

An experiment on bribery, tenure duration, and punishment severity in the Indonesian public finance context

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ABSTRACT

Against the backdrop of increasing concern over corruption, this study delves into a laboratory experiment investigating the intricate dynamics of bribery concerning the duration of official tenures and the efficacy of punitive measures. Experimental methods prove pivotal in unraveling the complexities inherent in corrupt behaviors. The study unfolds a compelling pattern, shedding light on the interplay between public officials and civilians, particularly emphasizing the impact of officials' tenure duration on bribery. It brings forth a crucial correlation between familiarity with officials and a heightened likelihood of bribery, with extended tenures amplifying this susceptibility. The concept of "fixed pairing" accentuates the role of prolonged official incumbency in influencing bribery tendencies. Additionally, introducing punitive measures with financial repercussions proves effective in curbing bribery incidents and associated givebacks, particularly when applied to bribe recipients, suggesting heightened stakes public officials face. The study demonstrates the potential of dual treatments involving random pairings and punitive approaches to reduce the magnitude of bribes and givebacks. This study underscores the necessity of curtailing prolonged official tenures to mitigate bribery tendencies, offering insights into enhanced governance and ethical conduct through strategic rotational shifts and robust penalties. These comprehensive findings contribute valuable perspectives to addressing corruption and enhancing ethical standards within public institutions.

KEYWORDS:

Corruption; public officials long-tenure; bribery; lab experiment

HOW TO CITE :

Nugroho, W. S., Winardi, R. D., Wijayanti, A., Permana, Y. H., & Sanjaya, M. R. (2023). An experiment on bribery, tenure duration, and punishment severity in the Indonesian public finance context. *Jurnal Tata Kelola Dan Akuntabilitas Keuangan Negara*, 9(2), 309–330. <https://doi.org/10.28986/jtaken.v9i2.1508>

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ARTICLE HISTORY:

Received : 30 September 2023

Accepted : 18 December 2023

Revised : 11 December 2023

Published : 28 December 2023

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INTRODUCTION

The issue of long-tenured public officials has become a pressing concern in Indonesia, presenting a double-edged sword. On the one hand, long tenures enable officials to gain valuable experience to help them carry out their duties more effectively. However, it also increases the risk of corruption, exploitation, and abuse of power. Recently, village heads in Indonesia have sought to extend their tenure to an unprecedented nine years, which has met with significant resistance despite gaining approval. Experts have highlighted the link between extended tenures and corruption (Senjaya, 2023). Vice President of the People's Consultative Assembly Republic of Indonesia, Prof. Dr. H. Sjarifuddin Hasan, emphasizes the necessity of limiting the duration of power, as longer tenures often foster authoritarian environments (Sekretariat Jenderal MPR RI, 2023).

A striking illustration of the potential pitfalls associated with prolonged tenures in public service emerges from the tenure of the head of public health service in Lampung Province, whose tenure extended an impressive 14 years (BBC News Indonesia, 2023). Her case stands out prominently due to the perception of excessive assets and wealth accumulation, which appears incongruent with the typical profile of a civil servant. While it is essential to note that there is no concrete evidence of corruption in her case, it serves as a compelling exemplar of how lengthy tenures can foster skepticism among the general populace and raise concerns about the susceptibility of individuals in positions of authority to corruption.

In the current research landscape, corruption studies predominantly employ traditional methods such as surveys. These methods lean heavily on respondent self-reports and perceptions about corruption, capturing a broad spectrum of corruption perceptions. However, their breadth sometimes sacrifices the depth and clarity needed to understand the intricate mechanisms of corruption. Furthermore, they often grapple with challenges like discerning clear causal relationships and navigating corruption's secretive, illegal, and multidimensional nature. This results in potential misalignments between empirical findings and theoretical concepts, leading to research design challenges and inferential errors (Delios et al., 2023). One of the main research questions in this study area aims to explore two crucial aspects of bribery. The first aspect is understanding how an individual's duration of tenure in a position can impact their likelihood of engaging in bribery. For example, does a prolonged tenure increase the chances of involvement in bribery? The second aspect is to study the impact of the severity of punishment for bribery offenses on these tendencies. Are individuals deterred more effectively by stricter punishments, regardless of how long they have held their position?

The desired future state envisions a shift towards laboratory experiments as the primary tool for in-depth corruption studies. With controlled environments, these experiments can isolate variables, offering more precise insights into these causal factors and the intricate determinants of corruption. However, this transition faces hurdles. There is the pressing challenge of the methodology gap, where the move from broad, perception-based methods to controlled

experiments is significant. Additionally, there is the need to balance the breadth of traditional methods with the depth of experimental ones and the resource-intensive nature of setting up laboratory experiments (Banerjee et al., 2023).

This study strives to bridge existing gaps and overcome challenges in corruption research by proposing an innovative approach. The aim is to enhance our comprehension of corruption, offering a more effective exploration of the intricacies inherent in corruption studies while illuminating the nuanced dynamics underlying the phenomenon, meticulously investigating the psychological and systemic factors contributing to the increased likelihood of corruption in specific circumstances. Furthermore, this study delves into the potential efficacy of severe punitive measures to deter and counteract corrupt tendencies, examining the feasibility and ethical implications of implementing stringent consequences for those guilty of corruption. By examining various aspects, a comprehensive understanding of the challenges and potential solutions associated with prolonged tenure and corruption in the public service could be provided. This study serves as an alternative to those of studies using secondary data and/or qualitative approaches since they may find it difficult to collect the data; some data are classified and sensitive to share.

Setting-Up the Context

Indonesia has grappled with a persistent and substantial corruption challenge since gaining independence. Corruption is still a serious problem in most Indonesian government organizations, even after 20 years of comprehensive reformation (Mietzner, 2015). Bureaucratic and political corruption are highly institutionalized in Indonesia (Suhardiman & Mollinga, 2017). In addition, Indonesia has a long history of patronage, patrimonialism, and strong local culture influence on its socio-economic life (Mietzner, 2015). As a response, the Indonesian government is undergoing a reformation project to eradicate corruption (Wihantoro et al., 2015).

Despite the transition to democracy and shifts in the political landscape over the years, the corruption index score assigned to Indonesia by Transparency International has exhibited only marginal fluctuations. Notably, a noteworthy trend emerges when examining the correlation between corruption perception and the level of democracy in the country. It becomes apparent that a nuanced relationship exists between establishing a robust democracy characterized by non-authoritarian governance and the public's perception of corruption. This intricate connection between democracy and the perception of corruption is underscored by empirical evidence, as illustrated in the graphical representation provided in Figure 1. The data depicted in this graph reveals the intriguing interplay between these two vital indices, shedding light on the complex dynamics at play within Indonesia's sociopolitical landscape. By exploring this relationship in greater detail, we can gain valuable insights into Indonesia's challenges as it seeks to address and combat corruption in its evolving democratic framework.

Corruption and bribery pose significant challenges that have plagued governments for decades, necessitating concerted efforts to address their pervasive impact on society. In response,

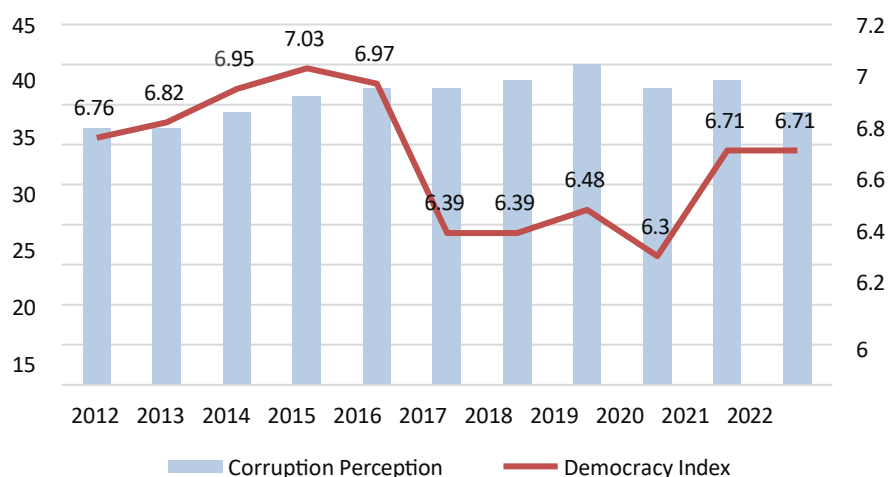


Figure 1. Indonesia Corruption Perception and Democracy Index 2012-2022
 Source: Transparency International (2022), The Economist Intelligence Unit (2021, 2022)

the Indonesian government has undertaken various measures, including classifying corruption as an extraordinary crime and establishing the Corruption Eradication Commission (Komisi Pemberantasan Korupsi, KPK) as a dedicated institution in 2004. Moreover, ongoing bureaucratic reforms have been implemented to combat corruption effectively. However, despite over a decade of diligent work by the KPK, these endeavors have not yielded substantial results. Transparency International's Corruption Perception Index (CPI) consistently ranks Indonesia lower, indicating a persistent lack of progress in changing public perceptions towards corruption within the country.

The number of cases successfully solved and disclosed by the KPK reveals two significant aspects. Firstly, it demonstrates the commendable efficacy of monitoring and enforcing corruption laws. Secondly, it sheds light on the evolving nature of corruption and bribery cases, which are becoming increasingly sophisticated and challenging to detect. Consequently, these two factors culminate in a singular conclusion: corruption and bribery persist as major issues in developing countries such as Indonesia. Consequently, addressing this pervasive problem necessitates an exceptional level of understanding and an innovative approach from the government to implement well-suited solutions.

Corruption

Corruption is a concept that is difficult to define, known as 'an elusive phenomenon' that is discussed in many disciplines (Jancsics, 2014). The most popular definition of *corruption* is an abuse of power for individual benefit. This definition has become popular as many transnational organizations promote their anti-corruption strategy based on this definition (Murphy & Albu, 2018). The views explaining how and why corruption occurs are divided into three major perspectives: the mainstream view, which sees corruption as a rational decision of individual actors facilitated by the structural elements of social life. A more alternative view sees corruption as an embedded feature of social interaction. The term "corruption" encompasses a

broad concept that can give rise to diverse interpretations. It can be regarded as a financial crime often associated with fraudulent activities. The definition of corruption itself can vary across contexts. In the case of Indonesia, Law Number 20 of 2001 concerning Eradication of Corruption defines *corruption* as the act of enriching oneself, another individual, or a corporation at the expense of state finances or the country's economy. However, it is important to note that this definition has a limited scope, focusing solely on corruption within the government sector and the confines of Indonesian law.

A micro-level perspective views corruption as an action for utility maximization. Corrupt actors are assumed to be rational, calculative, and considering costs and benefits. This perspective also models corruption as a problem of principles and agency. Primarily, attention is given to agents as corrupt actors for their benefit. As a result, deterring corruption requires tight monitoring and accountability (Roberts, 2009) and improving incentive and punishment mechanisms (Rose-Ackerman, 1986). A more detailed discussion brings to the issue of the scope of corruption among agents. A question arises whether corruption is only an individual problem or an organization's problem (bad apple vs bad barrel theory). Bad apples tend to see the corrupt actor as just one of the good actors with a corrupt disposition, while a bad barrel assumes a good actor can be corrupt due to the influence of bad situations within the organization (Nekovee & Pinto, 2019). Jancsics (2014) argues that corruption as a principle-agency problem assumes that all employees are potential bad apples and will be in a bad situation. However, this view cannot explain a situation when the principal is also involved in corruption. In this case, Persson et al. (2013) also Rothstein and Varraich (2017) have a similar argument for promoting corruption not as a principle-agency problem but as a collective action.

While definitions may differ across jurisdictions, corruption generally exhibits certain shared characteristics worldwide. For instance, it often involves attempts to conceal corrupt activities and can lead to detrimental consequences for society. According to ACFE (2014), corruption is classified as one of the three financial crimes and fraud, alongside the misappropriation of assets in financial statements. Law Number 20 of 2001 in Indonesia outlines seven specific forms of corruption: state asset corruption, bribery, embezzlement in office, extortion, cheating, conflict of interest in procurement, and gratuities. Among these categories, bribery has emerged as the most prevalent form of corruption, as evidenced by the KPK's extensive focus on bribery cases from 2004 to 2015 (ACCH, 2015). During this period, the KPK handled 192 bribery cases, underscoring its widespread occurrence in Indonesia and relative ease of execution.

Consequently, bribery has become deeply entrenched within the culture, posing significant challenges in combatting this pervasive form of corruption, thereby exacerbating its perilous impact compared to other corruption types. Mazar and Aggarwal's (2011) research revealed a noteworthy correlation between the level of collectivism or individualism within a nation's culture and the likelihood of offering bribes to international business partners. Moreover, this correlation was influenced by individuals' sense of responsibility for their actions. The find-

ings suggest that collectivism fosters bribery due to a diminished perception of personal responsibility for one's actions.

Bribery

Bribery, as defined by Law Number 20 of 2001, involves accepting something or a promise with the knowledge or reasonable suspicion that it is intended to influence one's tasks in opposition to one's authority or obligations related to the public interest. While this definition shares similarities with the concept of gratification, there are distinct differences, particularly in the nature of the provision (Kusumasari, 2011). Gratification encompasses a broader sense of provision, whereas bribery involves explicitly the intention to influence the policies or decisions of public officials. Several key aspects must be considered to comprehend bribery: (1) Bribery involves two parties: the giver and the recipient; (2) It can occur in two directions, initiated either by the giver voluntarily or at the request of the recipient; (3) Bribery can be seen as the exchange of influence akin to a transaction; and (4) There are expectations of benefit for both the giver and the recipient, leading to an optimization of their respective interests.

Bribery in Indonesia falls under the broader buying and selling influence category and is intricately intertwined with bureaucratic systems. The prevalence of bribery is often influenced by the duration of an individual's tenure within the bureaucracy. Coviello and Gagliarducci (2017) find that increased political tenure is associated with "worse" procurement outcomes. Furthermore, Garcia-Vega and Herce (2011) discover that the time individuals hold a position reduces the influence of public capital expansion on GDP growth. Their findings indicate that tenure has an adverse effect on GDP growth by diminishing the productivity of public capital. Transparency International Indonesia (2013) reveals that four out of ten people in Indonesia have resorted to bribery, with approximately 71% of these cases involving the "facilitation payment" to expedite services. This study further highlights that bribery commonly occurs when seeking public services from institutions such as the police department, courts, civil registration offices, and licensing bodies. Consequently, bribery is a clear manifestation of corruption that demands urgent eradication.

Addressing bribery as a form of corruption necessitates a comprehensive, multidimensional approach involving multiple stakeholders. Efforts to combat bribery can be broadly categorized into three types: preventive measures, detective actions, and reactive interventions (Sutherland et al., 1992). For instance, establishing robust internal control systems is preventive, while implementing a whistleblowing system is a detective tool. In contrast, reactive actions come into play after corruption has been identified, typically through investigations conducted by bodies such as KPK. Among these approaches, preventive action assumes paramount importance. By prioritizing preventive measures, the costs incurred in averting corruption can be significantly lower than the expenses associated with post-corruption recovery.

Nonetheless, the research on bribery prevention as a proactive measure remains neglected and deserves a more comprehensive examination. Employing the web application

app.dimensions.ai, the authors embarked on a meticulous analysis that spanned across diverse academic disciplines, including but not limited to economics, law, and sociology. The results unveiled a yearly production of roughly 4,000 research papers on bribery prevention.

However, it is worth noting that this figure displayed a noticeable decline post-2018, as seen in Figure 2. When the investigation is focused on economics, it is clear there has been a tremendous decline in output, with only 198 articles produced annually globally. When compared across the broader spectrum, these differences highlight the relatively little attention paid to this important economic issue. For a more nuanced perspective, it is important to exclude 2018, when there is a huge spike in research output related to bribery prevention, with nearly 1,000 articles contributing to the overall research. Excluding 2018, the annual average shrinks even further to 110 papers globally, highlighting the need for intensive research in this important area, especially in economics. This underlines the importance of investigating why 2018 saw a surge in research output, as this could provide valuable insight into strategies to stimulate further scientific engagement in bribery prevention in subsequent years.

Exploring the factors that drive individuals to engage in bribery presents a fascinating avenue for analysis. Abbink et al. (2002) mention three key factors that are believed to shape the individual's decision-making process in bribery: individual factors, such as the influence of authority; situational factors, including peer pressure; and social factors, such as the prevailing culture of bribery. Furthermore, a robust punitive framework that threatens both the briber and recipient is crucial in deterring bribery. Punishment serves as a moderating factor in curbing instances of bribery. Emphasizing the significance of comprehensive research and implementing stringent penalties is paramount in strengthening preventive measures against bribery. Abbink et al. (2002) have given valuable insights into the intricate world of corruption, with a particular focus on bribery. Their work underscores three fundamental aspects: firstly, the concept of "reciprocity" (Gneezy et al., 2019). Reciprocity suggests a "social tie" or connection between the one offering a bribe and the one accepting it (Schram et al., 2022). Second, they emphasize how bribery has a detrimental impact on the well-being of our society. Finally, they emphasize the significance of the fear of legal consequences and punishment

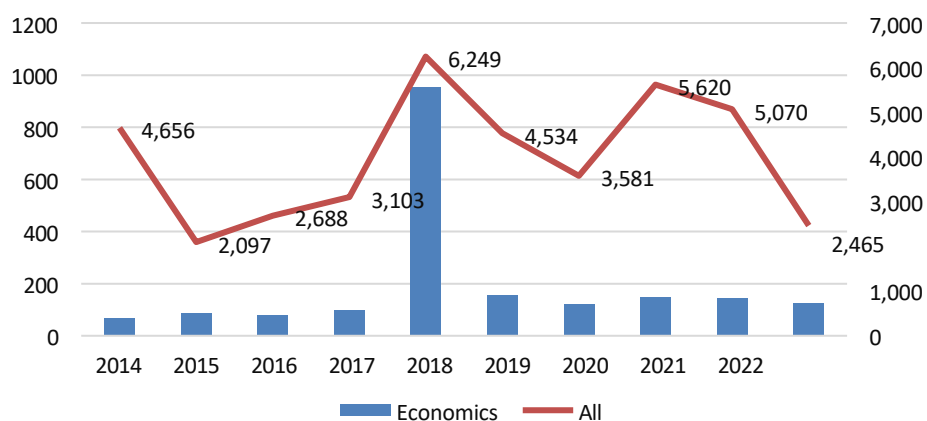


Figure 2. Published Paper on Bribery Prevention 2014-2023

in deterring corrupt practices.

This study primarily builds upon the foundational insights of Abbink et al. (2002), striving to understand how these three pivotal elements impact the prevalence of bribery. It is akin to using their work as a stepping stone to paint a more detailed and comprehensive picture of the world of bribery and corruption. In doing so, this study also examines the factors that affect the incidence of bribery through a laboratory experiment.

Social and cultural relations play an important role in seeing corruption at large. Schram et al. (2022) studied the concepts of "conformism" and "contagion." Contagion highlights how corruption spreads when society observes others engaging in corrupt activities. On the other hand, conformism shows that corruption decreases when individuals are exposed to honest behavior in their social environment. Similarly, Banerjee's (2016) research introduces the interesting "moral costs" notion. This term refers to a scenario in which fewer individuals, both in the role of bribers and bribe takers, participate in corrupt activities when they know the ethical costs associated with bribery (Gneezy et al., 2019).

Another significant factor influencing bribery and corruption is the level of wages received by employees, as highlighted in van Veldhuizen (2013). The study demonstrates that an increase in the wages of public officials can substantially diminish their susceptibility to corruption (Vendhuizen, 2013). For instance, low-wage public officials are shown to accept an average of 91% of bribes, whereas their higher-wage counterparts accept only 38%. Nevertheless, the authors chose not to pursue this line of inquiry due to our intention to create a laboratory experiment setting that closely mirrors real-world situations, particularly those involving government officials in Indonesia. In reality, granting higher wages to government officials is often infeasible due to budget constraints. Additionally, our consideration extends to the observation that even within ministries, such as the Directorate General of Taxes at the Ministry of Finance, higher wages do not necessarily lead to the expected reduction in corruption levels. This complex interplay of factors underscores the multifaceted nature of addressing corruption issues.

Much like wages, transparency is often considered a key factor influencing corrupt behavior, such as bribery. Adam and Fazekas (2021) suggest that information and communication technology has the potential to make governments more transparent, accountable, and less prone to corruption. These findings align with the results of a field experiment conducted in India, which demonstrates that higher levels of transparency are indeed linked to improved government efficiency and a reduced incidence of bribery (Peisakhin, 2012). However, there is a limitation when it comes to incorporating transparency into our own model and methodology. As previous research has shown, the nature of transparency is better analyzed through field experiments or quasi-natural experiments using survey data. Laboratory experiments may not adequately capture the real-world dynamics of transparency's impact on corruption.

Power

Power, as defined in this study, encompasses the ability to determine the magnitude of bribes, extending beyond structural positions within an organization. An individual is considered powerful if they possess bargaining power in stipulating the amount paid by the bribe giver. Keltner et al. (2003) also propose that power can exist independently of status and vice versa, but a clear distinction between formal and informal authority is essential. Moskowitz (1994; 2004) highlights the role of power in social relationships, focusing on an individual's intentions and actions, such as dominance (Winter, 1988) and influence (Keltner et al., 2003). According to Keltner et al. (2003), power is an individual's capacity to modify others' behavior by providing or withholding resources or imposing punishment. In the context of bribery, these resources and punishment may include economic opportunities or material gains.

Power is regarded as a significant factor contributing to unethical behavior. The greater the power an individual possesses, the stronger the inclination to seek bribes. Power serves as a catalyst for bribery from the recipient's side. However, the relationship between power and bribery behavior is complex and remains relatively understudied. Despite the popular saying by Lord Acton, "Power corrupts, and absolute power corrupts absolutely," although not directly linked to bribery, power does influence personal decision-making. For instance, Georgesen and Harris (1998) find that as individual power increases, their comparative assessment of performance declines while self-assessment tends to rise. Some allegations suggest that being under authority can also influence susceptibility to bribery. Corruption, in its myriad forms, has often been intrinsically linked with power. Historically, the accumulation of power in the hands of a few has frequently led to the misuse of authority, where the powerful prioritize personal gain over the public good. The dynamics of this relationship are complex. At the same time, power provides the means and opportunities for corrupt activities; the lure of more power and the accompanying privileges often fuels corruption in the first place. This cyclic nature of power and corruption has been a persistent challenge for societies, making it a central theme in disciplines ranging from literature to political science.

Robinson and Seim (2018) highlight an intriguing finding: government officials often make strategic choices regarding when to engage in corruption. Strikingly, they tend to disproportionately target individuals who lack political connections or hold a lower socio-economic status, essentially those without significant influence or power. This suggests that corruption often preys on the politically powerless. Moreover, Lagunes (2021) adds to this understanding by arguing that corruption vulnerabilities are particularly prevalent in situations where government officials have control over the distribution of goods and the imposition of costs. Consider government-issued goods such as building permits, state contracts, and government identification (National ID). These items, under the control of the state, often become fertile ground for corrupt practices and bribery. Similarly, instances like traffic tickets and tax liabilities, where government officials wield authority over citizens, can also be breeding grounds for corruption. In essence, these scenarios reflect the potential for corruption when those in pow-

er have control over the allocation of resources and the imposition of obligations on the less powerful.

Furthermore, as power structures evolve with changing societal and political landscapes, the manifestations of corruption adapt accordingly. In modern democracies, for instance, corruption might be lobbying, campaign financing ambiguities, or bureaucratic red tape. It may be overtly in autocratic regimes, such as embezzlement, nepotism, or brazen electoral fraud. Regardless of its form, the interplay between power and corruption serves as a reminder of the constant vigilance required to maintain checks and balances in any governance system.

Punishment

The fear of facing punishment plays a crucial role in deterring corruption. Hegarty and Sims (1978) has underlined the significance of punishment as a deterrent for engaging in corrupt activities. Basu et al. (2016) have demonstrated that when the expected penalties for corruption are high, the occurrence of bribery tends to disappear. However, it's noteworthy that as these penalties increase, the size of bribes also tends to rise. Additionally, Mahmud and Rezvi (2022) find that in Bangladesh, asymmetric punishment, where the recipient of the bribe is penalized while the bribe is not, is more effective in reducing bribery than symmetric punishment, where both parties face consequences. Engel et al. (2016) define asymmetric punishment as a scenario where the government punishes the bribe recipient but not the briber. On the other end of the spectrum, Basu (2011) has even suggested that bribers should be completely immune from punishment. Despite numerous studies favoring asymmetric punishment, it's important to note that this study has opted for symmetric punishment to align with the real-world situation in Indonesia closely. In Indonesia, as in our study, the briber and the bribee are punished for corrupt practices. Therefore, our research focuses exclusively on symmetric punishment to better reflect the prevailing dynamics in this context.

Another theory supporting the idea that penalties can reduce the intention to engage in bribery is the Theory of Planned Behavior. According to this theory, individuals are more likely to engage in actions with positive consequences, while negative consequences (such as penalties) tend to decrease their intentions (Ajzen, 1985). The primary driving force behind actions is anticipating rewards rather than fearing punishment (Deci et al., 1999). In similar narratives, Banuri and Eckel (2015) study the effect of a crackdown on bribery. They find that the simulated crackdown shows no substantial difference from the behavior before in the USA and Pakistan. This suggests that short-term crackdowns can influence short and immediate behavior, contingent upon the prevailing corruption norms in the country. However, the most critical finding is that such crackdowns are ineffective in the long term, as corrupt behavior reverts to pre-crackdown levels. Castro (2021) obtains similar findings, indicating that corruption can persist even when the monitoring agent hides the observed bribe exchange. Nonetheless, their research also highlights that a significant bribery cost and the presence of monitoring agents have a modest deterrent effect on corrupt behaviors. Moreover, the nature of the

punishment can also influence bribery behavior, with varying degrees of deterrence from low to high on a continuum. This study posits that punishment is a moderating variable among three independent factors: power, motivation, and culture.

RESEARCH METHOD

This study is based on a positivist approach, using experimental methods as the backbone to understand the research topic in depth. Positivism is founded on the conviction that genuine knowledge emerges primarily from observable and measurable events. This perspective emphasizes a steadfast trust in objective reality that can be comprehended via empirical observation and logical reasoning. In harmony with the principles of positivism, the experimental method offers a structured framework. It allows researchers to manipulate specific variables to deduce their impact on a particular outcome, thereby establishing a cause-and-effect relationship. Experimental research on corruption often centers around examining scenarios of illicit transactions. Many of these studies simulate situations where an individual sways an authority figure through financial inducements to provide certain advantages (Abbink, 2006). This approach is not novel; previous scholarly works, such as those by Campos-Vazquez and Mejia (2016) also Guerra and Zhuravleva (2021), have successfully adopted the positivist paradigm, underscoring its efficacy and robustness in academic research.

Building on the findings of Abbink et al. (2002), this study replicates the experimental conditions to examine the impact of three main characteristics on bribery, as mentioned before, which consist of reciprocity between the briber and the bribed, the negative impact on social welfare, and the presence of punitive measures enforced by law enforcement agencies. Employing behavioral economics, this study investigates several factors previously identified as determinants of bribery.

Barr et al. (2009) highlight that akin to public officials, service providers demonstrate improved performance when they are selected as monitors by the service recipients and when the transparency of their actions is heightened. However, their study indicates a paucity of robust evidence linking augmented compensation to enhanced performance among service providers. Consequently, increasing the payment of government officials acting as service providers may not warrant immediate consideration. As a result, variations in basic payment are not part of this experimental design.

The experimental study involved 32 participants, all of whom were students chosen for their combination of analytical skills, critical thinking, and effective communication skills. Each participant engaged in ten game rounds, with the investigation centering on two distinct treatments: reciprocity and penalty. The experimental design of this research involves two roles, one as a potential briber and the other as a potential bribe recipient, engaging in interactions within the realm of public service provision. Player one (P1) represents the civilian seeking public service, while player two (P2) embodies the public official. P1 can choose to pay

the public service fee alone or include a bribe. P2, the public official, can either accept or reject the amount offered by P1. Any sum transferred by P1 is tripled. If P2 declines the bribe, no bribery occurs. In the event P2 accepts the bribe, a "give back" takes place, where P2 must return a portion of the money to P1. This return can either match the exact value of the public service or exceed it. If P2 returns more money than the public service value, it signifies "reciprocation" of the bribe, while returning the exact value denotes being an "opportunist." The game's progression is visualized through the game tree in Figure 3.

In the first treatment, reciprocity is the central theme with the aim of exploring the dynamics between P1 and P2, and their influence on the occurrence of bribery. In the real world, instances of bribery are often more prevalent when potential bribe-givers and potential bribe-takers share a mutual acquaintance. Moreover, the extended tenure of a public official frequently corresponds with stronger ties to potential bribe-givers. This scenario was replicated within our experiment through deliberate variations in player assignments. The steadfast nature of a public official's tenure was mimicked by employing a fixed pairing ("Paired") throughout the entire duration of the game. Conversely, the absence of such a tenure was mirrored by adopting a random pairing approach that changed every round ("Random").

The second treatment revolved around the concept of punishment, a recognized deterrent against bribery. The experimental framework incorporated punishment in the form of a random audit, with a 25% likelihood of occurrence. When a player subjected to an audit was found to have engaged in bribery, their entire payoff was nullified, a condition termed "Sudden Death" or "SD." The experiment purposefully intertwines these treatments to explore their combined effects. The amalgamated treatments took shape as follows; "Paired NonSD" means fixed pairing without punishment, "Paired SD" means fixed pairing with punishment, "Random NonSD" means random pairing without punishment, and "Random SD" means Random pairing with punishment.

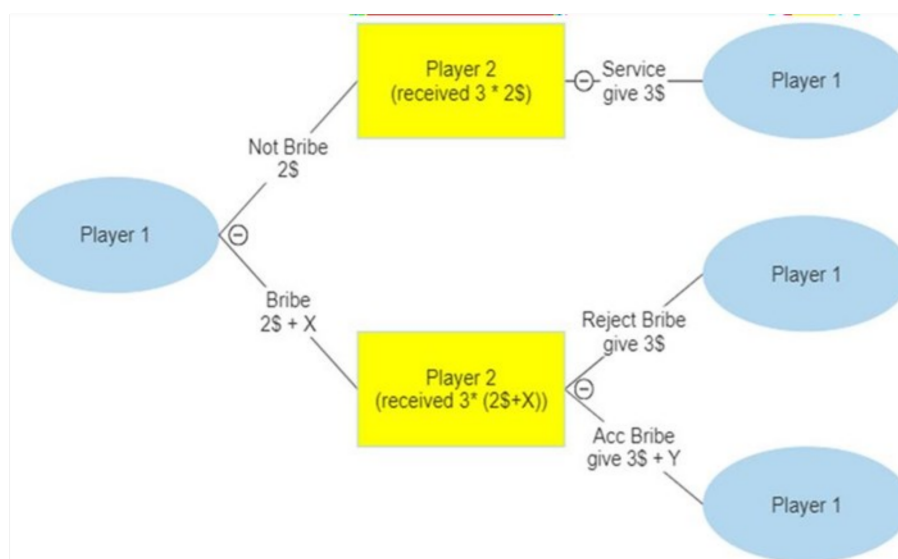


Figure 3. Game Tree Design with Payoff and Decision

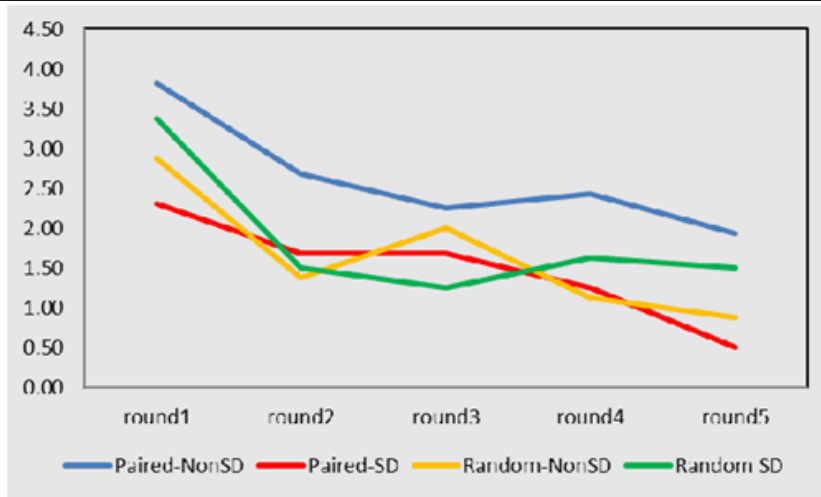


Figure 4. Amounts of Bribes and Give Back for Round 1 to 5

RESULT AND DISCUSSION

This analysis serves as a key tool for comprehending the optimal behavior exhibited by the players. The outcomes gleaned from this analysis provide a foundational platform for delving deeper into the intricacies of bribery but also aid in pinpointing the factors that influence optimal behavior. Furthermore, it enhances our understanding of the contextual nuances where such behavior is relevant. The experimental data, showcasing the amounts of bribes and "give back" in the conducted experiments, is visually represented in Figures 4 and 5 for reference.

The figures indicate that the Paired NonSD treatment exhibits the highest bribe amounts and givebacks. This outcome is reasonably anticipated, as the absence of punishment risk within the Paired NonSD treatment gives individuals a sense of security. Additionally, this treatment maintains fixed partner arrangements, fostering a conducive environment for developing trust between participants, therefore inducing reciprocity. In contrast, the Paired SD treatment records the lowest average bribe and giveback values. This observation implies that the fear of potential consequences discourages individuals from bribery. To ascertain the sta-

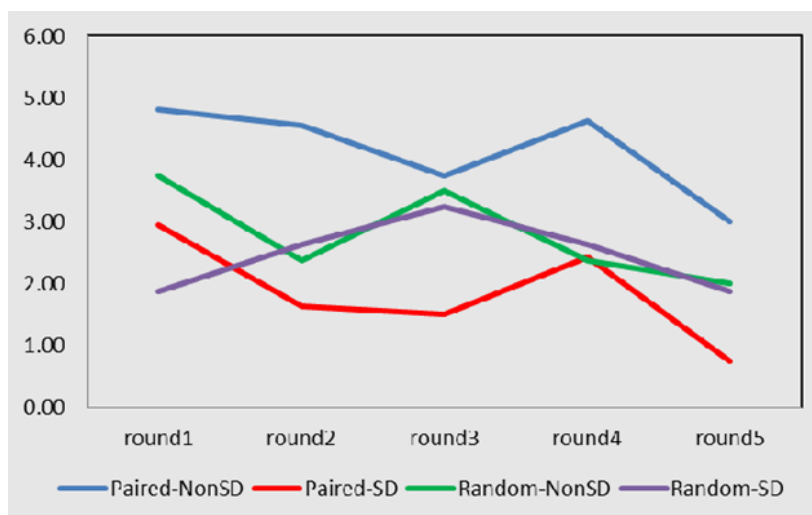


Figure 5. Amount of Bribes and Give Back for Round 6 to 10

Table 1. Average Difference Test for Bribe

Treatment	Mean	Std. Deviation	Diff	Significant
Paired NonSD	2.625	2.94	0.97	YES
Random NonSD	1.65	2.359		
Paired NonSD	2.625	2.94	1.13	YES
Paired SD	1.488	0.263		
Paired NonSD	2.625	2.94	0.77	NO
Random SD	1.85	2.537		
Paired SD	1.488	2.349	-0.16	NO
Random NonSD	1.65	2.359		
Random NonSD	1.65	2.359	-0.2	NO
Random SD	1.85	2.537		
Paired SD	1.488	2.349	-0.36	NO
Random SD	1.85	2.537		

tistical significance of these disparities across treatments, we conducted average difference mean tests for both bribe amounts and givebacks among participants subjected to various treatment combinations. The comprehensive outcomes of these average difference tests are presented in Tables 1 and 2.

Paired Non-SD vs Random Non-SD

The results of the analysis using two different means tests reveal important variations in the amount of bribes (denoted as "Bribe") across the two treatment conditions under investigation. Specifically, when examining decision-making in paired settings without the imposition of punishment (referred to as "Paired Non-SD"), the average bribe demonstrates a statistically significant escalation compared to decision-making in randomly paired circumstances (designated as "Random Non-SD"). The observed increase is substantial, amounting to 0.975 units of currency, outperforming the 8 units of available bribery funds. It is crucial to note this

Table 2. Average Difference Test for Giveback

Treatment	Mean	Std. Deviation	Diff	Significant
Paired NonSD	4.15	4.789	1.35	NO
Random NonSD	2.8	3.156		
Paired NonSD	4.15	4.789	2.35	YES
Paired SD	1.8	2.839		
Paired NonSD	4.15	4.789	1.7	YES
Random SD	2.45	1.28		
Paired SD	1.8	2.839	-1	YES
Random NonSD	1.65	2.359		
Random NonSD	1.65	2.359	0.35	YES
Random SD	2.45	1.28		
Paired SD	1.8	2.839	-0.65	NO
Random SD	2.45	1.28		

statistically significant disparity, which underscores the influence of the decision-making context on bribery behavior. However, a nuanced perspective emerges when delving into the giveback values associated with the two treatments (Non-Paired Random SD and Non-SD). Despite the noteworthy 1,350-unit currency advantage favoring giveback values emanating from pairwise treatment decisions over those from randomly paired treatments, these observed differences do not attain statistical significance. This nuanced insight prompts further exploration into the intricate dynamics at play, shedding light on the complex interplay between decision-making contexts and their impact on bribery-related behaviors within the experimental framework.

Paired Non-SD vs. Paired SD

A significant disparity emerges upon a thorough examination of mean test comparisons in two treatment scenarios: "Paired Non-SD" (paired setups without punishment) and "Paired Non-SD" (fixed penalties). Statistically significant differences are evident in both bribe and giveback considerations. The results consistently indicate that the Paired Non-SD treatment exhibits significantly higher values for bribes and givebacks than its paired counterpart. The observed discrepancies are substantial, with bribe values differing by 1,135 units and giveback values by 2.35 units. These findings underscore the profound impact of punishment dynamics on decision-making within paired settings, offering nuanced insights into how variations in treatment conditions can yield distinct behavioral outcomes. A deeper exploration into the underlying mechanisms fueling these differences holds the potential to enhance our understanding of the intricate interplay between punishment, decision-making, and consequential behaviors in experimental contexts.

Paired Non-SD vs. Random SD

Significant and compelling disparities come to light upon a comprehensive examination of the decision-making dynamics associated with two distinct treatments: paired setups without penalties (designated as "Paired Non-SD") and randomly paired setups featuring penalties (referred to as "Random SD"). These distinctions are particularly pronounced in the context of giveback considerations, adding depth to our understanding of the nuanced interplay between treatment conditions and decision-making outcomes. Within bribe values, the first treatment (Paired Non-SD) exhibits a notable distinction, amounting to 0.775 units. Although this difference is noteworthy, it falls short of reaching statistical significance. In sharp contrast, the disparities in giveback values between the two treatments are substantial and statistically significant, with the first treatment surpassing the second (Random SD) by a margin of 1.7 units. This significant difference underscores the unique impact of penalty imposition on decision-making outcomes, emphasizing the crucial role of giveback considerations in unraveling the complexity of behavioral responses in experimental settings. Delving into the underlying mechanisms driving these differences holds promise for a deeper comprehension of the intricate dynamics in decision-making processes influenced by varying treatment conditions.

Paired SD vs. Random Non-SD

The treatments under scrutiny involve paired decisions with penalties for bribery (referred to as "Paired SD") and randomly paired decisions without penalties (designated as "Random Non-SD"). Surprisingly, the two treatments showed no statistically significant differences when considering bribery values. However, examining giveback values uncovered clear and noteworthy distinctions with robust statistical significance. In particular, the first treatment (Paired SD) exhibited a significantly higher average giveback value than the second treatment (Random SD), with a marked difference of 1 unit. This finding underscores the importance of considering not only the act of bribery but also the subsequent behavior of returning funds, revealing a nuanced aspect of decision-making dynamics within experimental settings. The observed discrepancy in giveback values prompts further exploration into the underlying mechanisms that drive such divergent outcomes, offering a more comprehensive understanding of the impact of penalties and randomization on decision-making behaviors.

Random Non-SD vs. Random SD

Surprisingly, the statistical outcomes did not point to any significant differences in the average bribe between the two treatments, suggesting a lack of substantial distinction in bribery amounts. This finding underscores the need to delve deeper into the nuances of decision-making processes within these treatments, where bribery alone may not capture the observed behavioral variations. In contrast, the average giveback difference test results present a compelling narrative of statistically significant disparities. Notably, the first treatment (Random Non-SD) stands out with a significantly higher average giveback value, surpassing the second treatment (Random SD) by a margin of 0.35 units. This pronounced difference in giveback values adds a layer of complexity to our understanding of decision-making dynamics, hinting at the multifaceted nature of responses within experimental settings. Exploring the underlying factors driving these observed distinctions promises to offer valuable insights into the interplay between randomization, penalties, and subsequent behaviors in decision-making processes.

Paired SD vs. Random SD

The outcomes of the mean difference tests conducted on the two treatment scenarios, specifically involving paired decisions with penalties (referred to as "paired SD") and decision-making in randomly paired settings with penalties (designated as "random SD"), indicate the absence of statistically significant differences. This observation suggests that the identified sentence pairs within these treatments do not exhibit significant variations in terms of mean differences. However, a deeper exploration of the decision-making dynamics within these treatments may provide a more nuanced understanding of the observed outcomes, shedding light on the intricacies of how penalties influence paired and randomly paired decision scenarios.

The main findings of the test result have revealed pivotal patterns within various treatments, yielding valuable insights into the dynamics between public officials and public interactions. The first implication is a discernible link between familiarity with public officials and an increased propensity for bribery. Officials with extended tenures display a heightened susceptibility to bribery, leading to outcomes that surpass their counterparts undergoing frequent rotations. This trend is underscored by higher mean values observed in treated groups, regardless of whether penalties are applied, compared to instances of random treatment. This study's "fixed pairing" concept pertains to prolonged official incumbency.

Second, introducing punitive measures that carry financial consequences demonstrates the potential to curb bribery incidents and associated givebacks. This notion is reinforced by comparing average values in the SD treatment, where both bribe and giveback mean values notably decrease compared to treatments lacking SD. Nevertheless, the study suggests that punitive measures are particularly effective when applied to bribe recipients. This discrepancy is likely due to the higher stakes faced by public officials, heightening their vulnerability compared to bribe givers.

Lastly, a combination of dual treatments involving random pairings and punitive approaches (SD) showcases the ability to mitigate the magnitudes of bribes and givebacks. For public officials, a strategic blend of rotational shifts and robust penalties emerges as a practical strategy to counteract bribery once an official's complicity is established. The findings highlight the importance of avoiding extended tenures for public officials, as demonstrated by the reduction in bribery occurrences through randomized decision-making pairings. The imposition of penalties and decisive actions, as demonstrated by sudden death scenarios, serves to reduce bribery tendencies for both parties involved significantly.

CONCLUSION

The main objective of this study is to investigate the effect of tenure duration and punishment on bribery using a laboratory experiment. This should be a distinctive alternative since corruption behavior might be difficult to observe using secondary data or when one faces a prominent constraint in qualitative analysis. In conclusion, this study underscores the need to curtail prolonged official tenures to mitigate bribery tendencies. The insights gained through rotational shifts and effective penalties shed light on the intricate interplay between officials and public interactions, offering pathways for improved governance and ethical conduct.

In public finance research, understanding the motivations and behaviors of individual government officials is paramount. Bribery, often perceived as a systemic issue, has roots in individual choices and motivations. This study begins by assuming that bribery arises primarily from the briber's own volition. However, we must critically examine the unique financial pressures and ethical dilemmas faced by individual government officials. Insufficient remuneration, the allure of supplementary income, or even personal financial hardships can some-

times drive these officials to solicit bribes, compromising the sanctity of public financial institutions.

Future studies should delve deeper into these individual motivations, potentially exploring the impact of officials' personal financial literacy, ethical training, and compensation packages on their susceptibility to bribery. By understanding these nuances, policy recommendations can be tailored to address the root causes of corruption at the individual level. Another facet worth investigating revolves around the individual consequences faced by government officials caught in bribery acts. Presently, our study administers punishments discreetly, focusing only on the individual in question. In the real world of public governance, the repercussions for a corrupt official extend beyond mere punishment. Their professional reputation, career trajectory, and even personal relationships might be affected. Public knowledge of an official's malpractices can serve as a deterrent for others in similar positions. Hence, future experiments could factor in these wider societal perceptions and their influence on the decisions of individual government officials suspected of engaging in bribery.

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