruption licensing × fiscal responsibility; 3) anti-corruption planning and budgeting × party affiliation of the head of the region; 4) anti-corruption licensing × party affiliation of the head of the region; 5) anti-corruption planning and budgeting × incumbent status of the regional head; 6) anti-corruption licensing × incumbent status of the regional head.

The second estimate, the difference-in-differences model, shows that there is a difference before and after the anti-corruption programme is implemented, especially in areas or districts-cities that have high corruption levels. The impact of the anti-corruption programme shows negative results, meaning that corruption in corrupt areas acts as a lubricant for local growth.

When the sample studied is district-cities with high anti-corruption index, the programme anti-corruption gives benefits for local economic growth. This indicates that there is efficiency in local governance. However, when local political intervention is stronger, the findings show a negative trend for local economic growth.

Chapter 7

Anti-corruption programme and local politics matter: an institutional perspective

7.1 Introduction

After the fall of the New Order regime in Indonesia in 1998, the public expressed a desire for seven initiatives, including political system reform, press and social freedom, fiscal transparency and monitoring, legal reform, direct strategies to combat corruption, foreign involvement in government, reform process, and civil service reform (Hamilton-Hart, 2001). In 1999, a corruption investigation commission was established by former Supreme Court Chief Justice Adi Andoyo Soetjipto to investigate corruption in state institutions, including those involved in corruption (Hamilton-Hart, 2001). At the same time, the national audit institution strengthened its anti-corruption efforts. During President Yudhoyono's term, which began in 2004 and was elected directly, he took a different approach by spreading an anti-corruption message throughout the country, with promising results in some regions, such as Padang and West Kalimantan (Davidson, 2007). Accordingly, efforts to eradicate corruption in government and political institutions at the national and local levels have been substantial.

Our earlier findings in Chapter 6, as evidenced by our difference-in-differences test involving political aspects at the local level, provide two pieces of evidence. First, the results of the difference-in-differences model test showed that anti-corruption programme implemented in areas with corrupt local governments had a negative impact on economic growth in those districts and cities. Second, using the relaxation model, when anti-corruption variables interacted with local political variables, they also had a negative impact on local economic growth. These findings indicate that corruption remains a significant issue and is deeply rooted at the local level. It is also important to consider the dynamics of local politics, as the pressure on the executive (local government) is quite strong.

In the current era of decentralization, corruption involving various political, business and government officials reinforces the fact that corruption eradication efforts have not been effective enough. The involvement of both the executive and legislative branches of government in various cases of corruption at the local level confirms that the conflict of interest between the two branches of power at the local level is still often a barrier to progress. According to Hamilton-Hart (2001), the biggest challenge is the entrenched economic and political nature of corruption. Moreover, as power shifted to local governments

(decentralization), corruption at the local level became more fertile (Siburian, 2024). The increase in corruption cases in the decentralization era is due to the easy fragmentation of bribery at the local level (Kuncoro, 2004). Yunan et al. (2023) shows that corruption and financial losses due to corruption flourish at the local level in Indonesia. Therefore, the transition to decentralization has not resulted in local development as expected (Talitha et al., 2020).

Corruption not only persists at the local level, but also at the national level, affecting ministries, ministerial institutions, and the national parliament. Data from Commission of Eradication Corruption Indonesia (KPK) between 2004 and 2023 reveals 474 corruption cases within ministries and ministry-level institutions, while the national parliament recorded 76 cases. Additionally, there were 797 corruption cases at the local government level during the same period, including 196 cases at the provincial level and 601 cases at the district and city levels. Despite this, decentralization is still considered the most suitable approach for distributing power and welfare at the local level, compared to centralized systems. However, it is crucial to improve the governance and critical attitudes of all stakeholders as a means of monitoring both the executive and legislative branches of government.

As one of the elements of democracy, public policy issues in the decentralization era require careful consideration (Kovács, 2020). Singhania (2022) reveals that as a result of decentralization policies in Indonesia leading to a reduction in the size of government, there is more provision of public goods when there are direct elections in local government. Decentralization in Indonesia requires that the local government (executive) is the implementer of development policies and programme at the local level. In addition, the executive is the full holder and controller of the budget at the local level. Meanwhile, the LHR has the role of supervising the executive. However, in implementing development policies and programme, both often have the same conflict of interest. There are many cases of corruption involving these two branches of power at the local level.

The KPK, established in 2003, has worked tirelessly to curb corruption at the local level of government. According to Dion (2010), there are five forms of corruption: corruption of principles, corruption of moral behavior, corruption of people, corruption of organizations, and corruption of states. Based on these types, the corruption that occurs at the local level is classified as state corruption, which, according to Zekos (2004), leads to bureaucrats focusing on personal economic power, hindering competence, and reducing economic efficiency, as well as eroding public trust in political leaders and civil servants. Therefore, the KPK has made every effort to eradicate corruption in both the executive and legislative branches. However,

Umam et al. (2020) argue that the KPK's success in combating corruption depends on political interactions, interests, and power relations, and there is no guarantee that anti-corruption power will remain in the future. Our empirical findings suggest that local political power structures can undermine the anti-corruption values applied by the KPK.

KPK has been implementing one of its corruption eradication programme since 2018 known as Monitoring Center for Prevention (MCP). This programme is implemented in local executive agencies to eradicate corruption in vulnerable areas such as planning & budgeting, procurement of goods and services, and licensing. A handful of literature has been conducted on the evaluation of MCP programme in various local governments in Indonesia, such as the impact of MCP programme on private investment (Tua & Mahi, 2023), the evaluation of MCP programme on private development plans (Baiti & Soemitra, 2022), to asset management (Dewiyanti et al., 2022). However, there has been no exploration of the complex relationship between local anti-corruption programme and their interaction with local politics, which can disrupt the local economy. This means that we know nothing about how local power structures can hinder local anti-corruption programme and impact the local economy. Local power in this case is the role of the executive and legislature in their efforts to perpetuate power and circumvent anti-corruption efforts implemented by the KPK at the local level.

This study is a leap from the mainstream quantitative studies in most anti-corruption literature. The aim of this study is to fill a significant gap in our qualitatively nuanced knowledge by asking a fundamental questions:

RQ 7. How does the interaction between anti-corruption programme and local politics from an institutional perspective affect the outcomes of programme?

To address this question, we rely on the critical paradigm associated with institutional theory. Through this approach, we provide a deeper understanding of the complex dynamics of power and corruption at the local level. The first chapter serves as an introduction, while the second chapter outlines the design and method. The third chapter comprises the discussion, and finally, it concludes with a closing remark.

7.2 Design and method

This study is a qualitative study that uses a critical structuralist framework, according to Bronner (2011), which investigates not only the emergence of things but also the possibility of their existence. Furthermore, the critical paradigm refuses to equate freedom with institutional

or systematic thinking that questions the premises and hidden purposes of competing theories and practices. In a critical perspective, as suggested by Herbut (2007), researchers can explore multiple interpretations.

In addition, the critical paradigm in this study allows us to understand the complex relationship between local anti-corruption programme and local political dynamics that affect growth at the local level. Corruption at the executive-legislative level is the focus of the study because of its impact on local economic development. In addition, structural analysis provides a strong framework for analyzing power structures, as well as conflicts of interest within them. With this approach, researchers can not only uncover surface phenomena, but also dig deeper into their causes and impacts. On the other hand, the structural approach views society as a complex system where social phenomena are not only influenced by individuals or policies, but also by institutional structures, power dynamics and ingrained norms.

In terms of data collection design and analysis, this study draws on the work of various researchers such as Burrell & Morgan (2019), Creswell (2013), Guba & Lincoln (1994), and Lapan et al. (2011). This study utilizes a qualitative approach to data collection, which includes in-depth interviews, participant observation, and document analysis, as a means to gain a deeper understanding of the subject (Creswell, 2013).

To understand how research questions are answered, we provide a brief explanation of the context followed by details about the methodology. This study adopts a research design (Meza & Perez-Chiques, 2021) with guided sampling. In this study, the selection of sample was based on areas with low and high corruption levels. This was based on certain considerations as to whether there is a potential difference in corruption or not. In this context, we selected two cities (Bima and Mataram) and three districts (Sumbawa, Lombok Utara, Sumbawa Barat) as study areas. Both of the sample cities had an index of corruption above the national average in 2019 (69) and 2022 (76). The average corruption index in 2019 for Bima City and Mataram City was respectively 75 and 85.57. Both cities had a corruption index average of 95.28 in 2019. Bima and Mataram are classified as medium-sized cities, whose development still relies on the trade sector, and there are no manufacturing industries like other large cities. The per capita GDP for both cities is also classified as a medium-sized city (see Appendix 4). However, specifically for Bima, the corruption cases handled by the KPK involving the Mayor and his associates during the period of 2019 - 2022 related to the procurement of goods and services became the subject of researcher.

In addition, we also selected three district samples, namely Sumbawa, Lombok Utara, and Sumbawa Barat. The corruption index for these three districts in 2019 was above the

national average (69), with scores of 74.00, 77.87, and 72.37. Meanwhile, in 2022, the corruption index in the Sumbawa and North Lombok districts were below the national average at 62.50 and 74.25, respectively. On the other hand, the Sumbawa Barat had an index above the national average at 80.25. Sumbawa Barat also had a higher per capita GDP than the other two districts. Except for the Sumbawa Barat, the district heads in the other two districts have been called upon by the Prosecutor's Office at the local level due to corruption allegations to date.

Between May 2023 and June 2024 we conducted 15 semi-structured in-depth interviews with various stakeholders. The selection of informants was purposive. Those interviewed included local government auditors (5 informants), members of the LHR (5 informants), anti-corruption activists (2 informants), local consultants (2 informants), and KPK Indonesia's MCP director. Government auditors were purposively selected because they are the ones who spearhead the implementation of KPK programme at the local level. They are considered to understand the entire anti-corruption audit process and indicators prepared by KPK Indonesia and are considered to understand the weaknesses in the programme. In addition, we interviewed Director of MCP Programme in an effort to obtain information related to the MCP programme that has been implemented. To see how members of local political parties serving in local house of representatives (LHR) are involved in a range of local government programme, we interviewed five members of LHR who were purposively selected because they served as members of the budget body in each LHR. Local anti-corruption activists were also an important part of gathering information on corruption and anti-corruption at the local level. Local project consultants were also included in this study because of their role as recipients of government projects. We believe that these interviewees are usually involved in corruption circles, so their perspectives are very valuable for this study.

7.3 Discussion

To answer the research question in this chapter, we discuss two issues related to the obstruction of anti-corruption channels due to their interaction with politics at the local level, including design of anti-corruption, and political consideration and institutional misalignment. We examine these issues through a critical perspective of institutional theory

7.3.1 Design of anti-corruption programme in the local government

The estimation results and interaction effect between local anti-corruption and local politics (political concentration in the LHR, political party affiliation of the local head, and

incumbent status of the local head) are negative for local economic growth. We add both criticism and important insights for the future improvement of anti-corruption programme at the local level.

We also provide responses and critiques of local officials of the MCP KPK programme at the local level who carry out the MCP programme. The analysis aimed at local government policies related to three anti-corruption areas. We capture the institutional design aspect of the anti-corruption programme implemented by the KPK and implemented by local governments.

7.3.1.1 Institutional design on local planning and budgeting area

The result on the Table 6.15 (Chapter 6) indicates that the interaction between anti-corruption in the local planning and budgeting and local political concentration has a significant and negative impact on local economic growth, especially for corrupt local governments. The negative impact is also evident in local governments with low and high anti-corruption index, which suggests that the influence of political coalition in the local representative house at the local level has a detrimental effect on economic growth. This indicates that the larger the coalition of local leaders in the LHR, the greater the tendency to monopolize power over local economic resources. The determination of the influence of LHR members usually begins with the planning and budgeting process.

Conflicts of interest arising from local projects are not separated from the influence of the LHR. In this situation, conflicts of interest among local political members are usually handled collectively by LHR. The LHR must intervene in the planning and budgeting of the local, and it is not uncommon for there to be interest or political agreements.

“The process of drafting the annual budget plan, which must be agreed upon by local executives and legislators, typically has a deadline in the third week of August. In recent years, there has been a recurring issue of delays in the submission of local legislators' budget plans. This is usually caused by conflicts of interest regarding the proposed projects put forth by local executive bodies. This also leads to delays in the promulgation of Local Government Regulations on the budget for the following year, which will undoubtedly impact the development process at the local level. This is a common finding in most local governments.”
Mr. Andi, MCP coordinator at Mataram City.

The anti-corruption programmes implemented at the local level have been less effective in reducing corruption in the planning and budgeting sector. These programmes typically focus solely on corruption within the executive branch and ignore the political aspect of corruption within the LHR. Despite there being cooperation between the local executive and legislative

institutions in the realm of local planning and budgeting, efforts to eradicate corruption have been unable to detect gaps in corruption within the interactions between the two. Nevertheless, as mandated by law, the LHR is responsible for legislation, budgeting, and control. However, a study conducted by Nurhasmah & Abdullah (2015) revealed that although these functions are attached to local parliamentarians, they were found to be unsuccessful in carrying out their oversight responsibilities towards the executive branch, including in terms of planning, implementation of activities, and programmes. As a result, the delay in determining the Local Government Budget (LGB) was caused by the weakness of this competence (Subechan et al., 2014).

The Table 7.1 below illustrates some indicators and sub-indicators used to uncover corruption in the planning and budgeting processes in local government.

Table 7.1 Indicators and sub-indicators of monitoring corruption in local planning and budgeting

No	Area	Indicator	Sub Indicator
1	Planning and budgeting	<ul style="list-style-type: none"> Standard unit price (SUP) 	<ul style="list-style-type: none"> Implementation of SUP Determination of SUP
		<ul style="list-style-type: none"> Analysis of budgeting standard (ABS) 	<ul style="list-style-type: none"> Determination of ABS Implementation of ABS
		<ul style="list-style-type: none"> Budgeting of local planning 	<ul style="list-style-type: none"> LHR approval Publication of Local Budget Submission of draft General Budget Policy (GBP) and Temporary Budget Ceiling Priorities (TBCP) Submission of draft Local Budget Agreement on the draft of GBP & TBCP
		<ul style="list-style-type: none"> Supervision 	<ul style="list-style-type: none"> Follow-up review of Local Development Work Plan (LDWP) Follow-up review of SUP and ABS

Indicator one points to investigate on unit prices. This is merely a cross-check between the programme plan and budget, just like the second indicator, standard budget analysis. Corruption in policy-making occurs at the sub-indicator level of LHR approval. Evidence of political transactions between local executives and local legislatives begins to emerge during the discussion of the LGB. However, transactions of this type usually occur outside of formal negotiation processes, where executives provide political support as a reward for support from the LHR for government programmes or projects that are planned. The legislative demand for local district projects in planning documents binds the executive. The legislative task is to

supervise and validate the executive's plan and budget, while on the other hand, members of the LHR are involved in local projects. This is a common phenomenon in most local governments, but LHR members are not involved in various government tender decisions because they are closely monitored and it is not part of the parliament's function.

The larger the coalition of executive supporters in parliament, the greater the executive's chance of success in local planning and budgeting documents. According to Stapenhurst (2020), experts often refer to the legislative role in reducing corruption through anti-corruption programme, but the relationship between the two (executive and legislative) is still not well understood. Meanwhile, Stapenhurst (2020) reveals in the 2007 World Bank Report, the legislative role in anti-corruption was almost invisible. Therefore, given the low capacity of local legislative bodies to oversee local executive and the tendency to abuse of power in budget politics, the KPK should also provide oversight of local legislative bodies, not only in monitoring the local executive.

Considering the decrease in Corruption Perception Index (CPI) reported by Varieties Democracy Project (VDem) and Political Risk & Economic Survey (PERC) in 2021, the KPK has urged political parties to take responsibility for the corruption that occurred in the national and local parliament. The KPK has imposed sanctions on 430 politicians up to 2021. The role of political parties in shaping public policy is considerable, and as such, they must provide substantial benefits to the public instead of undermining public trust through corrupt practices. The results presented in Table 6.15 (Chapter 6) indicate that local governments with low anti-corruption indices and high concentrations of political parties in parliament suffer losses in local economic performance. Figures 7.1 and 7.2 demonstrate that nearly all regions have local governments with low anti-corruption indices.

There were some adjustments to the time frame for both sets of data mentioned above. Originally, the number of local governments with an anti-corruption index lower than the national average was 166, but it reduced to 159 in the year 2022. Nevertheless, when examining the figures for Sulawesi, Maluku, and Papua, there was an irregularity in the data. These three regions, which are part of eastern Indonesia, showed a lower average anti-corruption index compared to the other areas. Eastern Indonesia is renowned for its slow development and inadequate human resources, which is why additional efforts are essential to ensure that the eastern regions of Indonesia are at par with other regions in the country.

Figure 7.1 Index of anti-corruption in planning & budgeting, 2019

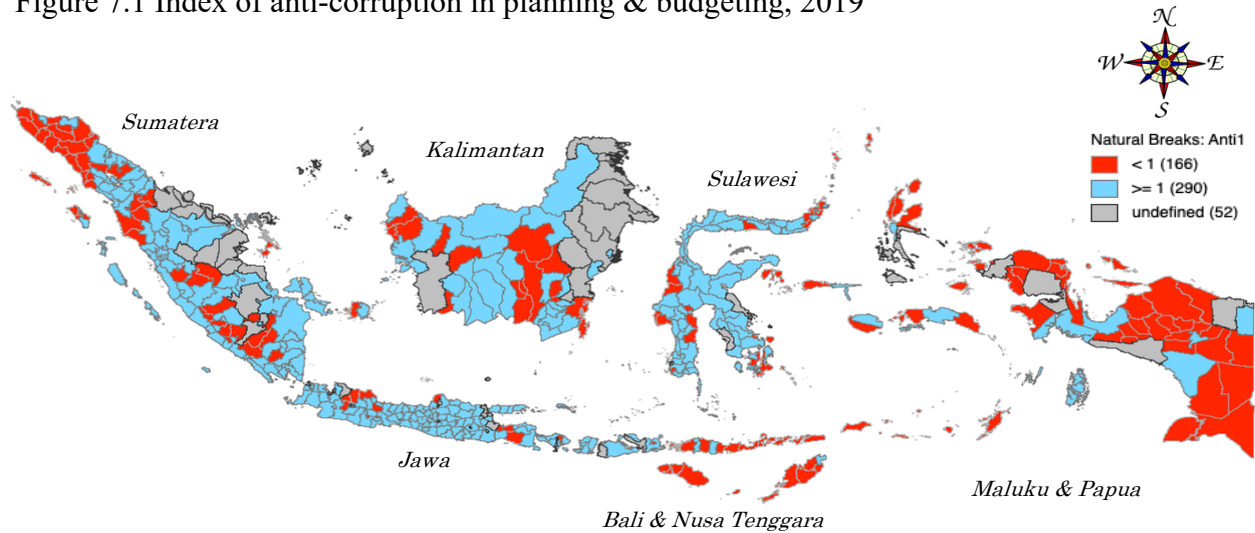
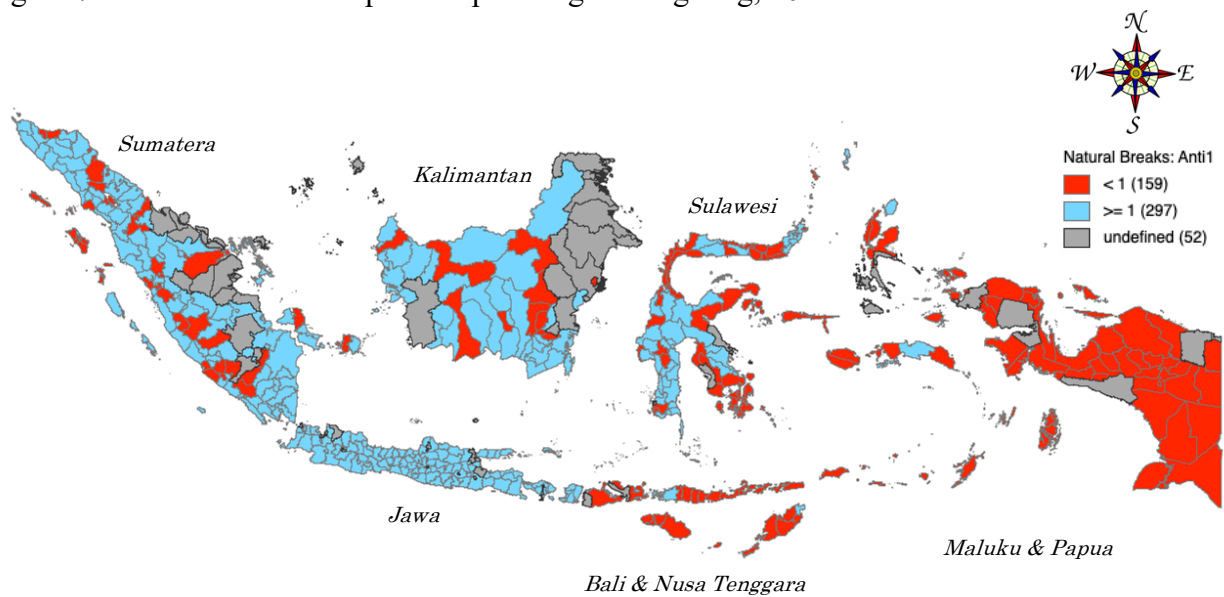


Figure 7.2 Index of anti-corruption in planning & budgeting, 2022



While on the other hand, from the perspective of a local auditor serving as a coordinator at the local level, it is stated that:

“The MCP programme in the area of goods and service planning is excellent and crucial. This programme is capable of closing the corruption loopholes at the local level. However, this is only administrative in nature. In fact, the interest of LHR members to intervene in the planning and budgeting areas is very strong. They look for reasons not to approve the Local Government Budget (LGB) when the “Basic Thinking Allocation” has not been accommodated. As a result, the entire planning and budgeting process for the LGB becomes stalled.” (Mrs. Indri, MCP coordinator at North Lombok District; Mr.

Azis, MCP coordinator MCP at Sumbawa District; Mr. Andi, MCP coordinator at Mataram City; Mr. Firdaus, MCP coordinator at Bima City).

7.3.1.2 Design of institution on local procurement area

The estimation result of the connection between anti-corruption initiatives in the procurement of goods and services and local political elements is negative and statistically substantial in terms of local economic growth. This plainly demonstrates that local political factors work to obstruct growth, indirectly by eroding the legitimacy of local anti-corruption campaigns in the procurement of goods and services area. As shown in the Table 7.2 below, the anti-corruption programme in the procurement of goods and services realm is once more highlighted.

Table 7.2 Indicators and sub-indicators of monitoring corruption in local procurement

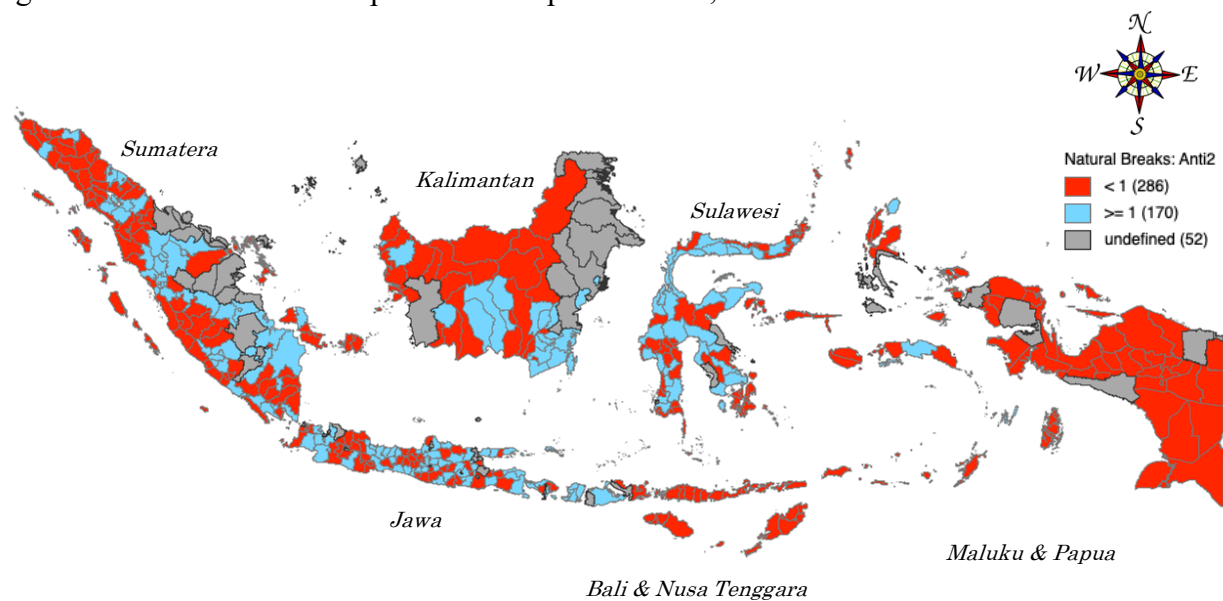
No	Area	Indicator	Sub Indicator
2	Goods and services procurement	<ul style="list-style-type: none"> Human resources on goods and service procurement work unit (GSPWU) 	<ul style="list-style-type: none"> Permanent GSPWU working group. Availability of human resources in GSPWU Availability of GSPWU functional worker group
		<ul style="list-style-type: none"> Implementation of main duties and functions 	<ul style="list-style-type: none"> Evaluation of GSP activities Advocation of GSP Planning review of GSP Vendor management system
		<ul style="list-style-type: none"> Supporting devices 	<ul style="list-style-type: none"> GSP code of ethics SOP of GSP Special Additional Employee Income of GSP
		<ul style="list-style-type: none"> Screening of "General Procurement Plan Information System" (GPPIS) 	<ul style="list-style-type: none"> Percentage of GPPIS views
		<ul style="list-style-type: none"> Control and supervision 	<ul style="list-style-type: none"> Review of Own Estimated Price (OEP) Follow-up on GSP governance Review

Table 7.2 indicates that efforts to prevent corruption in the procurement of goods and services in local government have been rigorous. First, the KPK's efforts involve anticipating the involvement of human resources in the procurement process. Ideally, the procurement of goods and services should be carried out by a work group that is independent. Second, monitoring the tasks and primary functions of that work group. Third, monitoring the

availability of devices during the procurement process. Fourth, taking preventive measures through the availability of information system planning. Fifth, conducting control and supervision after the bidding process has been carried out. However, when the results show a negative relationship, the local political aspect is a hindrance.

On the other hand, the local government leader has full control over administrative activities at the executive level. It is not uncommon for the local procurement team appointed by the local head to be individuals trusted directly by the head of the local government, who can be controlled. The winning suppliers are usually prepared by the Electronic Procurement Institution (EPI) that has been approved by the regent or mayor, or the their team. The process of designating these suppliers is not publicly accessible and tends to be closed. The high level of corruption in procurement of goods and services is due to the lack of accountability (Nurmandi et al., 2020; Nurmandi & Kim, 2015).

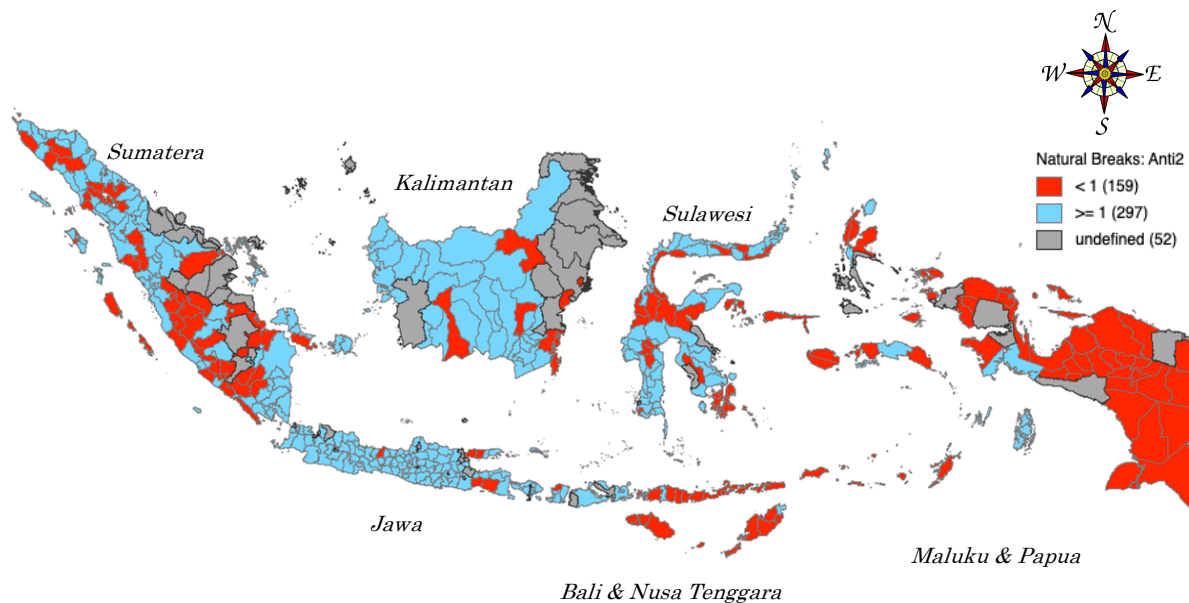
Figure 7.3 Index of anti-corruption in local procurement, 2019



According to the estimation results, local political variables such as LHR concentration, party affiliation of local leaders, and incumbent status of local leaders contribute negatively to local economic growth when interacting with anti-corruption programme in the procurement of goods and services. The presence of these variables is undoubtedly a hindrance to local economic growth. Therefore, anti-corruption efforts are not only applied to the executive side, but also to the legislative side. The need for assessment of local legislative institutions is not only to monitor the performance and activities of LHR, but also to increase the integrity of

LHR to oversee the proper functioning of local government. In various cases of procurement corruption, cooperation between local government employees and LHR members in monitoring tenders is often the subject of public scrutiny. Therefore, local parliaments should not be involved but ensure that tenders are truly allocated to the public's interest and not to benefit certain individuals.

Figure 7.4 Index of anti-corruption in local procurement, 2022



Despite the fact that the distribution of the corruption index in local procurement areas and the local political aspects are considered, it is unfortunate that the majority of local governments still have low corruption indices. The index has only seen slight improvements in a few regions between 2019 and 2022, with the most significant changes happening in Jawa and Kalimantan. In contrast, other regions continue to face challenges in curbing corruption in procurement areas. Unfortunately, local governments with low corruption indices are often embroiled in executive and legislative corruption scandals. The appendix 1 also supports this observation.

Some local governments, each local unit of MCP provides different explanations related to the challenges faced in the procurement of goods and services at the local level.

"Electronic tenders are very detailed, and the possibility of corruption from the administration's side is highly unlikely. But for some reason, the circle of power at the local level can determine who the winner of the tender will be. This may happen in all local governments" (Mrs. Indri, MCP coordinator at North Lombok District).

Meanwhile, some surprising information about corruption gaps:

“Electronic tenders may only be 30% of the Local Government Budget (LGB). The most vulnerable to corruption, collusion, and nepotism are tenders directly worth less than 200 million rupiah. These tenders are spread throughout the departments. The interests of local officials and members of the LHR are very strong in this case. Almost 70% of the LGB is allocated for tenders without auctions. This is clearly systematic and widespread corruption”. (Mr. Andi, MCP coordinator at Mataram City).

7.3.1.3 Institutional background of licensing

The efforts to combat corruption in the licensing sector appear to be encountering difficulties in fostering local economic growth, particularly when political interference occurs at the local level, as demonstrated by the focus on politics within the LHR. As depicted in Table 6.15 (Chapter 6), this situation has had a negative impact on local economic growth, with a decline of 0.7% in areas having low anti-corruption index, and a drop of 2.6% in areas with high anti-corruption index. In order to prevent corrupt behavior in the executive, the KPK utilizes various indicators, some of which are detailed in Table 7.3 below.

Table 7.3 Indicators and sub-indicators of monitoring corruption in local licensing

No	Area	Indicator	Sub Indicator
3	Licensing	<ul style="list-style-type: none"> Regulation 	<ul style="list-style-type: none"> Regulations on the delegation of licensing authority Local regulations regarding licensing management Local regulations regarding spatial planning
		<ul style="list-style-type: none"> Regulation infrastructure 	<ul style="list-style-type: none"> Location and place of service Publication media Local online licensing system
		<ul style="list-style-type: none"> Control and supervision 	<ul style="list-style-type: none"> Public satisfaction index Follow up on licensing governance review Supervision

Examining the indicators and sub-indicators used by KPK in Table 7.3, is almost certain that there is no space for corruption in the area of permits. The permits area is one of the vulnerable spots for bribery. This area actually involves three parties: businessman, executive, and legislator. The interactions between actors have been found in several local

government corruption cases related to investment permits. Therefore, the anti-corruption programme announced by KPK in local governments is not sufficient.

Comprehensive efforts are needed to address local corruption in Indonesia. Nieto-Morales et al. (2024) stated where corruption occurs when bureaucracy meets, affecting almost every country, especially those with weak institutions. Currently, the high prevalence of corruption involving local legislators is a serious concern, despite the fact that this institution does not have budgetary power at the local level. However, the legislative role, especially in drafting and being involved in every local government policy, is a significant responsibility. Therefore, KPK should focus on the legislature's activities to prevent corruption in local governments, at least from the area of investment permits.

Political institutions at the local level play a critical role in initiating the permit process. Persson and Tabellini (2002) explain that these institutions can influence decision-making, including in cases involving administrative and political interests. In such situations, it is common for the executive and legislative branches to form alliances to create permit-related policies. However, these alliances often have diverse interests.

The distribution of the local government anti-corruption index is presented in Figures 7.5 and 7.6. The figures show that there is a difference in performance at the local level at the beginning of the anti-corruption programme compared to 2022. However, by 2022, anti-corruption in licensing still seems to have problems in the eastern region of Indonesia.

Figure 7.5 Index of anti-corruption in local licensing, 2019

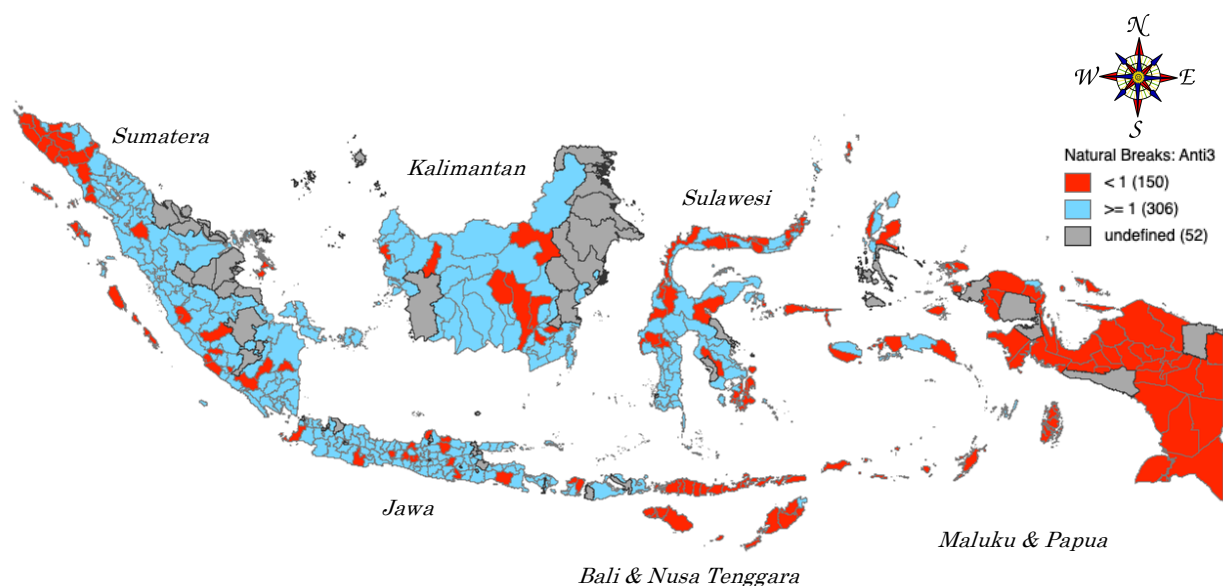
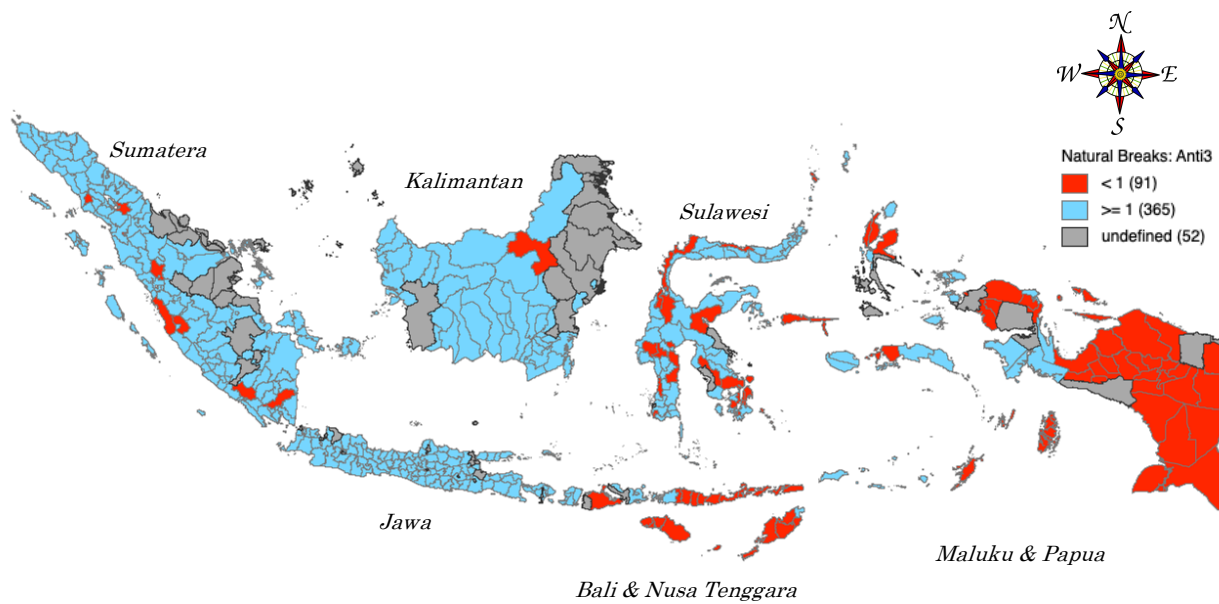


Figure 7.6 Index of anti-corruption in local licensing, 2022



Obtaining an business license through private parties can sometimes be a time-consuming process due to local bureaucracy. To hasten the permit process, petty corruption is sometimes employed. Political lobbying at the local leadership level is also part of the permit process, which Nieto-Morales et al. (2024) view as opportunities for petty corruption. Some notes regarding the anti-corruption programme in the licensing area deserve serious attention:

“For the licensing area, we lack some essential infrastructure, such as suitable meeting rooms for licensing purposes, and CCTV cameras to monitor the license-making process. It appears that applicants often provide bribes to expedite administration.”
(Mr. Azis, MCP coordinator at Sumbawa Districts)

This seems to be aligned with what is happening in other local governments.

“Bribes for business licenses still occur frequently. However, for large-scale investments, they usually must go through local political circles and meet local officials first. Bribes for large investments are likely to occur, especially in our area, which is attractive for tourism.” (Mrs. Indri, MCP coordinator at North Lombok region).

Moreover, we argue that the MCP programme in some areas provides warnings to corrupt offenders. This is also conveyed by the Director of the MCP Programme at the KPK.

"This programme provides attention to local corruption crimes. The programme is dynamic. If there are indicators that need to be added or reduced, then we are ready to do so according to the needs of the field. However, our efforts to eradicate corruption in our records require several elements, including strong political will, the integrity of local leaders, infrastructure readiness, and local political quality." (Director of Coordination & Supervision, KPK Indonesia)

7.3.2 Political consideration and institutional misalignment

LHR plays a critical role in the local political and economic dynamics in Indonesia. According to Beerli & Navot (2013), structure political corruption at the local level often has deep roots in the local government, structure, and politics. We believe that in a critical structuralist perspective, local power often acts as a barrier to anti-corruption efforts, especially in the local economy. Therefore, through in-depth qualitative analysis, this study will explore how the dominant local power structure, dominated by local political elites to maintain corrupt practices that hinders local economic progress. From a local political perspective, we aim to provide a critical analysis of the relationship between local politics and anti-corruption, focusing on the structure of power and hegemony.

We supposed that the main reason for the obstruction of anti-corruption channels in local government is the misalignment between formal and informal mechanism at the local level. The formal mechanisms at the national level are anti-corruption laws and KPK's MCP programme that are implemented in the local government (executive). Meanwhile, informal mechanisms at the local level is structure of local political power and hegemony such as patronage and clientelism, impairment of supervisory institution, and barrier on public participation. This misalignment can lead to resistance to the implementation of anti-corruption programme at the local level because local political actors will be threatened by the loss of power or resources that they used to gain through corrupt practices.

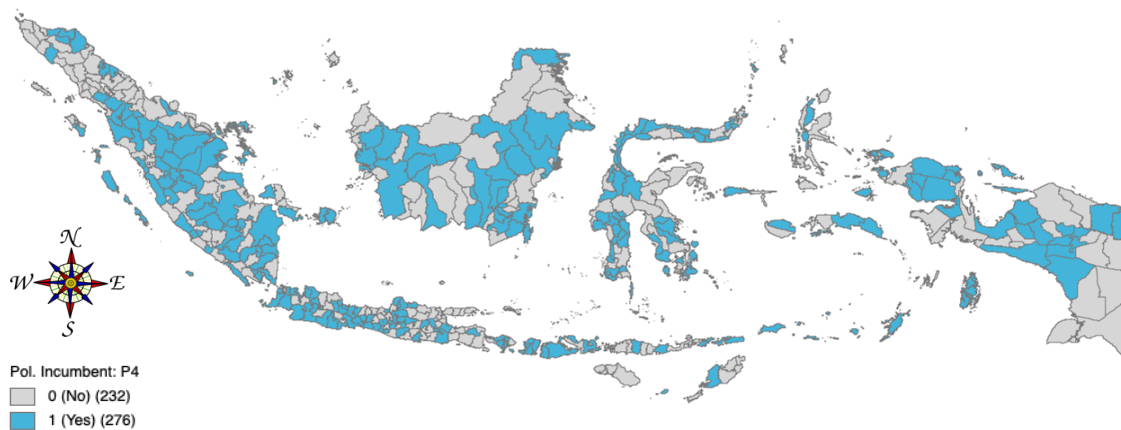
Local political power is used to maintain the dominance of the political and economic elite. Corruption may become a tool to sustain this power, where public resources are diverted to the interests of certain individuals or groups. This hierarchical system promotes patronage, which entails the distribution of material advantages for political gain through personalistic networks, where clients are represented as personal relationships (Aspinall, 2013). In many areas, power is not distributed fairly but is concentrated among certain families that have strong political and economic influence. Therefore, in many local governments, political leaders are only in the hands of a few people and belong to the same political network. In addition, the elite build patronage networks consisting of loyal supporters who are given access and benefits

as a reward for their loyalty. In the age of decentralization, the significance of local positions based on proximity and connection with superiors is growing (Blunt et al., 2012; 2012).

Moreover, there is hegemony in local political structures in the form of ideological dominance by the political elite to control people's thinking and social norms. Through control over the media, political parties, religion institutions, non-governmental organisations, and local government. The local political elite can shape public perception and normalize corrupt practices as part of local culture. The narratives created are often used to make the public accept and support the existing power structures, although they may be unjust. Forced consent makes the public less critical of the injustices they experience, which reinforces the position of the political elite and hinders reform efforts. Furthermore, Shin (2018) asserts that disadvantaged voters typically opt for individualistic items instead of policies that benefit them the most.

The following incumbent status visualization is a reflection of their power and hegemony in various locals government of Indonesia.

Figure 7.7 Incumbency status of local head in 2022



Source: Indonesian General Election Commission, 2022

Figure 7.7 visualizes that local leadership circulation appears to be progressing at a very slow pace, with more than 50% of local governments being filled by political elites who were part of the previous administration. On one hand, this is considered positive as it ensures that policies that are beneficial to the local community can last for a long time due to the certainty in local political leadership. On the other hand, it has a negative impact on the rooting of local political power, as leaders tend to keep local development in the form of extraction-based institutions.

Poor governance that has persisted for a sufficiently long duration during leadership can have a significant impact on the long-term weakening of the local economy. The negative effects of this can be observed through various economic, social, and political indicators such as low per capita income, income inequality, and patronage practices in local politics. In this case, studies and analyses conducted show that less effective leadership often leads to a decline in economic performance in various locals. The results presented in Chapter five previously highlight the potential of local political dynamics to weaken the effectiveness of anti-corruption programme designed. The inability to establish good governance practices can damage the investment climate, reduce bureaucratic efficiency, and create instability that is detrimental to local economic growth. In addition, uncontrolled local political power can hinder the implementation of sustainable and inclusive development policies, exacerbating social and economic inequalities.

Structural corruption in local governments is rooted in the planning phase of development since the decentralization era post-1998 in Indonesia. The participatory planning approach in the post-decentralization era emphasizes that the priorities of local development from the lowest administrative level will be considered and accommodated along with the development process. The priorities of development will ultimately be determined at the city and districts levels through the City and District Development Planning Consultation. The development programme that will be implemented are planned a year in advance and receive approval from LHR. The following are the standard stages of drafting the LGB.

Based on Figure 7.8, the local government first prepares an annual work plan. In the second phase, the head of the local based on the local government's plan, then prepares a general policy proposal for the LGB. This policy proposal must be based on the Ministry of Home Affairs Regulation No. 26 of 2006. The proposal is discussed with the LHR. The third phase involves all activities or programme being planned based on priorities. Fourth, the work programme to be implemented is distributed to departments according to the work plan. The agreed work plan between the head of the local and the LHR is recorded in a joint agreement. The fifth phase involves the approved work plan being discussed again by the head of the local and the LHR. The sixth phase is the determination of the LGB along with the Local Regulations on the LGB. In the process of preparing the LGB, there is a conflict of interest between the LHR members and the local government. Figure 7.9 illustrates how this conflict arises.

Figure 7.8 Stages of preparing LGB draft

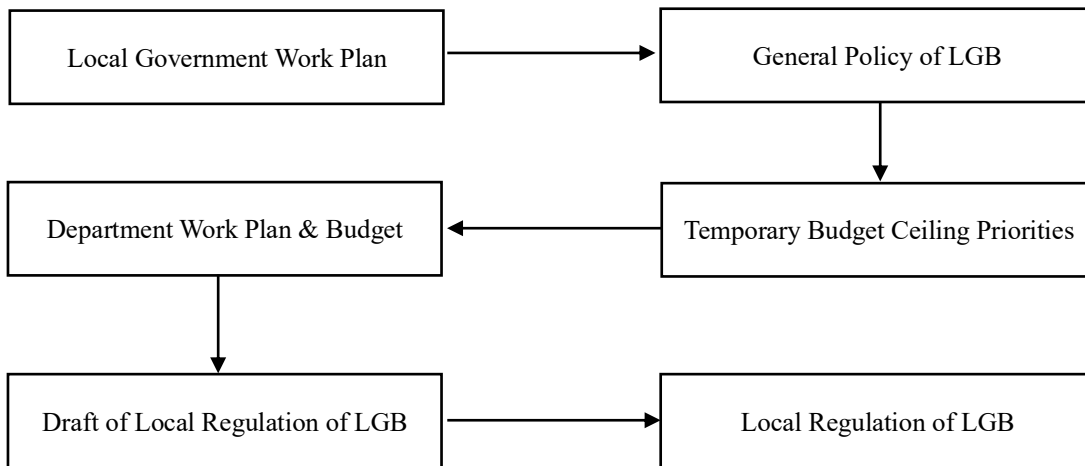


Figure 7.9 Conflict of interest between LHR and local government

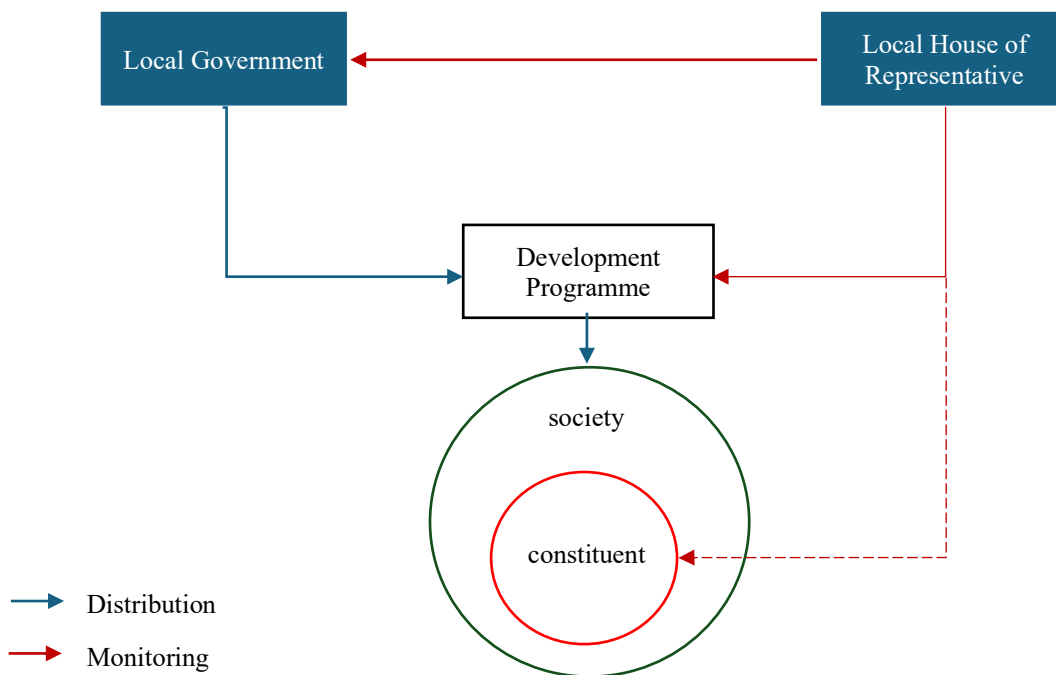


Figure 7.9 illustrates conflicts of interest between executive and legislative members. These conflicts arise due to the interests of parliament members toward their constituents in society. Local development programme proposed by local governments usually originate from the needs of the constituents in specific areas. This is based on the interests of LHR members in local government programme are often intertwined. Local parliament member from one of the local governments revealed:

"Our (LHR members') interests in local government programme are enormous. We want to ensure that the programme reach our constituents. We think it as a political investment for the upcoming period." (M. Aminurlah, member of parliament Bima District, PAN Party Leader)

Meanwhile, another LHR member added:

"We usually oversee those programme intensively. It is not uncommon that programme of that nature, which are direct-award projects without tenders, create corruption gaps where one project usually leaks 40% with a detail of 12% tax, 10% for council members, and 10-18% for local officials." (Merliza, Deputy Chairman of Parliament Sumbawa Barat District, Secretary of Gerindra Party)

From the mechanism of development planning, power distribution will be coordinated by local political elites, including the intervention of party leaders at the local level. Local political elites in power spaces have a significant influence in the decision-making process, including in the application of policies and public resource management.

Through the lens of hegemony, we identify two crucial elements that are embedded in this lens namely coercive consent and reproduction of power. Coercive consent refers to the practice of forcing agreement at the local level, for example controlling the media. Local elites often pressure parties involved in disseminating negative views of the local government and elites. Those who oppose power often become targets of law enforcement agencies that are supportive of the local government and elites. Secondly, reproduction of power by patronage culture. This practice is often demonstrated by local political elites and government officials. Patronage is practiced through economic and social assistance as a reward for political support and creating dependence among the public on local elites. This practice is also carried out by incumbents to maintain leadership in the following period, known as pork barrel politics or distributing local resources before election by using the budget of government.

The patronage practice makes the public reluctant to oppose and criticize leaders because they fear losing the benefits given. Therefore, these implications and challenges hinder fundamental social and political change because the public does not feel compelled or empowered to challenge the existing structure. The political power structure and hegemonic attempts at power are, of course, a major obstacle in efforts to eradicate corruption at the local level. Given the strength of the political and hegemonic structure at the local level, we summarize how anti-corruption programme applied at the local level are hindered for several fundamental reasons.

1. Strengthening patronage and clientelism

Dependence on local political elites is one of the factors that hinders the anti-corruption process at the local level. Political power based on patronage networks, where politicians and officials build support bases by exchanging favors, is often used by influential local officials to allocate local budgets for projects that provide direct benefits to their supporters rather than more transparent and public interest-oriented projects. This creates a cycle of dependency that reinforces the power of the political elite and makes it more difficult to report or address corruption.

In our study, we often found instances of clientelism by local officials and politicians. For example, in projects that are considered "Basic Thinking Budget," they are often manipulated by officials together with local politicians. These projects are worth less than Rp. 200,000,000 or US\$ 12,511. Since the project is worth more than that amount, it is required to go through a tender process. Our informant provided the following explanation:

“Projects with values below 200 million rupiah are in great abundance. This is also done to accommodate the interests of local officials and politicians. These projects are usually shared with their loyalists. The role of council members is usually as project brokers because they have influence over executives. That role is valued at 10-15% of the total project value. These projects are spread almost throughout the departments of the local government. Government officials also become "players" in this regard. They usually channel it to community organizations. However, it can be said that those projects are usually used to enrich themselves and the elite officials.” (Luhur, member of LHR of Mataram City, member of PAN party)

2. Impairment of supervisory institutions

The dominance of political elites in power structures can weaken institutions that are supposed to oversee and enforce anti-corruption laws. Local bureaucracy, legal institutions, and regulatory bodies are often co-opted or intimidated by corrupt officials.

Heads of oversight departments, in this case the local Inspectorate Office, are usually filled by those who have close ties to local power circles. This closeness will make it easier for the rulers to control the executive's activities and at the same time serve as a shield if they ever engage in corrupt practices. In this case, it is true that the Inspectorate Office is not an independent institution. Our key informant has revealed facts about the control of power over anti-corruption oversight bodies at the local level.

“Developing an anti-corruption programme that covers areas prone to corruption is a great initiative. However, it is still normative. The most important thing is the role of authorities, or political will. We, at the Inspectorate Office, are usually used as a tool to target political enemies. Both political opponents within and outside the executive branch are typically blackmailed with various corruption cases we are investigating. However, if a corruption case involves a relative or people within the circle of power, we usually receive direct intervention by stopping investigation attempts.” (Siswandi, Head of Auditor, Coordinator Region of MCP Programme of KPK, West Nusa Tenggara Province).

3. Barriers to public participation

The hegemonic structure of power often hinders public participation in political processes and decision-making. Society tends to be passive due to the strength of local political elites' networks and pressures. The efforts and resources expended to challenge local political power tend to end up as victims of that power. In some areas, intimidation towards anti-corruption activists come from local officials and political elites. They often use the law enforcement apparatus (police) to suppress activists. Additionally, more subtle approaches are usually taken by local political officials by inviting activists to join their circles of power. Many of these activists become submissive when they enter these circles of power. Therefore, anti-corruption efforts initiated by the community often go unheard. A local anti-corruption activist provided an explanation regarding this matter.

“If we are overly critical of the government, we may run the risk of being jailed due to police using intimidation and thuggery to suppress anti-corruption practices. However, we are changing our approach to one that involves direct involvement in monitoring the local government's budget use. This new approach has proven beneficial for the public as they are now better informed, and the local government is more aware that transparency efforts can lead to improved governance. This, in turn, will positively impact the community's economy through the transparent and efficient use of the development budget.” (Ervyn, Coordinator of Forum Transparency in Local Budgeting FITRA).

Therefore, we believe that this pragmatic and opportunistic local political structure is not consistent with Gramsci's hegemony, where, according to Bates (1975), humans are not only governed by force, but also by ideas. In this case, the main criticism of the pervasive and strong power of certain classes at the local level actually gives rise to

dynasties and small kings in certain areas. The dominance of this class, in turn, gives rise to inequality in society (Woolcock, 1985).

7.4 Conclusion

This chapter serves as an extension of the previous chapter, which estimated the impact of anti-corruption policies on local economic growth. Surprisingly, the interaction between anti-corruption efforts and local political factors resulted in negative effects on local economic growth. Consequently, we conducted an exploration of these matters.

We explore the causes of blocked anti-corruption channels at the local level due to politics at the local level, which in turn can have a negative impact on economic growth at the local level. We capture this problem using institutional theory as a guide in exploring the causes of weak anti-corruption effects at the local level. Moreover, we employ a critical paradigm using a qualitative approach.

We analyzed two issues from an institutional perspective that lead to blocked anti-corruption channels at the local level: institutional design and institutional misalignment. The first is institutional capacity at the local level, where there are differences in the capacity of local government institutions in each anti-corruption programme area. For example, in the anti-corruption areas of planning and budgeting and procurement, districts and cities in the Java region are better than other regions with anti-corruption indices above the national average. This suggests that the capacity of local government institutions in the region is better. In addition, the quality of public oversight is better than in other regions. Meanwhile, in the area of licensing, the institutional capacity of districts and cities in the Java, Sumatra and Kalimantan regions is better than in eastern Indonesia.

Second, we found a misalignment of formal and informal institutions at the local level. While on the one hand anti-corruption efforts are being implemented in earnest, political practices at the local level obscure these efforts. Informal institutions such as the structure and hegemony of politics at the local level that creates a culture of patronage is the trigger for this misalignment. In addition, the dense political structure has also led to the breakdown of local-level oversight institutions. This weakness has led to the proliferation of political oligarchy at the local level. As a result of this entrenched and powerful local political hegemony, public participation in anti-corruption efforts has become weaker and weaker as the public is largely controlled by a small elite.

Therefore, we assert that in the present era of decentralization, the entrenched practical political system in society hinders anti-corruption initiatives at the local level. Furthermore, we

believe there is an urgent need for concerted efforts to eradicate corruption in Indonesia, particularly at the local level. First, the control of corruption at the local level is indeed heavily dependent on political will at the national level. Party elites at the central level must promptly agree on asset confiscation law. This draft, however, is currently stymied by vested interests at the national level. In some cases of corruption, the laws provided seem to be inequivalent to the losses incurred by the state as a result of corruption. Consequently, we do not see that punishment can deter, as assets and money generated by corruption are not immediately confiscated by the state. Second, we focus on improving anti-corruption education for all local legislators. Anti-corruption education must also be provided to local government employees or be included in anti-corruption advocacy programmes conducted by the KPK. Then, the heads of departments and other officials at the local level must obtain anti-corruption certification provided by the KPK. Third, it may seem somewhat excessive that the Internal Oversight Body (Inspectorate) should be outside the executive branch to ensure its independence. Internal auditing so far remains under the control of the Regent/Mayor, resulting in some corruption cases being controlled by local elites.

Chapter 8

Conclusion

This dissertation covers five significant aspects: a systematic literature review, literature theory, methodology, and two empirical study results. The five findings aim to examine the impact of the anti-corruption programme in Indonesia on local economic growth, which is also influenced by local political factors.

8.1 Results and theses

Chapter 2

We commenced our initial research (Chapter 2) by conducting a systematic literature review. During our exploration of past and ongoing anti-corruption programmes (RQ1), we uncovered a wealth of important information. Specifically, we discovered that anti-corruption policies, particularly those implemented in Indonesia since the 1998 reforms, have been in effect since the presidency of Habibie in 1999, with the establishment of the Assets Auditing Commission (KPKPN). Post-Habibie, the Anti-Corruption Commission was also established under President Gus Dur, with the aim of investigating corruption among public officials. Subsequently, the high levels of corruption post-reform fueled the establishment of anti-corruption institutions among civil society, one of which was sponsored by foreign donors.

Amidst the persistent corruption, the Corruption Eradication Commission (KPK) was established in 2002, with the first commissioner being sworn in the following year. The KPK was established with a spirit of reform to eradicate corruption throughout the country. Despite its ongoing improvements until 2019, numerous police officers, prosecutors, judges, and even members of parliament, ministers, and hundreds of government officials at both the national and regional levels were implicated in KPK investigations. Consequently, the KPK received significant resistance from all quarters, with the most potent opposition being the 2019 revision of the KPK law that significantly curtailed its powers, including limiting surveillance, and most critically, rendering the KPK no longer an independent agency under presidential oversight.

Two anti-corruption prevention programmes are currently being carried out by the KPK, namely the National Strategic Prevention and Eradication of Corruption (Stranas-PK) programme and the Monitoring Center for Prevention (MCP programme). Both have different scopes, with Stranas-PK focusing on anti-corruption efforts at the ministry, agency, and local government levels, while the MCP programme specifically targets the closure of corruption

gaps in local governments, especially executive areas, and covers eight areas: 1) planning and budgeting of regional income and expenditure (APBD), 2) procurement of goods and services, 3) permits, 4) internal government oversight, 5) civil service management, 6) optimal taxation, 7) asset management, and 8) village fund management. In addition to these programmes, there is empirical evidence from studies on anti-corruption efforts, including the MCP programme, as well as practices to strengthen institutional prevention of corruption in local governments.

To address the relationship between political issues and anti-corruption efforts in Indonesia (RQ2), we discovered a substantial body of literature that implicitly states that corruption has become a major political issue in Indonesia. Furthermore, our literature review revealed that Local House Representatives are the most corrupt institution. Political intervention in several corruption cases can impede anti-corruption practices at both the national and local levels. The prevention of corruption in political parties is often neglected, as most campaign funds come from the abuse of power. The parliament has now become the center of power and patronage in Indonesia, making the enforcement of accountability for members of parliament and the institution of parliament a critical factor in controlling corruption. The large coalition in parliament actually strengthens the influence of the elite, thereby reinforcing the political economy of money, corruption, and disregarding the interests of the people. Local findings also show that an incumbent's status can provide a strong influence on indications of corruption. This is not surprising, given that in Indonesia's system of electing local leaders, the term of office for the head of a region is five years, and they can then run once more for a single term. Therefore, we assume that during the first five-year term, the Mayor is usually busy creating an image of themselves. Afterward, during the second five-year term if they are reelected, this is when they will try to recoup the large campaign funds previously spent. It is during this opportunity that corruption among regional heads often occurs. Consequently, the conflicting interests of regional heads are perceived as a hindrance to the anti-corruption programme that is currently being implemented by the KPK at the local level.

The governance and economic performance after anti-corruption policies (RQ3) have received some attention in a number of literature findings. Since the anti-corruption campaign by the KPK was launched in 2003, followed by the direct presidential election in 2004, the economy experienced fluctuations in the following years. The government faced challenges in balancing short-term political needs with long-term stability, with bureaucratic and legislative reform being the most crucial. Locally, studies found that public sector reform has strengthened the interests of stakeholders, but often a dominant interest, such as a mayor or regent, controls

the performance measurement system. Additionally, another finding revealed that Indonesia's increasing cleanliness from corruption actually resulted in a decrease in economic growth. This evidence supports the "grease the wheels" hypothesis in Indonesia, where corruption functions as a lubricant for the economy due to structural weaknesses.

Chapter 3

The second research investigation (Chapter 3) is a comprehensive review of the development of growth theory and the position of institutional theory within the trajectory of economic growth. We consider this to be a theoretical foundation in subsequent empirical studies in the subsequent chapters.

We review the development of economic growth theory (RQ3.1) that began with the classical stream of Adam Smith, who estimated that the economic progress of a nation would be achieved if there were specific divisions of labor and the invisible hand in a free market would transform individuals to gain profits for the benefit of society. On the other hand, David Ricardo suggested that a free market system must be controlled, especially for the working class because it would ensure better accumulation rather than the interests of specific groups with certain intentions. Meanwhile, Malthus emphasized population control where he stated that in the future, society would experience famine due to the disparities between population and resources.

In the subsequent stage, the focus shifted to the neoclassical stream, with Robert Solow as the central figure. Solow's neoclassical model, which incorporated technological change as a key factor in long-term growth, expanded upon the Harrod-Domar model by demonstrating that investment and savings are relevant only in the short run. Solow's model emphasized the role of technological change in driving scale increases. However, despite its foundational status in subsequent research, criticisms emerged regarding the "Solow Residual," which referred to the inconsistent relationship between technological change and the actual business cycle. Subsequently, Romer added to his critiques of Solow's concept of long-term growth, which considered technology as an exogenous factor. Romer argued that technology is endogenous, generated from within the model itself through investment in research and development (R&D). Romer's model highlighted the importance of knowledge, innovation, and human capital in driving long-term growth, demonstrating that policies that support R&D and education can directly impact economic growth.

We also reviewed the institutional trap (RQ3.2), where the fundamental question in economic growth is why some countries are left behind in prosperity, despite theories such as Solow and Romer providing valuable insights into the growth mechanisms. According to North and Thomas, factors such as innovation, economic scale, education, and capital accumulation not only contribute to growth but are at the core of it, with institutional differences being the most fundamental determinant. Well-functioning institutions have three main characteristics: they protect property rights, limit the power of the elite, and provide equal opportunities for everyone. Acemoglu and Robinson differentiate institutions into inclusive ones that support widespread participation and economic growth, and extractive ones that benefit a select few and create inequality. In the context of Indonesia, anti-corruption programmes can be considered an implementation of inclusive institutional theory, which prevents corrupt practices and promotes good governance to drive economic growth.

Chapter 4

Subsequently, the analysis of the KPK's institutional design (Chapter 4) is provided, wherein in this chapter, the dynamics of the KPK's institutional history, performance, and anti-corruption programmes at the local government level are discussed.

To analyze the KPK's institutional design (RQ4.1), this study relies on the analysis of issues faced by the KPK before and after the revision of the KPK law. The KPK was born out of legal reform and possesses strong powers in eradicating corruption in Indonesia, including conducting investigations and prosecutions simultaneously. Between 2003 and 2018, the KPK's institutional design remained unchanged, but the revision of the KPK law in 2019 brought significant changes that were considered to weaken the KPK. One of the changes was the establishment of the Supervisory Board, which was appointed by the President and the DPR, raising concerns about the independence of the KPK. The Supervisory Board has broad powers, including granting wiretapping and search authorization, as well as the ability to dismiss KPK leaders and staff, making their position higher than that of KPK leaders. This revision was considered an attempt to reduce the KPK's power, which was perceived to hinder the government's activities and investment in areas where KPK officials were arrested.

Moreover, to analyze the KPK's performance over time (RQ4.2), we rely on findings from KPK investigation reports. The KPK's institutional design is centralized in the capital city without regional branches, which limits the space for monitoring corruption. Nonetheless, the KPK has shown impressive performance in eradicating corruption, despite having only limited

supervision and a small number of investigators. Collaboration with the Police and Public Prosecutor's Office, which has branches at all levels of government, offers new hope for the eradication of corruption. The KPK has handled major corruption cases well, targeting both central and local government officials, as well as private individuals. Since its establishment in 2002, the KPK has taken progressive steps to eradicate corruption at the executive, legislative, and judicial levels, with 183 defendants from local officials between 2004 and 2023.

To address the attention of the KPK towards eradicating corruption at the local level (RQ4.3), we focused on relevant literature regarding the MCP KPK programme. We found that the MCP programme developed by the KPK in 2018 aimed to evaluate the local government of Indonesia and reduce corruption in local government bureaucracy. The programme includes eight areas of intervention, including planning and budgeting, procurement, permits, internal audit strengthening, management of ASN, optimalization of regional income, asset management of the region, and village funds. Indicators within the programme were designed to close loopholes for corruption in local government administration. Each area of intervention has detailed indicators and sub-indicators, which are expected to improve transparency, supervision, and accountability in local government management.

Chapter 5

Fifth Chapter explores the data requirements and models used in the study. We present the data used as anti-corruption variables and political aspects. Additionally, we present the models used in this study.

To answer what indicators were used as anti-corruption and political variables (RQ5.1), we rely on existing literature references with some new modifications. With regard to anti-corruption variables, we emphasize the three main anti-corruption variables applied by the KPK, namely anti-corruption in planning and budgeting, procurement of goods and services, and licensing. According to KPK data, these three variables have large corruption gaps in various local government cases. Meanwhile, in terms of local political aspects, this study also refers to various literatures where we found four variables, namely political concentration, fiscal dependency, party affiliation, and incumbent status.

To construct models (RQ5.2) used in this study, we rely on two-panel period and the difference-in-differences (DiD) method. In these models, we formulated two models, namely the basic model that only uses anti-corruption variables to estimate local economic growth. Additionally, we also added an interaction model between anti-corruption and local politics.

Meanwhile, the DiD method is used to see if there is a difference in local government-local government before and after the anti-corruption programme was implemented.

Chapter 6

The sixth research investigation (Chapter 6) analyzed the impact of the anti-corruption programme (MCP) on local economic growth. Additionally, this study evaluated the impact of those programmes mediated by political aspects. We utilized a unique dataset at the district and city level across the entire Indonesian archipelago, both for anti-corruption, political, and control variables such as economy and demography.

To investigate the impact of anti-corruption measures on local economic growth (RQ1), this study observed three patterns of data. First, by involving all data from districts and cities, we found that reducing corruption in two areas, namely planning and budgeting, as well as the authorization area, has a positive impact on local economic growth. However, when control of corruption in the procurement of goods and services was increased, it actually had a negative impact on local economic growth. Second, by looking at the impact from high-index anti-corruption areas, our findings showed a positive correlation with local economic growth. On the other hand, the results of the difference-in-differences method were negative, further emphasizing that if anti-corruption measures are increased in corrupt districts and cities, it will have a detrimental effect on local economic growth in those areas.

Investigating the local political interaction with anti-corruption efforts in three key areas essential for local economic growth (RQ2) provides deep insights into the complexities of political dynamics that can indirectly impact local economic growth. Similar to the step in the first research question previously, when involving all the data from districts and cities - first, we found the interaction between the concentration of political power in local house representatives (LHR) with planning and budgeting areas, and permit areas have a positive impact on local economic growth, while the interaction with procurement areas is negative. Second, the interaction between fiscal autonomy with planning and budgeting areas, and procurement areas is negative towards local economic growth, while the interaction with permit areas indicates a positive impact on local economic growth. Third, the interaction between major mayors who have political affiliations with national coalition parties at the local level with two anti-corruption areas, namely planning and procurement, and the provision of goods and services gives a negative impact on local economic growth, while the interaction with the permit area provides a positive impact on local economic growth. Fourth, the interaction

between the status of incumbent with two anti-corruption areas, namely planning and procurement, and procurement of goods and services has a negative impact on local economic growth, while the interaction with the permit area provides a positive impact on local economic growth.

In addition, our findings regarding the relaxation model, which only considers the influence of high anti-corruption index regions, align with our hypothesis. Firstly, we discovered that the political concentration in LHR has a negative impact on local economic growth for each of the three anti-corruption variables. Secondly, the results of the interaction between fiscal capacity and the three anti-corruption variables show a positive impact on local economic growth. Thirdly, the interaction between the incumbent status and the three anti-corruption variables is negatively impacting local economic growth. Fourthly, the findings of the interaction between the incumbent status and all anti-corruption variables can lead to a decrease in local economic growth.

Chapter 7:

Seventh chapter delves into the causes of obstructed anti-corruption channels. To answer how does the interaction between anti-corruption programme and local politics (RQ 7), this study, using institutional theory to analyze the design and inconsistency of institutions. It was found that institutional capacity in the areas of planning, budgeting, and procurement is better in Java than in other regions, while permits are better in Java, Sumatra, and Kalimantan. The imbalance between formal and informal institutional arrangements, such as a culture of patronage and complex political structures, impedes anticorruption efforts and strengthens local political oligarchies. To address this issue, national political will at the highest level, anticorruption education for legislators and local government officials, and improvement of the independence of the Internal Audit Agency (Inspectorate) are needed.

Theses

The results of our first empirical study (**Chapter 6**) are consistent with our first hypothesis, suggesting that the role of anti-corruption at the local level can boost local economic growth.

Thesis 1: Strengthening the steps taken against corruption in local government planning and budgeting can redirect revenue streams to support economic growth. In addition, improved oversight of local business permits can increase investor confidence. However, stringent

oversight in procurement can hinder growth, as the cash-based nature of 70% of the local budget allocated through tenders suggests negative impacts of corruption in this sector.

Thesis 2: The political aspects of local anti-corruption programmes negatively impact the growth of the local economy. High political concentration in LHR and the interests of DPRD members in the allocation of 'Representation Allowance' hinder the effectiveness of the programme. The current status of the regional head is also often used for personal gain. Furthermore, the interests of the national coalition party aligning with the local political affiliation of the mayor can disrupt the anti-corruption programme.

Thesis 3: The text contains a negative trend in the local economic growth, both before and after the implementation of the anti-corruption programme, particularly in corrupt local government. Strengthening anti-corruption measures in the planning, procurement, and licensing sectors can actually reduce local economic growth, showing the failure of the programme in corrupt areas. This supports the view that in developing corrupt countries, corruption functions as a "grease the wheels."

The second empirical study (**Chapter 7**) investigates the local political role in anti-corruption channels with a negative impact on local economic growth, using the perspective of institutional theory. The findings of this study show that there are problems with the institutional capacity and inconsistency of institutional arrangements.

Thesis 4: The capacity of anti-corruption institutions varies at the local level, with better performance in Java in terms of planning, budgeting, procurement, and public oversight, as well as higher quality public monitoring. However, licensing in Java, Sumatera, and Kalimantan indicates better capacity than in eastern Indonesia.

Thesis 5: Efforts to eradicate corruption are often hindered by the incompatibility between formal and informal institutions, where complex cultural patronage and political networks weaken the effectiveness of oversight and public participation, reinforcing local political oligarchy.

8.2 Limitation and future research agenda

This study has certain limitations, including the limited scope of data and literature used, a limited geographic focus on the Indonesian context, and a theoretical approach that is focused on institutional theory, which may not comprehensively cover the complexity of corruption. Additionally, political dynamics and policy changes that occurred after the research period may

also affect the relevance of the findings. For future research agendas, it is recommended to conduct cross-national comparative studies, further investigation into the economic impact of corruption, analysis of local political dynamics, and longitudinal studies on institutional reforms post-2019 KPK law revision. It is also suggested to explore the role of civil society in strengthening anti-corruption initiatives at various levels of government.

Concerning the second empirical study, the study has certain limitations, such as limited generalizability of the results to specific local contexts, where political and economic dynamics may differ in other regions, and limitations in measuring the long-term impact of anti-corruption programmes on local economic growth. Additionally, the study may not fully consider external factors that influence local economies, such as national or global policies that can significantly affect the observed results. For future research agendas, it is recommended to conduct more in-depth analysis of regional variations in the implementation of anti-corruption programmes and their impact on local economic growth, as well as to develop longitudinal studies that monitor the long-term effects of anti-corruption policies. Research is also needed to explore the interaction between local political factors and economic policies, as well as how interventions at the central level can impact the effectiveness of anti-corruption programmes at the local level. Additionally, conducting cross-national comparative studies is needed to test the "grease the wheels" hypothesis in the context of other developing countries, in order to gain a more comprehensive understanding of the relationship between corruption and economic growth.

In addition, the third empirical study has several limitations that require attention. First, the research relies on secondary data that may have limitations in terms of accuracy and completeness of the data, which can affect the validity of the findings. Second, the institutional theory approach used in the research, although beneficial, may not fully capture all complex factors that influence the effectiveness of anti-corruption programmes, such as socio-economic factors. Additionally, the local political dynamics that continue to change can affect the relevance of the findings over time, so the results obtained may not fully reflect the conditions in the future. To address the future research agenda, it is recommended to complement this research with primary data through field surveys and in-depth interviews to obtain a more accurate and contextual understanding. Further research can also use a multidisciplinary approach that combines institutional perspectives with socio-economic analysis to understand the complexity of corruption at the local level. Additionally, a longitudinal study that monitors changes in institutional capacity and the inconsistency of institutional capacity over time will provide a deeper understanding of the effectiveness of anti-corruption programmes. Finally, it

is important to explore the role of civil society and how strengthening public participation capacity can contribute to the success of anti-corruption programmes at the local level.

Appendix

9.1 Appendix A to Chapter 2

Step by step of systematic review

Stage 1. Planning

1. Identifying the need for a review: SALSA framework
 - Search; **A**ppraisal; **S**ynthesis; **A**nalysis
2. Specifying research question(s)
 - a) What are the various anti-corruption programmes implemented by the Indonesian government?
 - b) Which sectors have received attention from the government in its efforts to eradicate corruption in Indonesia?
 - c) What is the role of political aspects in anti-corruption efforts?
 - d) How does anti-corruption policy impact economic growth in Indonesia?
 - e) What theoretical frameworks are commonly used in various anti-corruption literature in Indonesia?
3. Scoping search
 - a) PICOC technique

In this study we rely on the PICOC process as a scoping search technique to answer research questions. The following table is the search scope.

Table A1. PICOC technique

Population	Indonesia, Local governments (Province, Regency, City)
Intervention	Corruption, anti-corruption strategy, Initiative anti-corruption
Comparison	Different local political situations (for example, areas with high vs. low levels of corruption, or with different political structures)
Outcomes	National growth, Local economic growth, economic performance
Context	Social, economic and political conditions in Indonesia

Concept and alternative term that use to break down the research questions, are providing on the Table 2 below.

Table A2. Concept of CIMO

No	Concept 1	Concept 2	Concept 3	Concept 4
	Context	Intervention	Mechanism	Outcomes
1	Global, regions, Indonesia, National, National level	Corruption, red-tape, bribery, anti-corruption	Bribery, procurement	Economy, economic growth
2	Developing countries, regional, Sub-national	Hand arrest operation,	Gratification,	Local growth, government expenditure

		eradication corruption		
3	Provinces, Regency, City, Local government	Collusion, nepotism, abuse of power	Public complaint, project tender	Local budgeter, product per capita

b) Table A3. Inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Relevance	<ul style="list-style-type: none"> • Studies that explicitly investigate the relationship between anti-corruption policies or initiatives and economic growth. • Studies that explore the impact of local political factors on the effectiveness of anti-corruption policies and their effect on economic growth. 	<ul style="list-style-type: none"> • Studies that do not discuss the relationship between anti-corruption policies and economic growth. • Studies that do not consider the local political aspect in their analysis.
Geographies	<ul style="list-style-type: none"> • The research conducted in Indonesia or using data from Indonesia. 	<ul style="list-style-type: none"> • Research conducted outside of Indonesia without direct relevance or implications for the Indonesian context.
Type of publication	<ul style="list-style-type: none"> • Peer-reviewed journal articles. • Relevant book chapters or sections. • High-quality theses and dissertations. • Research reports from recognized institutions. 	<ul style="list-style-type: none"> • Opinion articles, editorials, and reviews without empirical basis. • Internal reports or unverifiable publications.
Time frame	<ul style="list-style-type: none"> • Academic studies published post-1998 recognize the significance of the anti-corruption agenda in Indonesia following the 1998 reforms. 	<ul style="list-style-type: none"> • Studies published before 1998.
Language	<ul style="list-style-type: none"> • English and Bahasa (Indonesian Language) 	<ul style="list-style-type: none"> • Apart from English and Indonesian
Method	<ul style="list-style-type: none"> • Studies that utilize clear research designs, including both quantitative and qualitative methods, are recommended. • These studies should employ primary or secondary data that can be verified. 	<ul style="list-style-type: none"> • Studies with weak or unclear methodological designs, significant biases, or unverifiable data should be avoided.

4. Developing research protocol

We use PRISMA to develop the research protocol. The results of this section are displayed via the PRISMA Diagram at the end of Appendix 1.

Stage 2: Conducting literature search

1. Searching (potentially) relevant studies

The aim of this step is to ensure and identify papers that suit the needs of this study. We use the PEARL-GROWING strategy to achieve our goals.

Next, belong to this study: 1) allocating a search string on the basis of the research topic; 2) define the library of digital material; 3) perform a search example; 4) set string; 5) re-execute the search; and 6) sort the main study items which match on the search string and retrieve them. We use 3 digital databases for this study:

Table A4 Database of literatures

ID	Database	Website
1	Scopus	https://www.scopus.com/home.uri
2	Web of Science	http://webofknowledge.com/
3	Google Scholar	Scholar.google.com

For the search string for articles in each data base, we combined the words in Table 2. The results were further developed in a systematic review protocol.

The next step in conducting a search is:

What Should I search?

- Identified keywords (search string). In this case, the keyword combination has been described in table 1 above.
- Think of different ways of expressing these terms: synonym, singulars, plurals, acronyms, different spellings.
- Consider how wildcard and phrase searching may help my search.
- Utilizes Boolean operator: and, or, not.

Additional searching:

- Grey literature. We did not use grey literature. This study relies on trusty paper that coming from good journal and publisher.
- Checking bibliographies and reference list
- Citation searching
- Author searching
- Hand searching
- Consultation with expert

2. Screening and selecting studies.

The screening and selecting process carried out in this study is depicted in the diagram below.

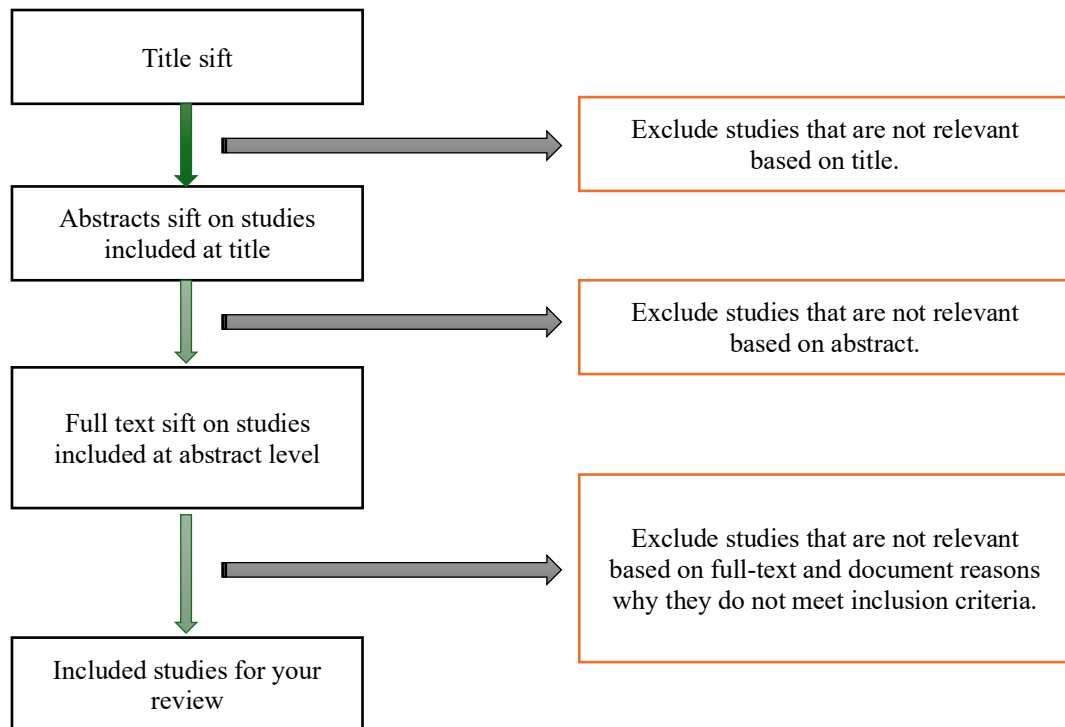


Figure A1. Process selecting studies.

Next processes are:

- *De-duplicate references.* Here we use Zotero. First, we collect all the citation history files and then input them into Zotero. Second, we carry out a merge process if there are the same references. This happens very often, especially in this study because it uses 2 databases, namely Scopus and WoS.
- *Develop and pilot screening and selection tool.* Inclusion and exclusion criteria will be used to refine and shape the review questions.
- *Screen title and abstracts identified via search against inclusion and exclusion.*
- *Obtain the full-text papers of all potentially eligible references.*
- *Use screening and selection tool to help identify full-text paper for inclusion review.*

3. Study Quality Assessment

In this process we use quality assessment issues to include issues: Transparency, accuracy-purposefully, utility, and propriety. Furthermore, to carry out the assessment, we adopted the method by Dixon-wood et al. (2006).

- Are the aims and objectives objective research clearly stated?
- Is the research design clearly specified and appropriate for the aims and objectives of the research?
- Does the research provide a clear account of the process by which their findings were produced?
- Do the research display enough data to support their interpretations and conclusions?
- Is the method of analysis appropriate and adequately explicated?

4. Data extraction

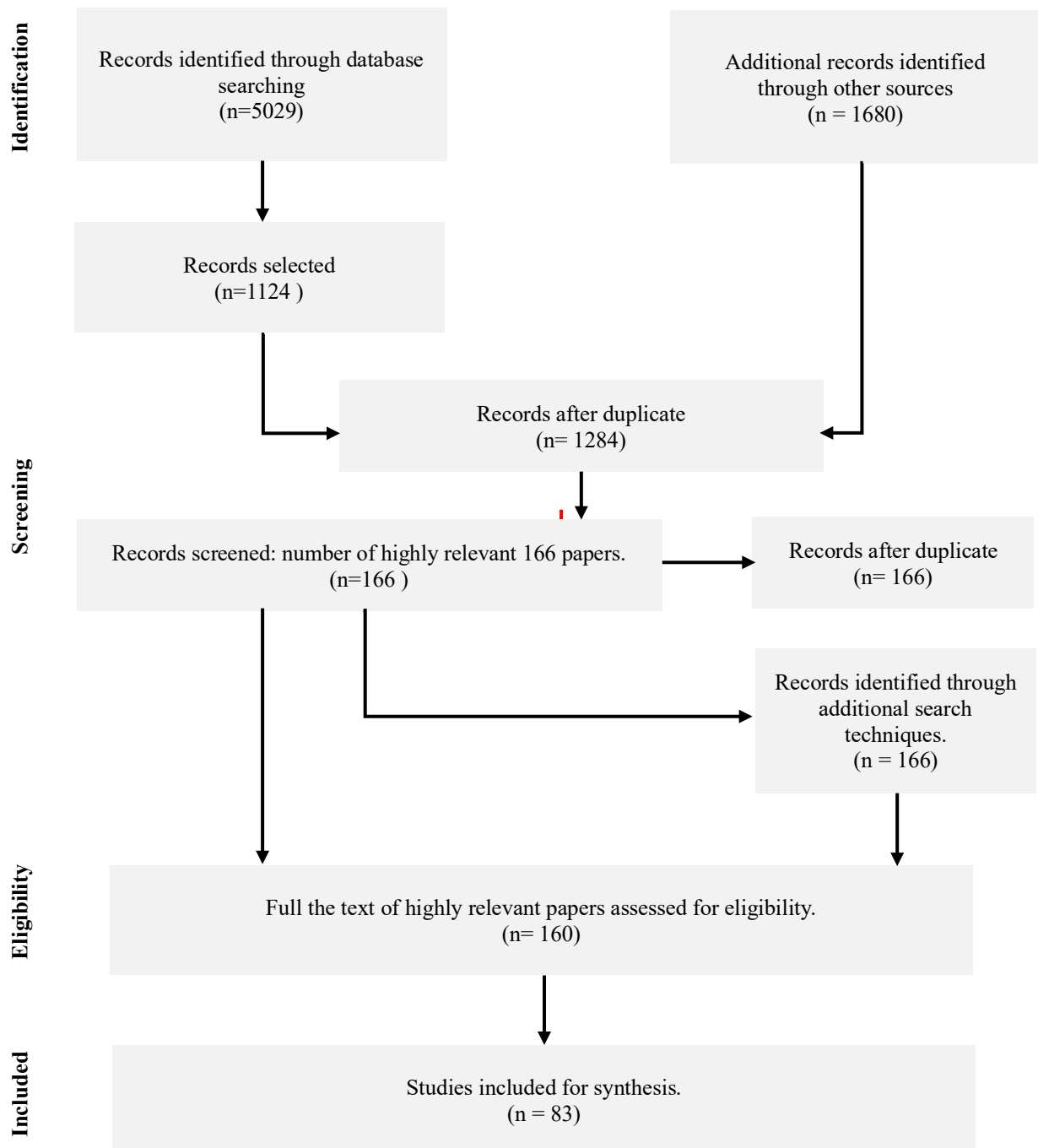
For data extraction, we apply the following steps:

- Author and publication details: author(s), title, year, journal, publisher, etc.
- Paradigm: (academic discipline: economics, management, public administration, etc)
- Aim and focus of the paper: *selecting those sentences from the paper.*
- Method detail: *sample selection, size, method design, response rate, location of study, etc.*
- Theory of models
- Data characteristic
- Segmentation
- Other relevant and useful information

Stage 3. Reporting

This section is the final part of the systematic literature review process. The presentation of the report really depends on the taste of the researcher. The presentation in this study can be seen from the structure of this study starting from the Introduction to the Conclusion.

Figure A2 PRISMA: protocol for systematic review



9.2 Appendix B to Chapter 4

Figure B1. Distribution of corruptors on geography

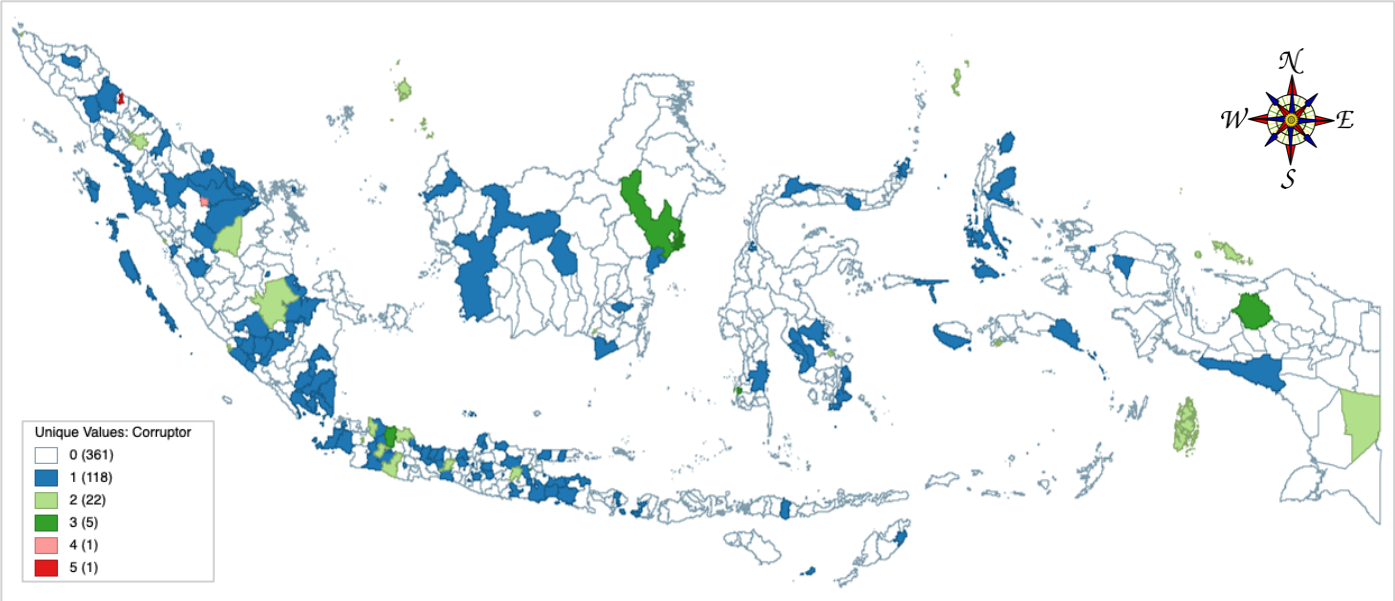


Table B1 List of corruptors in the local government.

No	Year	Name	Position	District/City/Province	Case	Area
1	2004	Abdullah Puteh	Governor	Province of Aceh	Order for Helicopter MI2 Pie Rostov Russia (Rp 12.5 Bln)	Procurement
2	2004	Zaenal Bakar	Governor	Province of Sumatera Barat	Abuse of power on local budgeting	Budgeting and planning
3	2004	Toto Ary Wibowo	Major	District of Temanggung	Education grant for Parliamentary member children (Rp 1.8 Bln). Corruption in local election fund (Rp 2.3 Bln)	Budgeting and planning
4	2004	Abdurrahman Sarbini	Major	District of Tulang Bawang	Fast boat (Rp2.8 M), Islamic Mosque (Rp 2.5 Bln)	Procurement
5	2005	Hendry Boedoro & Warsa Susilo	Major	District of Kendal	Local government budget, transfer fund, project fee. (Rp24,31 Bln)	Budgeting and planning, procurement
6	2006	Suwarna Abdul Fatah	Governor	Province of Kalimantan Timur	Land Acquisition.	Procurement
7	2007	Sjahriel Darham	Governor	Province of Kalimantan Selatan	Abuse of power on local budgeting	Budgeting and planning
8	2007	Thomas Alva edison Ondy	Vice Major	District of Biak Numfor	Procurement of machinery	Procurement
9	2008	Samsuri Aspar	Deputy Major	District of Kutai Kartanegara	Social Fund (120 Bln)	Budgeting and planning
10	2008	Ramli	Deputy Major	City of Medan	Procurement of Morita brand fire trucks (Rp3.69 Bln)	Procurement
11	2008	Saleh Djasit	Governor	Province of Riau	Fire trucks procuring (Rp 4.719 Bln)	Procurement

12	2008	Teuku Azmun Jaafar	Major	District of Pelalawan	Abuse of licensing processes in the issuance of IUPHHK-HT/IPK (license to exploit forest product) – (Rp12.36 Bln)	Licensing
13	2008	Syaukani Hasan Rais	Major	District of Kutai Kartanegara	Social fund (Rp 120 Bln)	Budgeting and planning
14	2008	Zaini Arony	Major	District of Lombok Barat	Change of status land and buildings	Asset management
15	2008	Daud Sulaiman Betawi	Major	District of Yapen Waropen	Local government budget (Rp8.8 Bln)	Budgeting and planning
16	2008	Armen Desky	Major	District of Aceh Tenggara	Local government budget (Rp202 Bln)	Budgeting and planning
17	2008	Agus Supriadi	Major	District of Garut	Local government budget, local election, gratification (Rp10,8 Bln)	Budgeting and planning
18	2008	Vonnie Anneeke Panambunan	Major	District of Minahasa Utara	Feasibility study of Samarinda Airport	Procurement
19	2008	Abdillah	Major	City of Medan	Procurement of Morita brand fire trucks (Rp3.69 Bln)	Procurement
20	2008	Jimly Rimba Rogi	Major	City of Manado	Suspicion of misuse local government budget and fictional project (Rp 48 Bln)	Budgeting and planning
21	2008	Baso Amirudin Maula	Major	City of Makassar	Fire trucks procuring (Rp 9,887 Bln)	Procurement
22	2009	Danny Setyawan	Governor	Province of Jawa Barat	Procurement of fire trucks	Procurement
23	2009	Sjahrial Oesman	Governor	Province of Sumatera Selatan	Accept bribes - Application for conversion of the Air Telang Beach protected forest (Rp5 Bln)	Licensing
24	2009	Ismeth Abdullah	Governor	Province of Riau	Procurement of fire trucks	Procurement

25	2009	Ismunarso	Major	District of Situbondo	Local government budget (Rp45.7 Bln)	Budgeting and planning
26	2009	Jules F. Warikar	Major	District of Supiori	Market and official housing development projects (Rp40 Bln)	Budgeting and planning
27	2009	Hamid Rizal	Major	District of Natuna	Profit Sharing Fund (Rp72 Bln)	Budgeting and planning
28	2009	Daeng Rusnadi	Major	District of Natuna	Profit Sharing Fund (Rp72 Bln)	Budgeting and planning
29	2009	Arwin AS	Major	District of Siak	Granting business permits for the utilization of timber forest products and plantation forests (Rp301 Bln)	Licensing
30	2010	Lukas Uluratu	Deputy Major	District of Maluku Utara	Procurement 6 of ships	Procurement
31	2010	Syamsul Arifin	Governor	Province of Sumatera Utara	Abuse of power on local budgeting	Budgeting and planning
32	2010	Agusrin M Najamudin	Governor	Province of Bengkulu	Distribution and use of land and building tax revenue sharing funds	Local Tax
33	2010	Raja Thamsir Rahman	Major	District of Indragiri hulu	Local government budget (Rp114 Bln)	Budgeting and planning
34	2010	Yesaya Buenei	Major	District of Waropen	Grant for local election (Rp 3 Bln)	Budgeting and planning
35	2010	Muhammad Zainal Abidin	Major	District of Jember	Procurement of asphalt recycling machines (Rp1,5 Bln)	Procurement
36	2010	Sjahrazad Masdar	Major	District of Lumajang	Corruption in the legal aid of the Jember Government (Rp 416 Mln)	Budgeting and planning
37	2010	Klemen Tinal	Major	District of Mimika	Embezzlement of official residence inventory items	Asset Management

38	2010	Morkes Effendi	Major	District Ketapang	Management of Forestry fund contributions	Budgeting and planning
39	2010	Harunata	Major	District Lahat	Project fee (gratification) – Citra Niaga Project	Procurement
40	2010	Yusak Yaluwo	Major	District of Boven Digoel	Procurement of one unit of LCT 180 Tanker Ship. Embezzlement of regional treasury funds. (Rp66.76 Bln)	Procurement, Budgeting and planning
41	2010	Binahti B Baeha	Major	District of Nias	Management of natural disaster management funds (Rp3.8 Bln).	Budgeting and planning
42	2010	Indra Kusum	Major	District of Brebes	Procurement of land for markets in Brebes Regency (Rp7.8 Bln)	Procurement
43	2011	Marselino Yomkomdo	Deputy Major	District of Boven Digoel	Local government budget	Budgeting and planning
44	2011	Erwan Kurtubi	Deputy Major	District of Pandeglang	Bribery of Local government loan approval (Rp 1.5 Bln)	Budgeting and planning
45	2011	Ramlan Zas	Major	District of Rokan hulu	Procurement of power generating machines.	Procurement
46	2011	Buhari Matta	Major	District of Kolaka	Issuance of Mining Authorization	Licensing
47	2011	Ismet Mile	Major	District of Bone Bolango	Local government budget	Budgeting and planning
48	2011	Thamsir Rachman	Major	District of Indragiri Hulu	Using of Routine Funds	Budgeting and planning
49	2011	Mohammad Santoso	Major	District of Bojonegoro	Cepu Block Land Socialization Fund (Rp3.8 Bln)	Budgeting and planning

50	2011	Yance	Major	District of Indramayu	Land acquisition for the construction of the Indramayu 1 Steam Power Plant project.	Procurement
51	2011	Edison Saleleubaja	Major	District of Kepulauan Mentawai	Forestry funds	Budgeting and planning
52	2011	Fuad Amin Imron	Major	District of Bangkalan	Collect 20% of Original Regional Income, and project fee.	Local tax
53	2011	Agus Riyanto	Major	District of Tegal	Slawi City Ring Road Project.	Procurement
54	2011	Teddy Tengko	Major	District of Kepulauan Aru	Misuse of Central Government assistance funds sourced from Land and Building Tax funds.	Budgeting and planning
55	2011	Muhammad Kasubah	Major	District of Halmahera Selatan	Issuance of mining authorization permits.	Licensing
56	2011	Dudung Bachtiar	Major	District of Purwakarta	Natural disaster relief.	Budgeting and planning
57	2011	Satono	Major	District of Lampung Timur	Placement of East Lampung Regency regional cash funds at PT BPR Tripanca Setiadana.	Budgeting and planning
58	2011	Murman Effendi	Major	District of Seluma	Bribery of 30 members of the Seluma Parliament	Procurement
59	2011	Fahuwasa Laia	Major	District of Nias Selatan	Bribery on re election	Local reelection
60	2011	DS Julianus Mnusefer	Major	District of Supiori	Local government budget	Budgeting and planning
61	2012	Monang Sitorus	Major	District of Toba Samosir	Corruption of General Allocation Funds (DAU) and Special Allocation Funds (DAK)	Budgeting and planning
62	2012	M. Salim	Major	District of Rembang	Land procurement	Procurement

63	2012	Mahmud Amin	Major	District of Musi Rawas	Corruption of Regional Secretary operational funds	Budgeting and planning
64	2012	Elyakim Simon Djalil	Major	District of Sintang	Misuse of Forest Resources Provision funds	Budgeting and planning
65	2012	Muhidin	Major	City of Banjarmasin	Completion of boundaries.	Asset Management
66	2012	Andriansyah	Major	District of Tanah Laut	Completion of boundaries.	Asset Management
67	2012	Amran	Major	District of Buol	Receiving something or a promise related to the process of managing Plantation Cultivation Rights.	Licensing
68	2012	Rina Iriani Ratnaningsih	Major	District of Karanganyar	Misuse of housing subsidy assistance from the Ministry of Public Housing.	Budgeting and planning
69	2012	Bando Amin	Major	District of Kepahiang	Bribery of Mal Project	Licensing
70	2013	Suwandi	Deputy Major	District of Mojokerto	Misuse of regional treasury funds	Budgeting and planning
71	2013	Ratu Atut Chosiah	Governor	Province of Banten	Bribery of judges in Regional Head Election disputes	Bribery
72	2013	Rusli Zainal	Governor	Province of Riau	Bribe and bribery of local regulation	Bribery
73	2013	Andi Idris Galigo	Major	District of Bone	Issuance of exploration authorization permits.	Licensing
74	2013	Pandopotan Kasmin Simanjuntak	Major	District of Toba Samosir	Land acquisition	Asset management
75	2013	Achmady	Major	District of Mojokerto	Misuse of regional treasury funds	Budgeting and planning
76	2013	Aceng Fikry	Major	District of Garut	Gratification of project	Procurement
77	2013	Aries Sandi Dharma Putra	Major	District of Pesawaran	Misuse of special allocation funds.	Budgeting and planning

78	2013	Marthen Luther Dira Tome	Major	District of Sabu Raijua	Local government budget of education	Budgeting and planning
79	2013	Umar Djabumona	Major	District of Kepulauan Aru	Abuse of authority in office	State apparatus civil management
80	2013	Hambit	Major	District of Gunung Mas	Election disputes – Bribery of Judge	Local election
81	2013	Hidayat Batubara	Major	District of Mandailing Natal	Accept bribes from civil servant for position.	State apparatus civil management
82	2013	Subardi	Major	City of Cirebon	Providing credit at PD Bank Pasar Cirebon City	Budgeting and planning
83	2013	Mahyudin	Major	City of Pariaman	Procurement of land for sports facilities and infrastructure	Procurement
84	2013	MJ. Papilaja	Major	City of Ambon	Procurement of land for public cemeteries	Procurement
85	2013	Jefferson Soleiman Montesqieu Rumajar	Major	City of Tomohon	Bribery of financial report	Bribery
86	2014	Amir Hamzah	Deputy Major	District of Lebak	Bribery for local election	Local election
87	2014	Bandjela Paliudju	Governor	Province of Sulawesi Tengah	Money Laundering	Budgeting and planning
88	2014	Barnabas Suebu	Governor	Province of Papua	Detailed Engineering Design	Procurement
89	2014	Annas Maamun	Governor	Province of Riau	Submission of Revision of Forest Function Transfer	Licensing
90	2014	Untung Saroni Wiyono	Major	District of Sragen	Local government budget and Local Bank	Budgeting and planning
91	2014	I Nengah Arwana	Major	District of Bangli	Social Funds	Budgeting and planning
92	2014	Syamsu Rahim	Major	District of Solok	Sale of the former Regent's official residence	Asset management

93	2014	Abdullah Vanath	Major	District of Seram Bagian Timur	Management of deposits	Budgeting and planning
94	2014	Bernard Sagrim	Major	District of Maybrat	Misuse of grant funds and financial assistance funds	Budgeting and planning
95	2014	Ahmad Hidayat Mus	Major	District of Kepulauan Sula	Misuse of funds for the construction of the Sanana Grand Mosque	Budgeting and planning
96	2014	Rachmat Yasin	Major	District of Bogor	Providing Recommendations for Swapping Forest Areas	Licensing
97	2014	Yesaya Sombuk	Major	District of Biak Numfor	Bribery of civil servants due to TALUD project	licensing
98	2014	Ade Swara	Major	District of Karawang	Space Utilization Approval Letter Permit	Licensing
99	2014	Raja Bonaran Situmeang	Major	District of Tapanuli Tengah	Bribery for local election	Local Election
100	2014	Fahriyanto	Major	City of Magelang	Local government budget	Budgeting and planning
101	2014	Muhlis Rahman	Major	City of Pariaman	Procurement of land for sports facilities and infrastructure	Procurement
102	2014	Jhon Manopo	Major	City of Salatiga	Construction of the South Ring Road	Procurement
103	2015	Gatot Pujo Nugroho	Governor	Governor of Sumatera Utara	Corruption of social grant	Budgeting and planning
104	2015	I Wayan Candra	Major	District of Klungkung	Procurement of land for the construction of a pier	Procurement
105	2015	Elly Engelbert Lasut	Major	District of Talaud	Special Allocation Fund	Budgeting and planning
106	2015	Achmad Amur	Major	District of Pulau Pisau	Money Laundering	Budgeting and planning

107	2015	Pahri Azhari	Major	District of Musi Banyuasin	Bribery of members of parliament – accepted of Government performance report	Bribery
108	2015	Budi Antoni Aljufri	Major	District of Empat Lawang	Local election disputes	Bribery
109	2015	Rusli Sibua	Major	District of Pulau Morotai	Local election disputes	Bribery
110	2015	Ikmal Jaya	Major	City of Tegal	Swap the ground.	Asset management
111	2015	Ilham Arief Sirajudin	Major	City of Makassar	Rehabilitation, Management and Transfer Cooperation for Water Treatment Plants	Licensing
112	2015	Eep hidayat	Major	District of Subang	Land and Building Tax Collection Fees	Local tax
113	2016	Ridwan Zakaria	Major	District of Buton Utara	Misuse of official travel expenses	Budgeting and planning
114	2016	Taufiqurrahman	Major	District of Nganjuk	Kedungingas Bridge Construction Project	Procurement
115	2016	Sri Hartini	Major	District of Klaten	Buying and selling positions	SAC Management
116	2016	Bambang Kurniawan	Major	District of Tanggamus	Bribery to the SAC	SAC Management
117	2016	Samsu Umar Abdul Samiun	Major	District of Buton	Bribery for local election	Local election
118	2016	Yan Anton Ferdian	Major	District of Banyuasin	Goods and services procurement projects	Procurement
119	2016	Ojang Suhandi	Major	District of Subang	Money laundering	Budgeting and planning
120	2016	Atty Suharti	Major	City of Cimahi	Bribery on traditional market	Procurement
121	2016	Bambang Irianto	Major	City of Madiun	Bribery on traditional market	Procurement
122	2017	Ridwan Mukti	Governor	Provinces of Bengkulu	Bribery on project tender	Procurement
123	2017	Amma Hi Mustary	Major	District of Banjarnegara	Granting permission to change the use of agricultural land to non-agricultural	Licensing

124	2017	Achmad Syafii	Major	District of Pamekasan	Misappropriation of Village Funds	Village Funds
125	2017	Arya Zulkarnain	Major	District of Batubara	Bribery over a concrete work project	Procurement
126	2017	Rita Widyasari	Major	District of Kutai Kartanegara	Granting of plantation location permits	Licensing
127	2017	Aswad Sulaiman	Major	District of Konawe Utara	Granting of Exploration Mining Authorization Permits and Exploitation Mining Authorization Permits as well as Exploration Mining Business Permits and Production Operation Mining Business Permits (Rp2.7 Tln)	Licensing
128	2018	Irwandi Yusuf	Governor	Province of Aceh	Bribery for the allocation of the Aceh Special Autonomy Fund	Budgeting and planning
129	2018	Zumi Zola	Governor	Province of Jambi	Bribery related to Ratification of Regional Revenue and Expenditure Budget Plans	Budgeting and planning
130	2018	Neneng Hasanah Yasin	Major	District of Bekasi	Licensing of Meikarta City	Licensing
131	2018	Zainudin Hasan	Major	District of Lampung Selatan	Procurement goods and services	Procurement
132	2018	Sunjaya Purwadisastra	Major	District of Cirebon	Buying and selling positions	SAC management
133	2018	Remigo Yolando Berutu	Major	District of Pakpak Bharat	Project tender	Procurement
134	2018	Irvan Rivano Muchtar	Major	District of Cianjur	Bribery for Special Allocation Funds for education	Budgeting and planning
135	2018	Nyono Suharli	Major	District of Jombang	Buying and selling positions	SAC management
136	2018	Marianus Sae	Major	District of Ngada	Bribery of project tender	Procurement

137	2018	Imas Aryumningsih	Major	District of Subang	Bribery of licensing	Licensing
138	2018	Abdul Latif	Major	District of Hulu Sungai Tengah	Bribery for Construction of Damanhuri Regional Hospital	Procurement
139	2018	Mustofa	Major	District of Lampung Tengah	Bribery for regional loan approval	Budgeting and planning
140	2018	Abu Bakar	Major	District of Bandung Barat	Buying and selling positions	SAC management
141	2018	Tasdi	Major	District of Purbalingga	Bribery for Procurement of Goods and Services	Procurement
142	2018	Agus Feisal Hidayat	Major	District of Buton Selatan	Bribery of project tender	Procurement
143	2018	Dirwan Mahmud	Major	District of Bengkulu Selatan	Bribery of project tender	Procurement
144	2018	Pangonal Harahap	Major	District of Labuhan Batu	Bribery of project tender	Procurement
145	2018	Ahmad Marzuki	Major	District of Jepara	Bribing the judge at the Semarang District Court	Bribery of the court
146	2018	Rendra Kresna	Major	District of Malang	Bribery related to providing supporting facilities to improve the quality of education	Procurement
147	2018	Ahmadi	Major	District of Bener Meriah	Bonded fees for infrastructure development projects sourced from the Aceh Special Autonomy Fund.	Procurement
148	2018	Syahri Mulyo	Major	District of Tulungagung	Fees for road improvement infrastructure development projects	Procurement

149	2018	Mustofa Kamal Pasa	Major	District of Mojokerto	Construction of telecommunications towers	Procurement
150	2018	Mohammad Yahya Fuad	Major	District of Kebumen	Bribery of project tender	Procurement
151	2018	Rudy Erawan	Major	District of Halmahera Timur	Infrastructure projects under the Ministry of Public Works and Public Housing in 2016	Budgeting and planning
152	2018	Muhammad Samanhudi Anwar	Major	City of Blitar	Bribery of project tender	Procurement
153	2018	Adriatma Dwi Putra	Major	City of Kendari	New Port Project	Procurement
154	2018	Asrun	Major	City of Kendari	New Port Project	Procurement
155	2018	Setiyono	Major	City of Pasuruan	Bribery of project tender	Procurement
156	2019	Yermias Bisai	Deputy Major	District of Waropen	Money laundering	Budgeting and planning
157	2019	Nurdin Basirun	Governor	Province of Kepulauan Riau	Reclamation permit bribery	Licensing
158	2019	Amril Mukin	Major	District of Bengkalis	Batu Panjang Road improvement project	Procurement
159	2019	Budi Budiman	Major	City of Tasikmalaya	Bribes in Special Allocation Funds	Budgeting and planning
160	2019	Khamami	Major	District of Mesuji	Bribery of project tender	Procurement
161	2019	Sri Wahyuni Maria	Major	District of Talaud	Bribery for Procurement of Goods and Services	Procurement
162	2019	Muzni Zakaria	Major	District of Solok Selatan	Bribery for Procurement of Goods and Services	Procurement
163	2019	Muhammad Tamzil	Major	District of Kudus	Buying and selling positions	SAC management
164	2019	Ahmad Yani	Major	District of Muara Enim	Bribery for Procurement of Goods and Services	Procurement

165	2019	Suryadman Gidot	Major	District of Bengkayang	Bribery for Procurement of Goods and Services	Procurement
166	2019	Agung Ilmu Mangkunegara	Major	District of Lampung Utara	Bribery for Procurement of Goods and Services	Procurement
167	2019	Supendi	Major	District of Indramayu	Bribery for Procurement of Goods and Services	Procurement
168	2019	Tengku Zulmi Edin	Major	City of Medan	Bribery for Procurement of Goods and Services. Buying and selling positions	Procurement and SAC Management
169	2020	Simon Nahak	Major	District of Malaka	Abuse of power on construction project	Budgeting and planning
170	2020	Aa Umbara	Major	District of Bandung Barat	Bribery related to procurement of emergency response goods for the COVID-19 pandemic disaster	Procurement
171	2021	Nurdin Abdullah	Governor	Province of Sulawesi Selatan	Bribery related to goods, services and infrastructure development	Procurement
172	2021	Alex Noerdin	Governor	Province of Sumatera Selatan	Corruption in purchasing natural gas by BUMD Regional Mining and Energy Companies.	Procurement
173	2021	Novi Rahman Hidayat	Major	District of Nganjuk	Buying and selling positions	SAC Management
174	2021	Puput Tantriana Sari	Major	District of Probolinggo	Buying and selling positions in the Villages	SAC Management
175	2021	Dodi Reza Alex Nurdin	Major	District of Musi Banyuasin	Bribery related to goods, services and infrastructure development	Procurement
176	2021	Andi Putra	Major	District of Kuantan Singingi	Extension of palm oil cultivation rights (HGU) permits.	Licensing

177	2021	Budhi Sarwono	Major	District of Banjarnegara	Bribery for Procurement of Goods and Services	Procurement
178	2021	Andi Merya Nur	Major	District of Kolaka Timur	Bribery for Procurement of Goods and Services	Procurement
179	2022	Rahmat Effendi	Major	District of Bekasi	Bribery for Procurement of Goods and Services and Buying and selling positions	Procurement and SAC Management
180	2022	Gafur Mas'ud	Major	District of Penajam Paser Utara	Bribery for Procurement of Goods and Services and licensing	Procurement and licensing
181	2022	Terbit Rencana Perangin Angin	Major	District of Langkat	Bribery for Procurement of Goods and Services	Procurement
182	2022	Tagop Sudarsono Soulisa	Major	District of Buru Selatan	Bribery for Procurement of Goods and Services and money laundering	Procurement and Budgeting and planning
183	2022	Ade Yasin	Major	District of Bogor	Bribery for processing Regional Government financial reports	Budgeting and planning
184	2022	Richard Louhenapessy	Major	City of Ambon	Bribery related to approval of principle permit for construction of 20 retail branches	Licensing
185	2022	Haryadi Suyuti	Major	City of Yogyakarta	Buying and selling positions	SAC management
186	2022	Mukti Agung Wibowo	Major	District of Pematang	Buying and selling positions	SAC management
187	2023	Muhammad Adil	Major	District of Meranti	Bribery related to the procurement of Umrah services with the mode of deducting Supplies Money (UP) and Replacing Supplies Money (GUP).	Procurement
188	2023	Yana Mulyana	Major	City of Bandung	Bribery for Procurement of Goods and Services	Procurement

189	2023	Ben Brahim S Bahat	Major	District of Kapuas	Budget cuts and accepting bribes	Budgeting and planning
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Source: KPK Report, 2004 – 2023.

9.3 Appendix C to Chapter 5

Figure C1. Region with or without treatment



Figure C2. Local gross domestic product per capita 2017 (US\$)

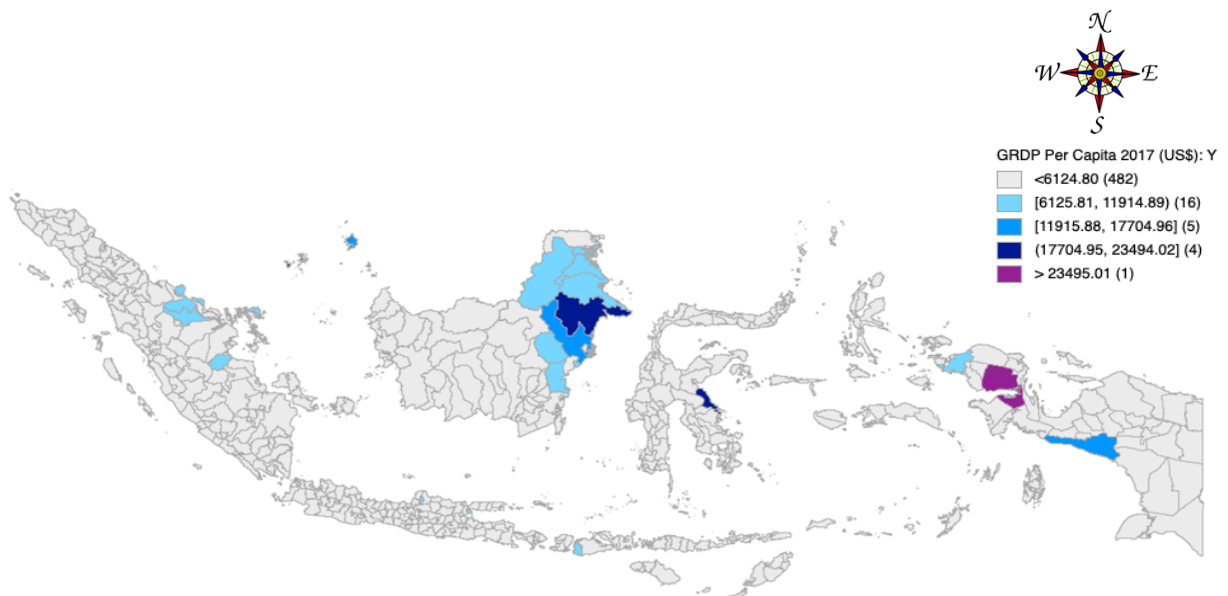


Figure C3. Local gross domestic product per capita 2022 (US\$)

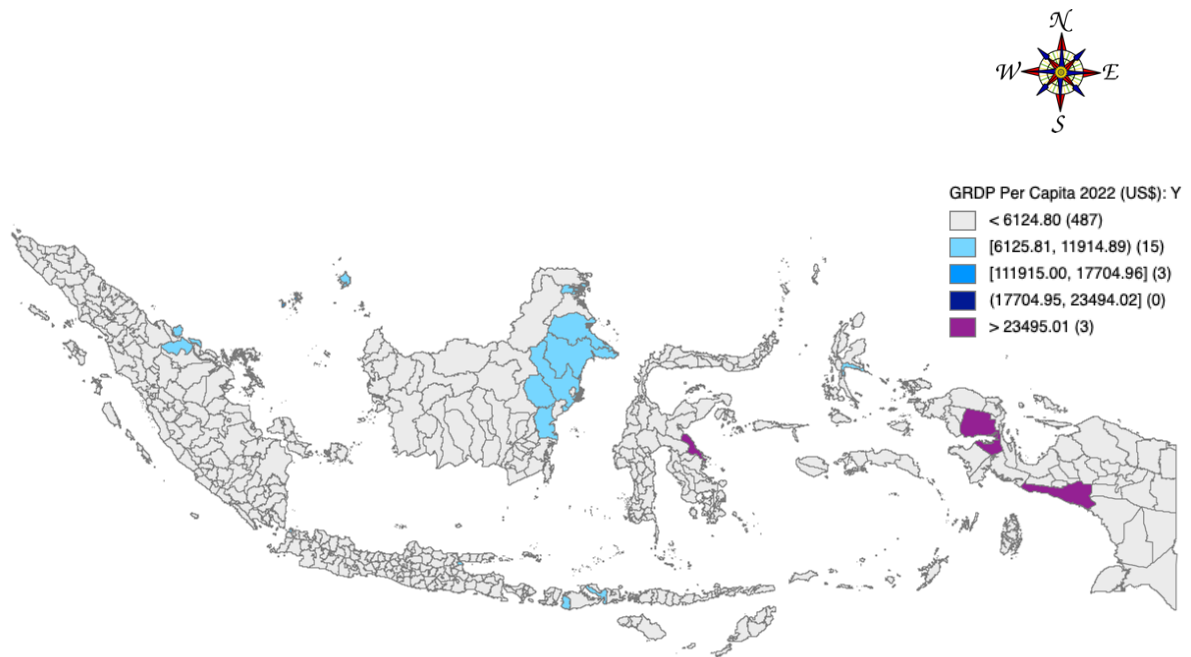


Figure C4. Domestic investment in 2017 (US\$)

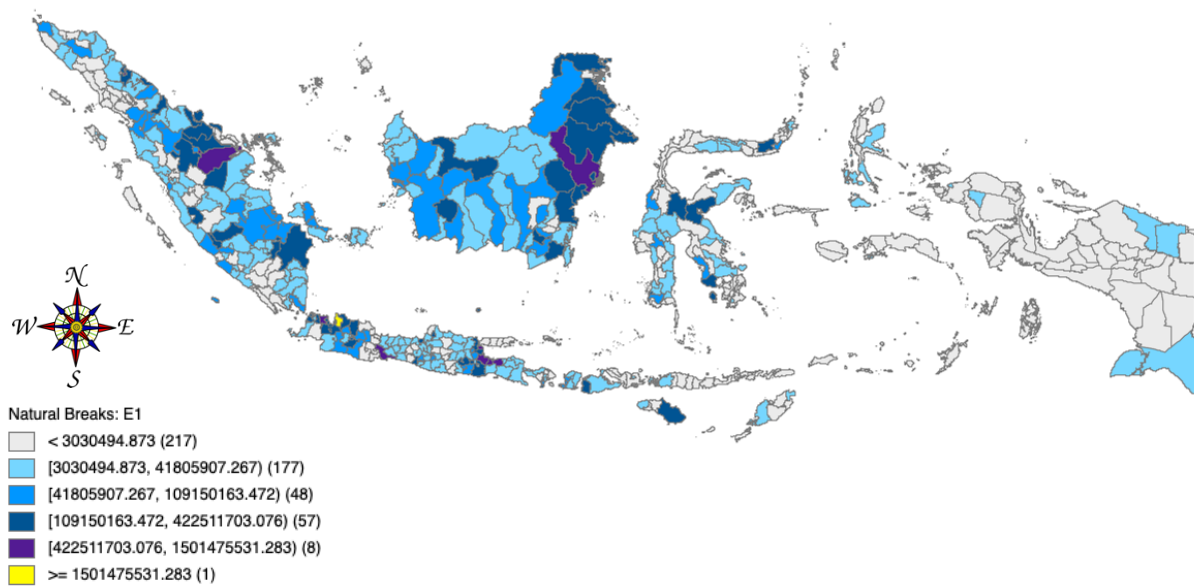


Figure C5. Domestic investment in 2022 (US\$)

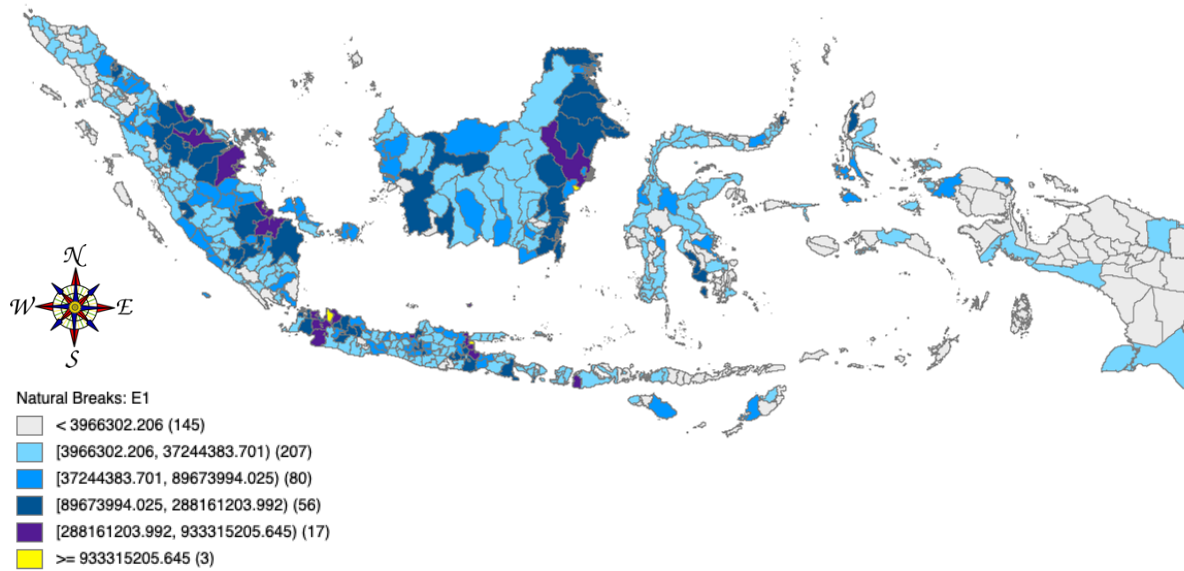


Figure C6. Foreign investment in 2017 (US\$)

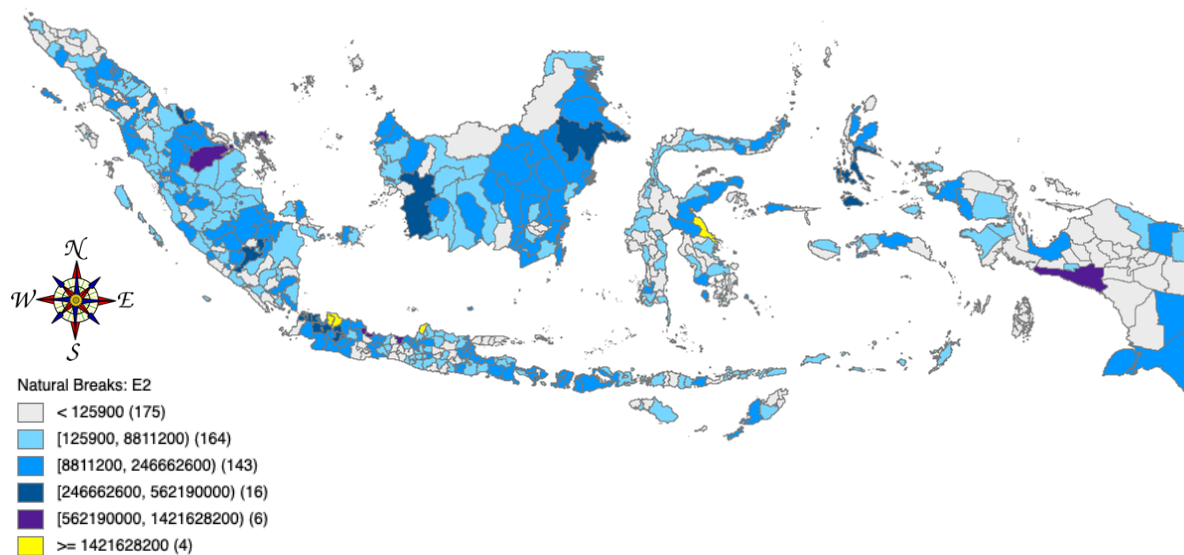


Figure C7. Foreign investment in 2022 (US\$)

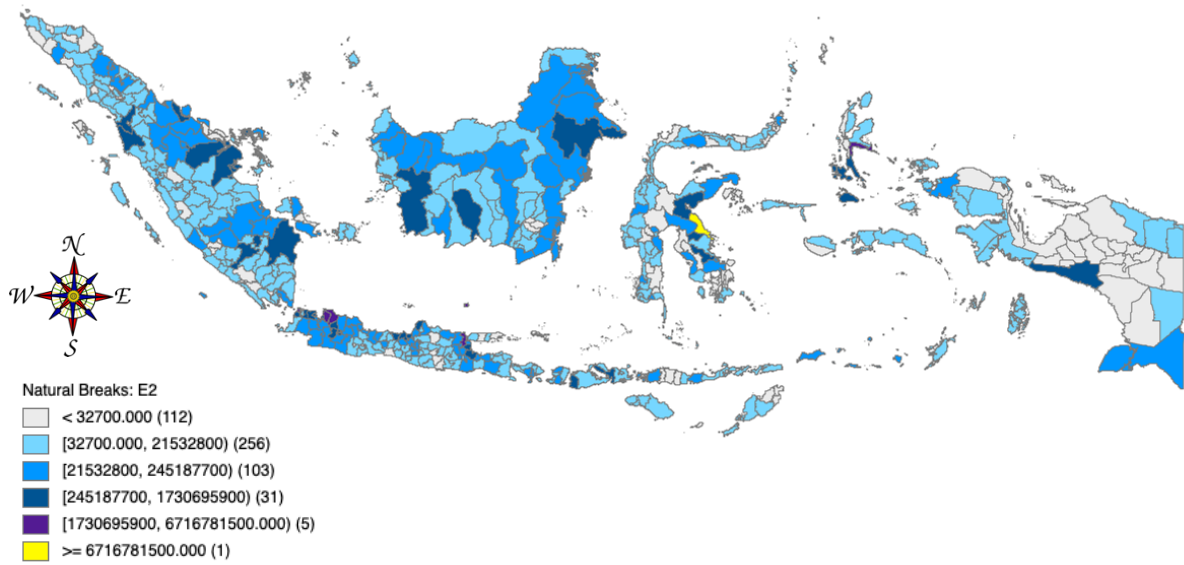


Figure C8. Number of financial institutions in 2017

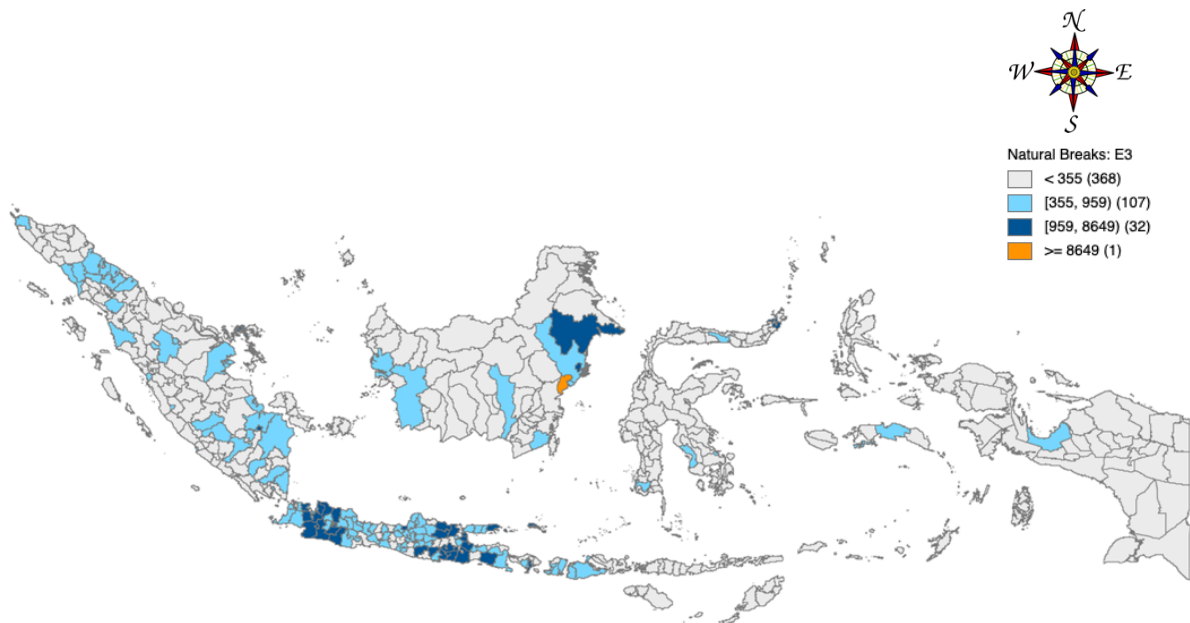


Figure C9. Number of financial institutions in 2022

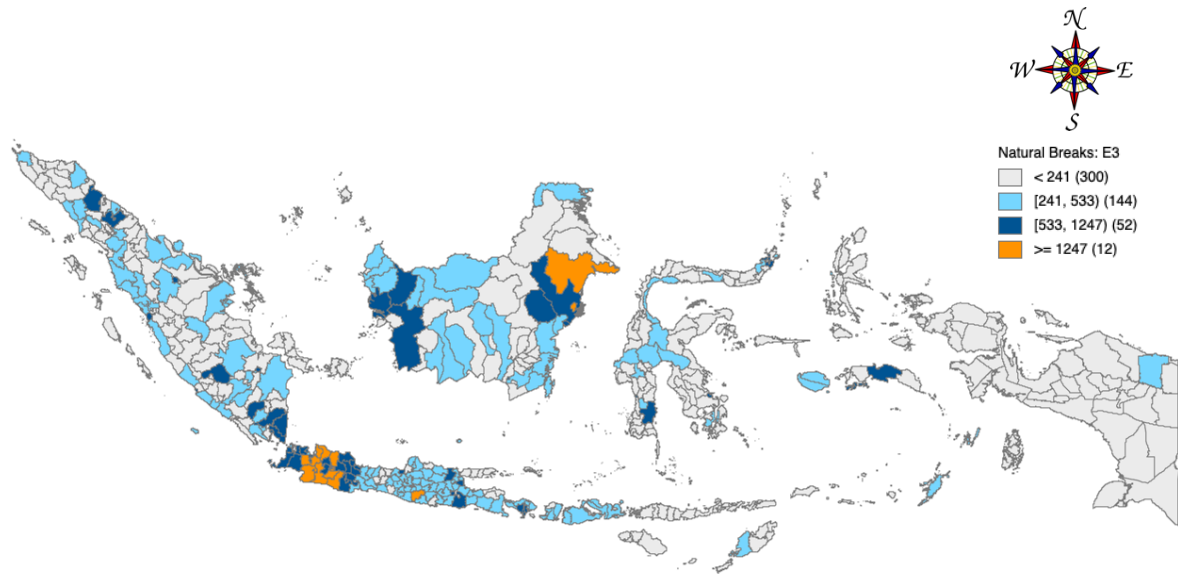


Figure C10. Population in 2017



Figure C11. Population in 2022



Figure C12. Agglomeration in 2017



Figure C13. Agglomeration in 2022



Figure C14. Participation of labor force in 2017

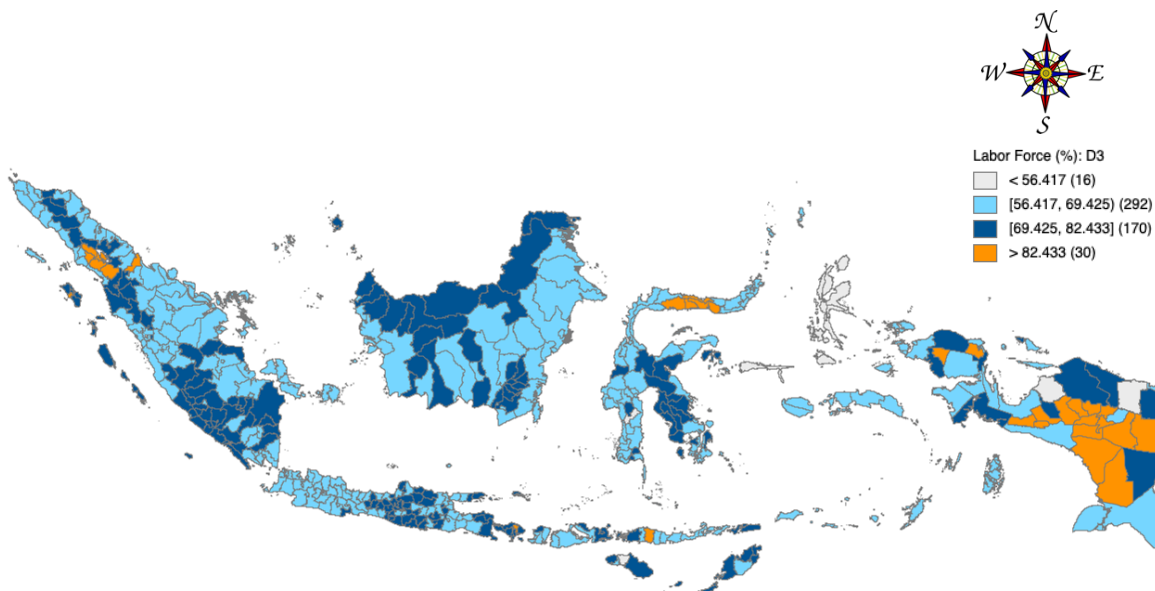


Figure C15. Participation of labor force in 2022

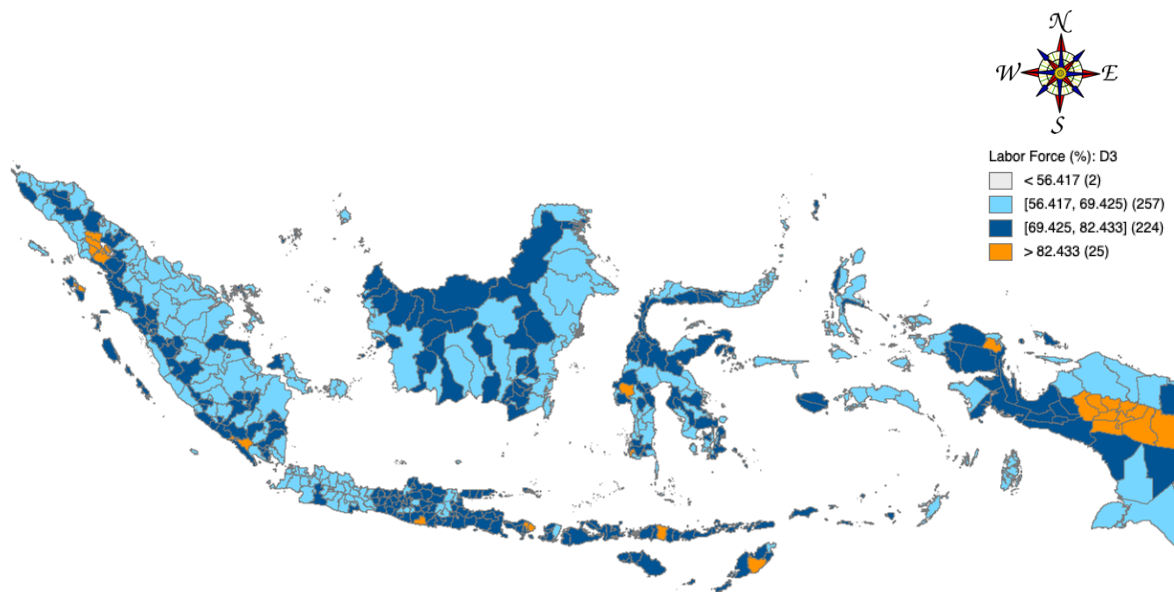


Figure C16. Unemployment in 2017

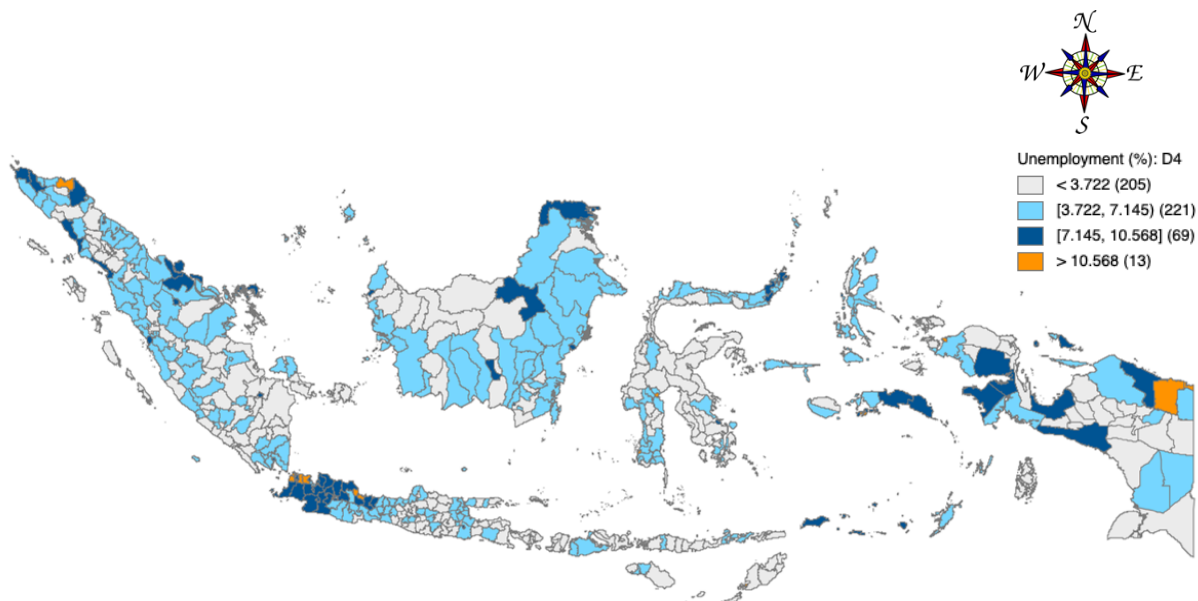


Figure C17. Unemployment in 2022

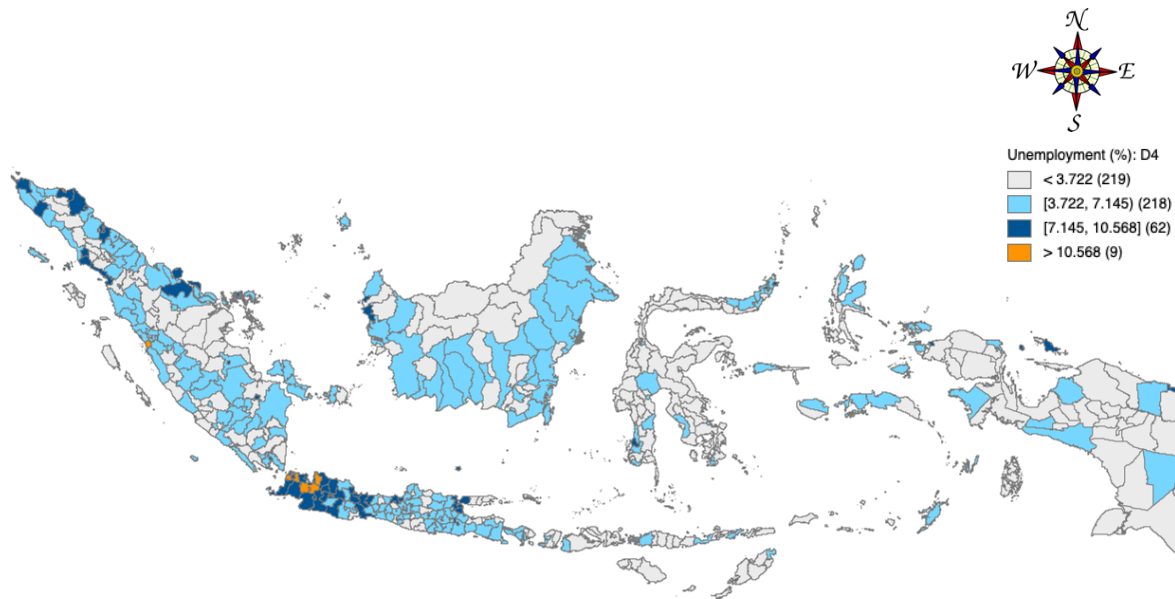


Figure C18. Human Capital in 2017

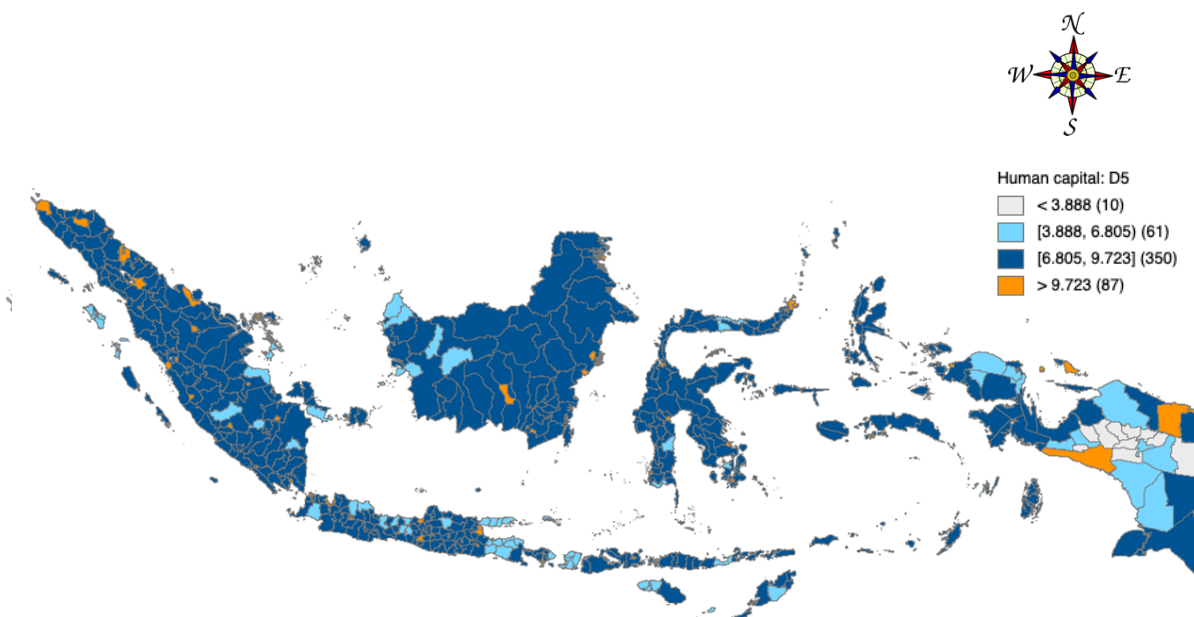


Figure C19. Human Capital in 2022



Figure C20. Political Concentration in 2017

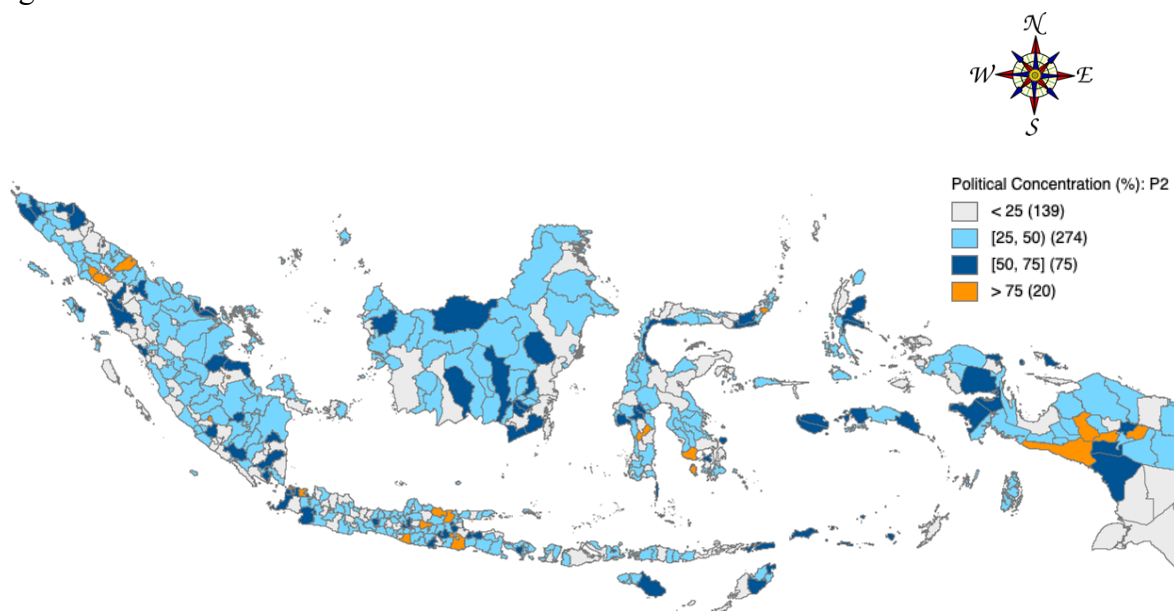


Figure C21. Political Concentration in 2022

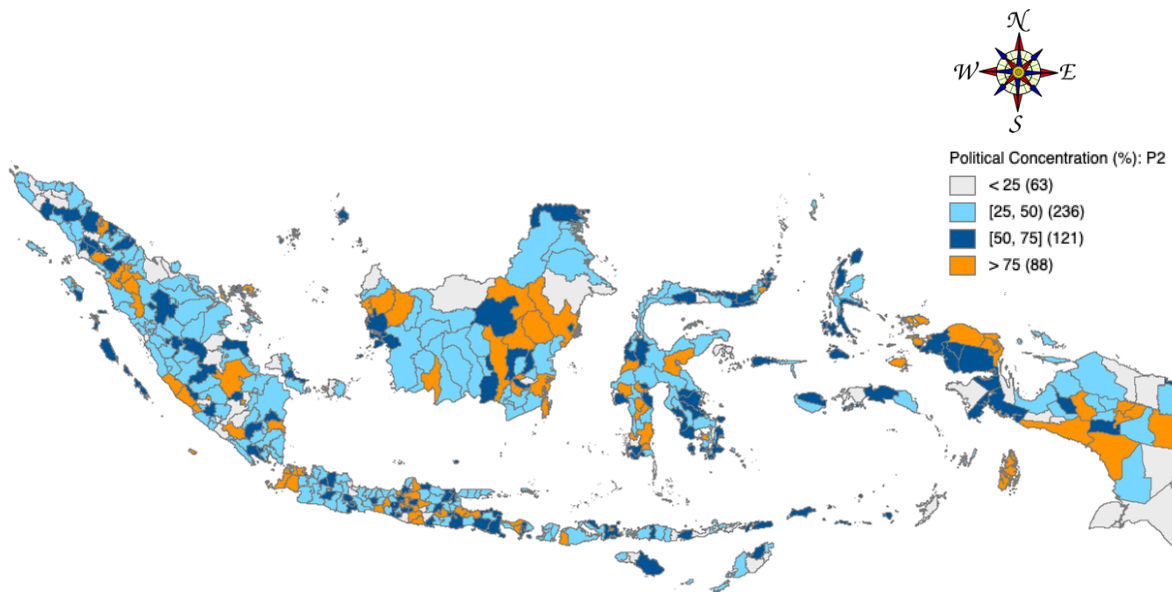


Figure C22. Fiscal Independency in 2017

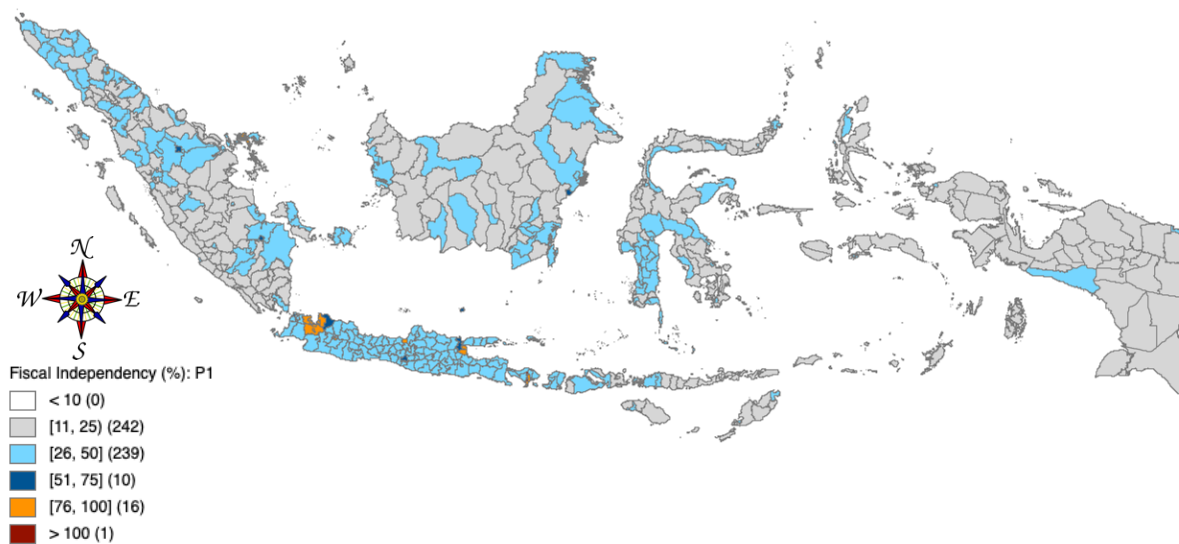


Figure C23. Fiscal Independency in 2022

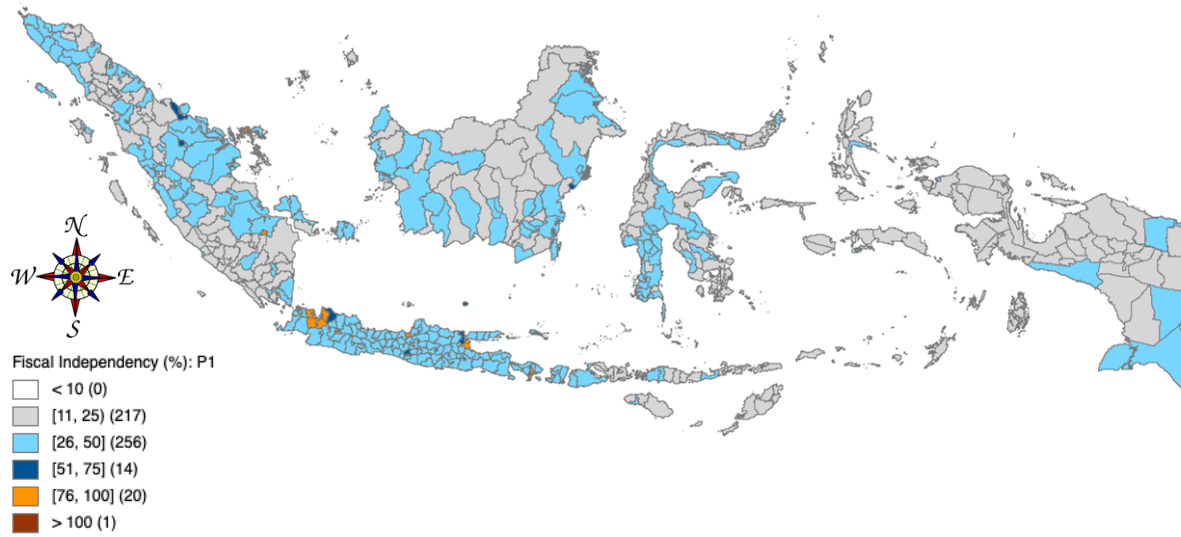


Figure C24. Political affiliation in 2017

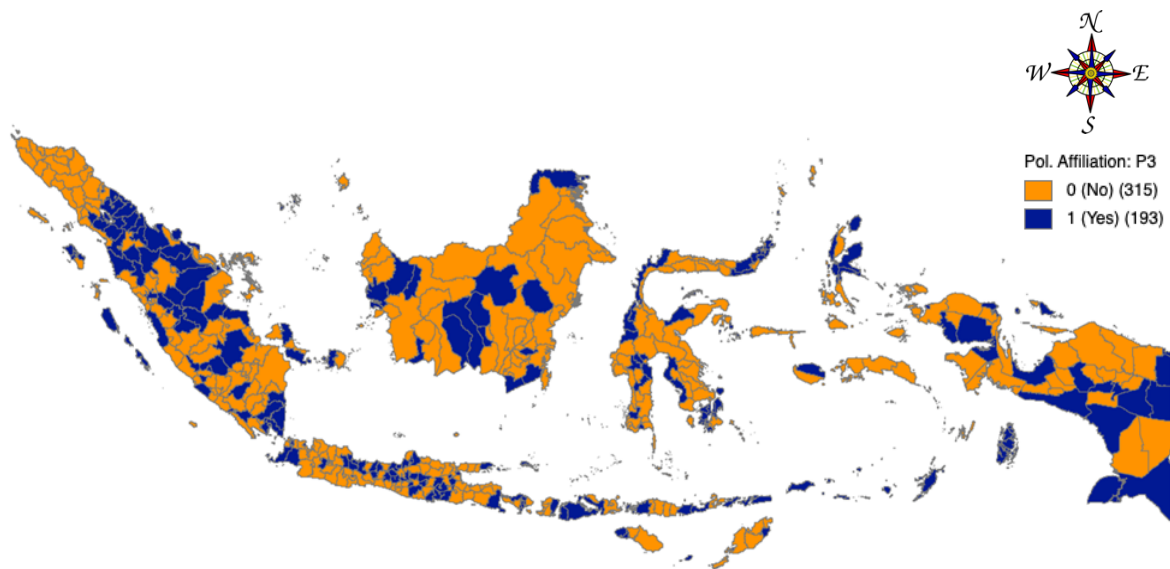


Figure C25. Political affiliation in 2022

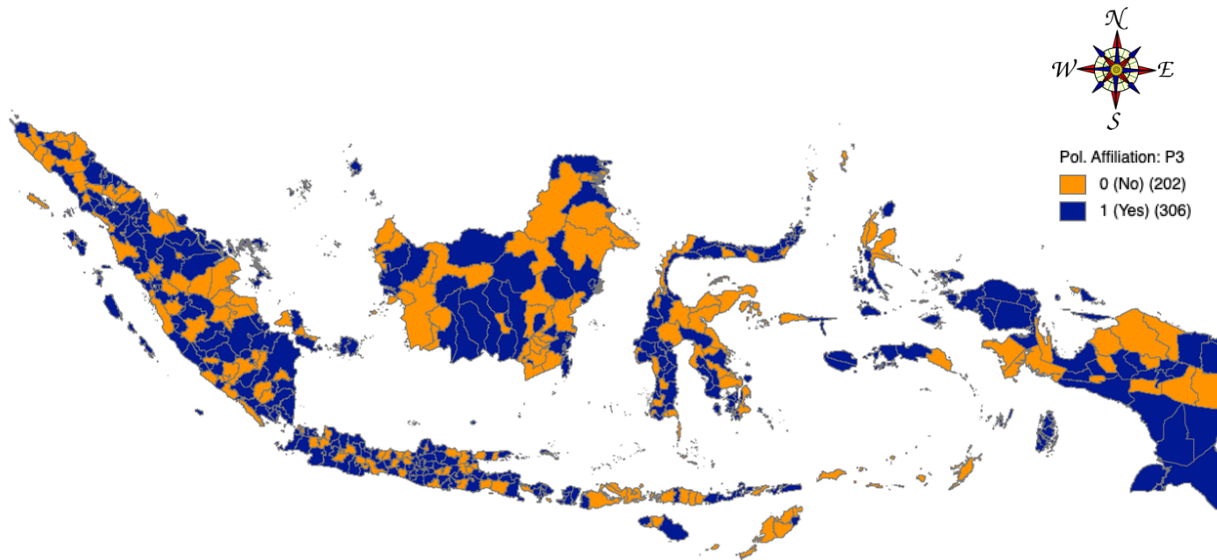


Figure C26. Incumbency status 2017

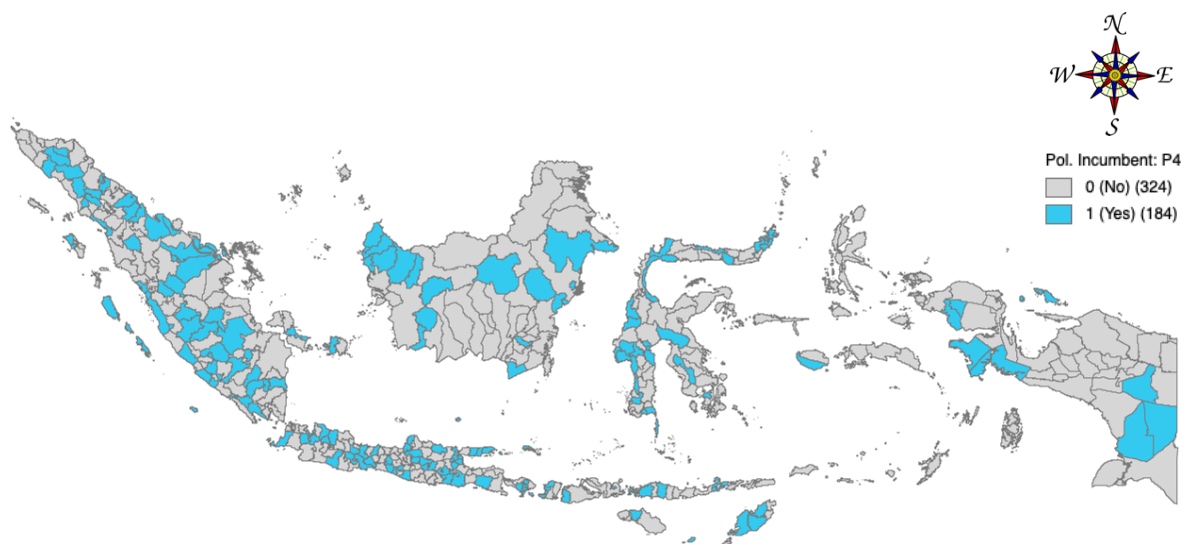
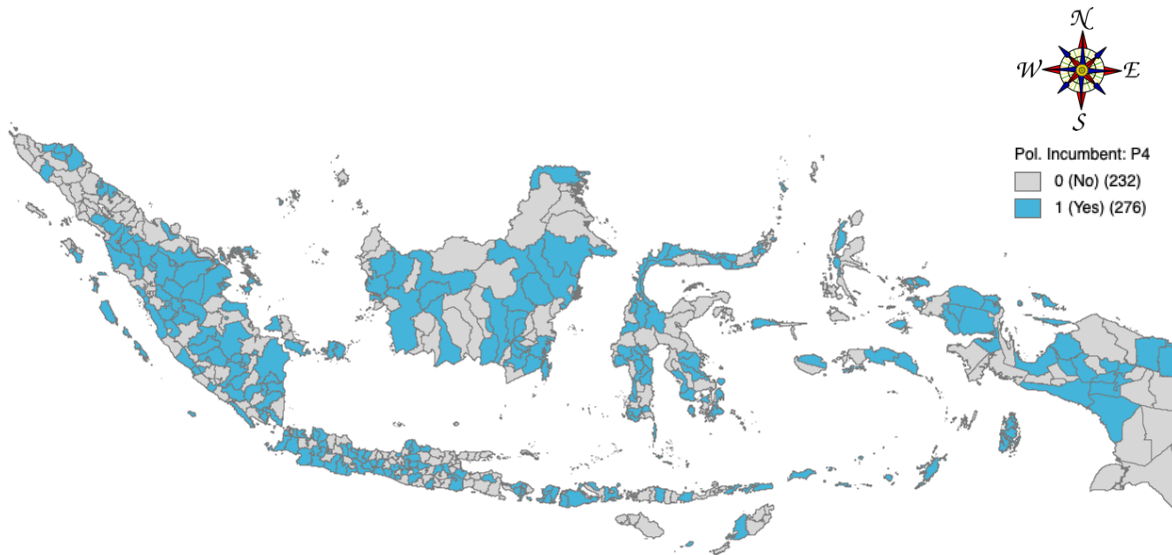


Figure C27. Incumbency status 2022



9.4 Appendix D to Chapter 6

Table D1. Basic model without time fixed effects (robust)

```
Linear regression                                Number of obs   =          903
                                                F(3, 899)      =          27.79
                                                Prob > F       =          0.0000
                                                R-squared     =          0.1339
                                                Root MSE     =          .1999
```

lY	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
logAC1	.0630555	.0210761	2.99	0.003	.0216914	.1044197
logAC2	-.0414803	.0182731	-2.27	0.023	-.0773433	-.0056174
logAC3	.1694544	.0296825	5.71	0.000	.1111994	.2277094
_cons	2.411526	.0932615	25.86	0.000	2.22849	2.594561

Table D2. Full model without time fixed effects (robust)

```
. regress lY logAC1 logAC2 logAC3 logE1 logE2 logE3 logD1 D2 D3, robust
```

```
Linear regression                                Number of obs   =          679
                                                F(9, 669)      =          34.14
                                                Prob > F       =          0.0000
                                                R-squared     =          0.2873
                                                Root MSE     =          .17452
```

lY	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
logAC1	.0969414	.0230227	4.21	0.000	.051736	.1421469
logAC2	-.0602947	.0186428	-3.23	0.001	-.0969002	-.0236892
logAC3	.1022847	.0336309	3.04	0.002	.03625	.1683194
logE1	.0023581	.0037802	0.62	0.533	-.0050643	.0097806
logE2	.0105755	.0025255	4.19	0.000	.0056166	.0155343
logE3	-.0059002	.0076356	-0.77	0.440	-.0208929	.0090924
logD1	-.0113104	.0051911	-2.18	0.030	-.0215033	-.0011175
D2	-.0036421	.0010837	-3.36	0.001	-.0057699	-.0015143
D3	.0675843	.0053697	12.59	0.000	.0570407	.0781278
_cons	2.429063	.1433224	16.95	0.000	2.147647	2.710479

Table D3. Basic model interaction with political concentration (P1) (robust)

```
Linear regression                                Number of obs   =          903
                                                F(6, 896)      =          17.13
                                                Prob > F       =          0.0000
                                                R-squared     =          0.1460
                                                Root MSE     =          .19883
```

lY	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
logAC1	.0334799	.0428965	0.78	0.435	-.0507095	.1176693
logAC2	.0384561	.0445001	0.86	0.388	-.0488804	.1257926
logAC3	.1323626	.0549294	2.41	0.016	.0245573	.2401678

c.logAC1#c.P1		.0007164	.0008308	0.86	0.389	-.0009141	.0023468
c.logAC2#c.P1		-.0019025	.001067	-1.78	0.075	-.0039966	.0001917
c.logAC3#c.P1		.0009233	.0010597	0.87	0.384	-.0011564	.0030031
_cons		2.404522	.0923932	26.02	0.000	2.223189	2.585854

Table D4. Full model interaction with political concentration (P1) (robust)

Linear regression		Number of obs	=	679
		F(12, 666)	=	28.63
		Prob > F	=	0.0000
		R-squared	=	0.2996
		Root MSE	=	.1734

lY	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
logAC1	.0452869	.0480887	0.94	0.347	-.0491369 .1397107
logAC2	.0827478	.0517525	1.60	0.110	-.0188699 .1843654
logAC3	.0213697	.0647632	0.33	0.742	-.105795 .1485343
c.logAC1#c.P1	.0013861	.0010676	1.30	0.195	-.0007102 .0034824
c.logAC2#c.P1	-.0040502	.0013325	-3.04	0.002	-.0066667 -.0014338
c.logAC3#c.P1	.0024374	.0014539	1.68	0.094	-.0004174 .0052922
logE1	.0026594	.0038035	0.70	0.485	-.0048089 .0101277
logE2	.0106344	.0025229	4.22	0.000	.0056805 .0155882
logE3	-.0058714	.0074675	-0.79	0.432	-.0205341 .0087912
logD1	-.0112647	.005131	-2.20	0.028	-.0213396 -.0011898
D2	-.0033063	.0010757	-3.07	0.002	-.0054184 -.0011941
D3	.0678956	.0053974	12.58	0.000	.0572977 .0784935
_cons	2.398667	.142093	16.88	0.000	2.119663 2.677671

Table D5. Basic model interaction with fiscal independency (P2) (robust)

Linear regression		Number of obs	=	903
		F(6, 896)	=	25.68
		Prob > F	=	0.0000
		R-squared	=	0.2069
		Root MSE	=	.19161

lY	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
logAC1	.0573908	.0297523	1.93	0.054	-.0010015 .1157831
logAC2	-.0261647	.0250606	-1.04	0.297	-.0753491 .0230196
logAC3	.115874	.0355714	3.26	0.001	.046061 .1856869
c.logAC1#c.P2	-.0017883	.0025555	-0.70	0.484	-.0068038 .0032271
c.logAC2#c.P2	-.0025086	.0012491	-2.01	0.045	-.0049601 -.0000571
c.logAC3#c.P2	.0048436	.002506	1.93	0.054	-.0000746 .0097619
_cons	2.554228	.0953134	26.80	0.000	2.367164 2.741291

Table D6. Full model interaction with fiscal independency (P2) (robust)

```
Linear regression                                Number of obs   =      679
                                                F(12, 666)     =      26.27
                                                Prob > F       =      0.0000
                                                R-squared     =      0.3355
                                                Root MSE     =      .1689
```

lY	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
logAC1	.0864379	.0341002	2.53	0.011	.019481	.1533948
logAC2	-.0325656	.0262017	-1.24	0.214	-.0840135	.0188822
logAC3	.0721737	.0443338	1.63	0.104	-.0148772	.1592245
c.logAC1#c.P2	.0003777	.0024667	0.15	0.878	-.0044659	.0052212
c.logAC2#c.P2	-.0023397	.0012257	-1.91	0.057	-.0047463	.000067
c.logAC3#c.P2	.0024726	.002511	0.98	0.325	-.0024579	.0074031
logE1	-.0006252	.0036344	-0.17	0.863	-.0077615	.0065111
logE2	.0074123	.0024409	3.04	0.002	.0026196	.0122051
logE3	-.0093077	.0075234	-1.24	0.216	-.0240801	.0054647
logD1	-.0296154	.0058591	-5.05	0.000	-.0411198	-.0181109
D2	-.0035727	.0010664	-3.35	0.001	-.0056665	-.0014788
D3	.0579386	.0052823	10.97	0.000	.0475667	.0683105
_cons	2.632572	.1464156	17.98	0.000	2.345081	2.920064

Table D7. Basic model interaction with political affiliation (P3) (robust)

```
. regress lY logAC1 logAC2 logAC3 c.logAC1#i.P3 c.logAC2#i.P3 c.logAC3#i.P3, robust
```

```
Linear regression                                Number of obs   =      903
                                                F(6, 896)     =      14.29
                                                Prob > F       =      0.0000
                                                R-squared     =      0.1400
                                                Root MSE     =      .19953
```

lY	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
logAC1	.0873746	.0280915	3.11	0.002	.0322418	.1425074
logAC2	-.0211647	.0252716	-0.84	0.403	-.0707631	.0284337
logAC3	.1331058	.0329676	4.04	0.000	.068403	.1978085
P3#c.logAC1						
1	-.0412281	.0397062	-1.04	0.299	-.1191561	.0366999
P3#c.logAC2						
1	-.0486817	.0387572	-1.26	0.209	-.1247471	.0273837
P3#c.logAC3						
1	.0827226	.0473342	1.75	0.081	-.0101763	.1756215
_cons	2.391149	.094987	25.17	0.000	2.204726	2.577572

Table D10. Full model interaction with incumbency status (P4) (robust)

Linear regression

Number of obs	=	679
F(12, 666)	=	27.27
Prob > F	=	0.0000
R-squared	=	0.2997
Root MSE	=	.17339

lY	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
logAC1	.0856828	.033092	2.59	0.010	.0207055	.15066
logAC2	-.0040882	.0278483	-0.15	0.883	-.0587693	.0505929
logAC3	.0535716	.0439357	1.22	0.223	-.0326975	.1398408
P4#c.logAC1						
1	.0228909	.0445928	0.51	0.608	-.0646686	.1104503
P4#c.logAC2						
1	-.1391071	.0399771	-3.48	0.001	-.2176035	-.0606108
P4#c.logAC3						
1	.1085103	.0513393	2.11	0.035	.0077038	.2093167
logE1	.0026935	.0038876	0.69	0.489	-.0049398	.0103269
logE2	.0108704	.0025377	4.28	0.000	.0058875	.0158532
logE3	-.0035993	.0076329	-0.47	0.637	-.0185868	.0113882
logD1	-.0100709	.0052039	-1.94	0.053	-.0202889	.0001472
D2	-.0035438	.0010745	-3.30	0.001	-.0056537	-.001434
D3	.0673918	.0053995	12.48	0.000	.0567898	.0779939
_cons	2.437082	.1413447	17.24	0.000	2.159547	2.714617

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