

# EVALUATION OF THE IMPACT OF PAY GAP ON PERFORMANCE - A STUDY ON DUAL SYSTEM BANKING

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## EVALUATION OF THE IMPACT OF PAY GAP ON PERFORMANCE - A STUDY ON DUAL SYSTEM BANKING

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### Abstract

Tournament theory studies are still limited to banks. This study examines the effect of the pay gap on banks and compares the effectiveness of tournament theory in Islamic banks and conventional banks. In addition, this study expands the pay gap indicators used in previous studies by using three indicators: director pay gap, commissioner pay gap and employee pay gap. The research sample is 23 banks, observed from 2009-2019, and resulted in 239 banks-year. The test results for all samples show that we do not find a salary gap relationship with bank performance. However, the subsample test by separating between Islamic bank and conventional bank, we found different findings. Tournament theory is effectively applied to the employee payroll system where a high employee pay gap will improve the performance of Islamic banks and conventional banks. However, the effect of tournaments on Islamic banks is greater than that of conventional banks. Tournament theory is not effectively applied to the salary system for the board of commissioners. However, the pay gap for directors of conventional banks, due to the large salary gap, causes communication, coordination and collaboration problems between directors and further reduces bank performance. However, in Islamic banks, the salary gap of directors has no effect on bank performance. We recommend banks to provide different salaries at various levels for employees to stimulate them to compete, use their skills to complete their tasks. However, we do not recommend that banks give a large pay gap to directors because it will have an impact on lowering performance.

Keywords: Pay Gap, communication, coordination, tournament theory, Islamic bank

### 1. Introduction

The salary policy for CEOs and employees has drawn the attention of researchers (Dai, Kong, & Xu, 2017). This policy will bring consequences from a fair distribution of wealth, and have an influence on work motivation (Herpen, Coolsa, & Praag, 2004); <sup>78</sup> employee performance (Hameed, Ramzan, Zubair, Ali, & Arslan, 2014), and organizational performance (Brown, Sturman, & Simmering, 2003). The distribution of this wealth has been discussed by Plato and today the condition is widening (Fair, 1971). Gómez-Bezares, Przychodzen, and Przychodzen (2019) noted that in 1980 the CEO salary gap with the lowest employees was 42:1 and rose to 347:1 in 2016 (Gómez-Bezares et al., 2019).

The main concern of researchers in the payroll system is the payroll policy, a bonus system that is given to employees and directors in improving company performance. Researchers have identified 2 different effects of this payroll policy. <sup>67</sup> The first approach is the tournament theory approach where <sup>7</sup> a large gap will have a positive impact on performance. Gómez-Bezares, Przychodzen, and Przychodzen (2019) and Dai et al. (2017b) have proven this tournament theory. <sup>11</sup> A large pay gap between the CEO and employees will improve performance (Dai et al., 2017). Ehrenberg and Bognanno (1990) have also shown that greater spread among awards given to employees <sup>10</sup> leads to greater effort and improved performance. In line with the tournament theory, employees will be more motivated to try their hardest to complete their assignments to obtain greater compensation (Dai et al., 2017), so that employees will get additional bonuses through this tournament (Chi, Liao, Wang, Zhao, & Ye, 2019). (Eriksson, 1999) and (Conyon, Peck, & Sadler, 2001) assessed that in companies that have many employees, the relationship between gap salaries and performance has a lower effect than companies that have few employees. This condition will have a low impact if the employee realizes that they have limited ability to win the competition (Eriksson, 1999).

However, with the social comparison approach, <sup>9</sup> the pay gap will have a negative impact on performance. This is because with a large difference in salary, employees will make comparisons between their salary and other people's salaries, make comparisons between the salary earned and their contribution to the company and make comparisons between salaries in one company and another. If they feel that there is unfair treatment, they will reduce their contribution proportionately (Chi et al., 2019). A large salary gap causes the gap between employees and executives to widen, increasing employee liquidity and decreasing emotional bonding (Wang, 2015). Another reason is that this large gap pay can have a negative effect, i.e. the difficulty

between CEOs to coordinate (Henderson & Fredrickson, 2014). This condition will have an impact on the low individual performance and in turn will have a negative impact on company performance.

The study of salary differences on performance conducted by previous studies uses company objects that do not use religious teachings as the basis for its operations, such as sharia entities. We argue that the impact of tournament theory on company performance will be different for companies with different organizational cultures (see (Kang & Lee, 2021); (Connelly, Crook, & Gangloff, 2014); (Chowdhury & Shams, 2020). Islamic banks use Islamic law as the basis for bank operations, including in building an organizational culture (Byarwati, 2016). Conventional banks do not use Islamic law. So that Islamic banks and conventional banks have different organizational cultures. To improve the results of the analysis, we compared the implementation of tournament theory in Islamic and conventional banks.

To the best of our knowledge, this is the first study that examines the tournament theory on Islamic banks and conventional banks and compares the two. (Liu, Hosain, & Li, 2020) (Chi et al., 2019) (Banker, Bu, & Mehta, 2016) (Yang, Yang, & Su, 2015) have conducted research on the effect of pay gap on performance using a tournament theory approach. However, they do not focus on conventional banks or Islamic banks and compare the implementation of tournament theory in both types of banks. So the research contributes to two things. First, this study fills the gap between the tournament theory studies in Islamic banks and conventional banks and the differences in the implementation of tournament theory in the two types of banks. Second, we add to the study of tournament theory and the payroll system in sharia entities that have not been carried out by previous researchers.

We present this study in several sections, i.e. the introduction section which contains the background of the research and the differences between this study and its predecessors. The second part presents the theoretical background and hypothesis development. The next section is the method and research results section. Furthermore, we present a discussion of the research results and conclusions. We also present recommendations to users and future researchers in this section.

## **2. Theoretical framework and hypothesis development**

### **2.1. Islamic Banks**

Islamic banks are banks that use Islamic law as the basis for bank operations. Islamic law prohibits adherents from dealing with interest, *gharar*, and *maysir*. Islam teaches guidelines, directions, lawfulness, and prohibitions on human actions. Islam also teaches its adherents to be just, grateful, and caring for others (Beekun, 2012) (Salin, Manan, & Kamaluddin, 2020). There are 4 values in Islam related to a Muslim's efforts at work, i.e. *ikhtiyar*, *tawakal*, sincerity, and patience. *Ikhtiyar* is a must for a Muslim to keep trying, using all their potential to complete their work. *Tawakal* means surrendering the result (outcome) to God. For a Muslim, they are obliged to always make effort to complete their work, but they believe that God determines the outcome. *Ikhlās* is accepting, pleased, and willing to the results of *ikhtiyar*. If the results do not match expectations, Muslims believe that these results are the best conditions that God has given them.

Islamic values are used as ethical guidelines that must be manifested in a Muslim manager such as being fair, trustworthy, acting well, being honest, patient, and humble. If implemented in business life, these values will have a positive impact on company performance. Islamic ethics prioritizes intentions over results, emphasizes fairness and generosity in the workplace and considers involvement in economic activities an obligation (Nasution & Rafiki, 2019). Islamic ethics increase employee confidence, hard work, commitment, dedication, work creativity and cooperation (Yousef, 2001). Therefore, it can be concluded that the application of Islamic business ethics in doing business can improve company performance (Buldan, Hamid, Sriyana, & Tohirin, 2021); (Basheer, Hameed, Sabir, & Jehangir, 2019); (Azmin, Bakar, & Ghani, 2018).

We consider that these Islamic values can be related to tournament theory. Tournament theory is used to describe the behavior of the reward structure and is needed to find the "optimal prize". (Connelly et al., 2014), and religion can influence employee behavior (Regnerus & Smith, 2005). Although in Islam the vital purpose of Muslims working is worship, Islam also emphasizes its followers to seek sustenance by working to earn a salary to support their families. In addition, employees have the right to get a salary for their work and employers are obliged to provide a fair salary (according to the output of work) to employees is an obligation. Companies can provide different bonuses based on the levels that employees earn (Wang, 2015). The higher the level (grade-level) they get, the bigger the bonus they will get. The assumption of this tournament theory is that employees will increase their performance to increase bonuses. Thus, the tournament theory is related to employee behavior on bonus policies (Lazear, 2018; Lee, 2006; Ponta, Delfino, &

Cainarca, 2020), and employee behavior is influenced by corporate culture (Roszkowska & Mele, 2020); (Szczepańska-Woszczyna, 2015).

## 2.2. Hypothesis Development

One theory that is widely used in explaining <sup>3</sup> the impact of the pay gap on company performance is the tournament theory. According to tournament theory, differences in employee rankings lead to different pay levels, and this is what triggers a pay gap. Companies that classify the levels of positions into various levels cause a large salary gap. Employees can get a salary that increases with their rank up. This condition will encourage them to compete in getting promotions; and will further increase the salary (Zhao & Wang, 2019). In the tournament theory approach, this competition <sup>35</sup> will have an impact on increasing employee performance (Gómez-Bezares et al., 2019).

Tournament theory is used to find optimal prize where this happens if the company can increase tournament productivity (Connelly et al., 2014). In companies that give a high reward difference, workers will be motivated to get rewards by increasing their productivity. Conversely, a small difference in prizes will reduce performance, because they are not given incentives to compete. Thus, tournament theory involves choosing the optimal spread of prizes in a strategic manner that maximizes the tournament's productive results.

(Liu et al., 2020), using 1189 Chinese companies, <sup>4</sup> found that there is a positive relationship between the salary gap and the company's future performance. The results further show that management power and excessive trust <sup>4</sup> weaken the relationship between the salary gap and company performance. They identified two reasons for this positive relationship. First, China is experiencing rapid <sup>4</sup> labor market development and competition among workers is gradually normalizing within companies. Second, differences <sup>4</sup> in salary compensation can satisfy the manager's "vanity" psychology and stimulate improvement in staff performance.

(Banker et al., 2016) found a large salary gap due to the wage premium for expert directors can result in relatively better company performance. On the other hand, the wage gap may be lower because the wage premium for expert directors is lower. Giving low wages to experts causes them not to be able to use all of their expertise in the company, <sup>27</sup> which has a negative impact on company performance. (Y. Xu, Liu, & Lobo, 2016) who performed a study on go-public companies in China <sup>21</sup> found that the pay gap is positively related to company performance. The relationship between the

salary gap and performance is getting stronger than the big companies. However, they do not find a relationship between the two in state-owned enterprises, where the executive managerial and compensation markets are regulated by the government.

(Chi et al., 2019) found that the pay gap relationship to performance is non-linear. The salary gap has an effect on employee performance and increases with a decreasing rate. This non-linear effect is due to the interaction of tournament incentives and social comparison effects, which are both opposites. Based on tournament theory, employees will compete by exerting their expertise and skills to meet achievements and finally they get bonuses. In addition, employees who excel are easier to occupy certain positions and earn higher salaries. This condition will improve company performance. Although (Yang et al., 2015) found that it has a greater effect on performance than the provision of salaries based on achievement or position, bonuses and salaries that cause a bigger pay gap have consequences for improving company performance.

H1: pay gap improves company performance

The impact of giving bonuses which causes a large pay gap has a complex relationship. In a growing company, company growth can still be optimized by stimulating employees to improve performance with game tournaments. However, in an established company where the company's growth is not as high as a small company, it may have a different effect where the company's growth cannot increase with certainty in line with the increase in the number of bonuses given. Therefore, game theory is more proven in growing companies.

Another tournament theory assumption is to equate individual employees, that is, they will be motivated by an increase in bonuses and view all employees as having the same ability to solve the complexities of company operations. This condition prompted (Chi et al., 2019) to recommend on looking at individual employee factors in explaining tournament theory. This may be the cause (Chi et al., 2019) and (Dai et al., 2017) found a non-linear relationship between the pay gap and nonlinear performance (u-shape). We argue that organizational culture also plays a role in explaining the pay gap relationship with performance. This is due to the fact that employee behavior (to improve or not improve performance) can be influenced by company culture (Arrah, Caglar, & Bayram, 2018; Cherian, Gaikar, Paul, & Pech, 2021; Jelavić, Aleksić, & Braje, 2021). Company culture will shape perceptions and subsequently will have a high influence on employee performance, attitudes, and behavior (Arrah et al., 2018; Cherian et al., 2021).

<sup>6</sup> Islamic banks are banks that use Islamic teachings as the main basis for bank operations. Islamic teachings that contain prohibitions, obligations, and appeals that are implemented by Islamic banks in bank operations. The Islamic teachings adopted by Islamic banks are reasonable to implement Islamic ethics (*akhlaqul karimah*) for all their employees (Nasution & Rafiki, 2019). Studies of (Buldan et al., 2021) and (Nasution & Rafiki, 2019) has proven that Islamic ethics which emphasizes fairness, honesty, generosity, and trust are proven to increase motivation and appreciation received by employees because the ethics can increase employee commitment to the organization. Islamic ethics emphasize its people to always work hard (Quran 17:19), not easily give up (Quran 39: 53-54) and be serious in working (Quran 29:69). (Buldan et al., 2021) (Nasution & Rafiki, 2019) prove that Islamic ethics which emphasizes fairness, honesty, generosity, and trust are proven to increase motivation and rewards received by employees because Islamic ethics can increase employee commitment to the organization. So, the concept of *ikhtiyar* (free-will) is emphasized for Muslims in their work.

(Yousef, 2001) has found that Islamic values applied by employees will increase employee confidence, <sup>24</sup> hard work, commitment, <sup>51</sup> dedication, work creativity and foster cooperation between employees. Islamic values implemented by employees collectively have an impact on increasing company performance (Buldan et al., 2021) (Basheer et al., 2019) (Azmin et al., 2018). On this basis, we argue that Islamic values strengthen tournament theory in which all Muslims are required to strive to work as worship to God. Based on this argument, we develop a proposition:

H2: Pay gap can increase <sup>73</sup> the performance of Islamic banks more than conventional banks

### 3. Method

<sup>22</sup> This research was conducted to examine the effect of salary gap on bank performance, and to compare the findings on <sup>40</sup> Islamic banks with conventional banks. We used banks in Indonesia because Indonesia has a dual banking system where Islamic banks and conventional banks compete with each other to improve their performance. The number of banks used as a sample was <sup>82</sup> 23 banks (12 conventional banks and 11 Islamic banks). The observation period is 11 years (2009-2019). We collected data manually through annual reports and GCG reports which were downloaded through the websites of each bank. Banks in Indonesia are required by regulators to provide both reports.

(M. Xu, Kong, & Kong, 2017), (Banker et al., 2016), (Faleye, Reis, & Venkateswaran, 2013) measure the pay gap by comparing the average salary of employees with the average salary of directors. The average employee salary is measured by comparing the cost of employee salaries divided by the number of employees. With this method, they compare the gap between the salaries of employees and the salaries of directors, and it does not describe the gap between the salaries of the lowest employees and the salaries of the highest employees. We consider that large companies have a tiered career structure, so there can be a large salary gap between employees. We complement the method used by (M. Xu et al., 2017), (Banker et al., 2016), (Faleye et al., 2013) by developing three pay gap indicators: employee pay gap, director pay gap, and commissioner pay gap. The employee pay gap (EMP\_GAP) is measured by the comparison between the highest employee salary and the lowest employee salary. The director's pay gap (DIR\_GAP) is measured by the ratio of the highest director's salary to the lowest director's salary. The commissioner pay gap (COM\_GAP) is measured by the ratio of the salary of the highest commissioner board to the salary of the lowest commissioner board. Following (Hu, Pan, & Tian, 2013), salary is calculated based on the amount received by the employee, including bonuses and allowances.

The bank's financial performance is measured by the ratio of net income to assets (ROA) and the ratio of net income to capital (ROE). ROA is measured by the ratio of net income to total assets (Mukhibad & Setiawan, 2020). ROE is measured by the ratio of net income to total assets (Mukhibad & Setiawan, 2020). We cannot use market-based performance measures such as Tobin-Q because Indonesia only has 3 Islamic banks listed on the stock exchange.

In addition to the pay gap and financial performance variables, we use corporate governance and financial factors as control variables. Indonesia uses a two-tier system and separates the supervisory and implementing functions. The supervisory function is held by the board of commissioners and the executive function is held by the director. We use the characteristics of the board of commissioners and directors as indicators of corporate governance. Following (Musallam, 2020), (Zhou, Owusu-Ansah, & Maggina, 2018), (Pathan & Faff, 2013), the characteristics of the board of directors have an influence on bank performance. Board of commissioners indicators are measured by the ratio of independent commissioners (IND\_COM) to all members of the commissioners (Mukhibad & Setiawan, 2020). The number of commissioners (COM\_SIZE) is measured by the number of commissioners (Rachman, 2014) (Hu et al., 2013). The expertise of the board of commissioners (COM\_EXP) is measured by the ratio

of members of the board of commissioners who have a banking/finance/accounting educational background to all members of the board of commissioners. The director's expertise indicator (DIR\_EXP) is measured by the ratio of directors with banking/finance/accounting educational backgrounds to all directors (Johl, Kaur, & Cooper, 2015).

Following (Hu et al., 2013) (Lin & Lu, 2009), we use financial factors as control variables. Financial factors include: (1) loan (LOAN) measured by the ratio of total financing to assets (Suzuki & Uddin, 2016), (Majid, Musnadi, & Putra, 2014), (2) salary expense ratio (SALARY) measured by cost ratio salaries, bonuses and allowances to bank operating income (Nyberg, Pieper, & Trevor, 2016), (3) equity ratio (EQUITY) is measured by the ratio of total equity to assets (Léon & Weill, 2018), and bank size (LNSIZE) is measured with the natural logarithm of total assets. In addition, we added a bank type control variable (BANK\_KIND) because our sample uses these two bank types. The differences in systems, principles, and operations between Islamic banks and conventional banks (Mukhibad, Yudo Jayanto, Suryarini, & Bagas Hapsoro, 2022) serve as our basis for testing the model on a sample of Islamic banks and conventional banks.

The data were analyzed using panel data regression with a random effect model (RE) or a fixed effect model (FE). The selection of the FE or RE model is determined based on the results of the Hausman test where if the results of this test produce a probability of less than 0.05, then the model used is FE and vice versa. Before the data is tested, we will test multicollinearity, autocorrelation, and heteroscedasticity. The multicollinearity test uses pair-wise correlation, where if the test results produce a correlation between independent variables >0.8, a serious correlation problem occurs (Gujarati & Porter, 2009: 338). In addition, we use the variance inflation factor (VIF). A VIF score of less than 0.10 indicates the absence of multicollinearity (Law, 2011). The autocorrelation test uses the wooldridge test where the probability is less than 0.05 indicating an autocorrelation problem (Chai & Mirza, 2019). The heteroscedasticity test uses a wald test where the probability <0.05 indicates a heteroscedasticity problem (Hidayat, Sakti, & Al-Balushi, 2021).

The form of this equation is as follows.

$$ROA_{i,t} = \alpha + \beta_1 DIR\_GAP_{i,t} + \beta_2 CONTROL_{i,t} + \varepsilon$$

$$ROA_{i,t} = \alpha + \beta_1 COM\_GAP_{i,t} + \beta_2 CONTROL_{i,t} + \varepsilon$$

$$ROA_{i,t} = \alpha + \beta_1 EMP\_GAP_{i,t} + \beta_2 CONTROL_{i,t} + \varepsilon$$

$$ROE_{i,t} = \alpha + \beta_1 DIR\_GAP_{i,t} + \beta_2 CONTROL_{i,t} + \varepsilon$$

$$ROE_{i,t} = \alpha + \beta_1 COM\_GAP_{i,t} + \beta_2 CONTROL_{i,t} + \varepsilon$$

$$ROE_{i,t} = \alpha + \beta_1 EMP\_GAP_{i,t} + \beta_2 CONTROL_{i,t} + \varepsilon$$

**13**  
**4. Results**

**4.1. Statistic Descriptive**

Table 1 shows that banks in Indonesia have a salary gap between employees of 36.374. This gap is larger than the average director's pay gap of 1.830. The salary gap for commissioners has a lower average than that of directors at 1.550. Islamic banks have a lower pay gap (pay gap for employees, directors, commissioners) than conventional banks. The low gap indicates that Islamic banks have simpler payroll structures than conventional banks. This policy was probably taken because of the lower Islamic bank assets than conventional banks, where large assets cause greater complexity in bank operations.

Bank financial performance as measured by ROA and ROE shows that Islamic banks have better financial performance than conventional banks. Conventional banks have an average ROA of 0.026% and an average ROE of 0.207%. The two banks also reported losses of -0.1208% (BCA Svariah) and -0.0009% (Bank Victoria).

Table 1. Descriptive Statistics

	N	Mean	Std. Dev.	Min.	Max.
Panel A (All banks)					
ROA	239	0.020	0.026	-0.121	0.187
ROE	239	0.143	0.189	-0.940	0.965
COM_GAP	234	1.550	0.681	0.120	4.000
DIR_GAP	234	1.830	0.793	1.000	5.560
EMP_GAP	235	36.374	24.497	0.000	165.900
IND_COM	239	0.600	0.138	0.250	1.000
COM_SIZE	239	4.720	1.627	2.000	9.000
COM_EXP	239	0.731	0.217	0.200	1.000
DIR_EXP	239	0.717	0.271	0.125	2.500
LOAN	233	59.804	34.663	0.000	100.000
SALARY	239	0.199	0.149	0.024	2.089
EQUITY	239	0.168	0.228	0.000	2.618
LNSIZE	239	31.165	2.105	25.933	36.447
KIND_BANK	239	0.478	0.501	0.000	1.000
Panel B (Islamic Banks)					
ROA	107	0.013	0.031	-0.121	0.136
ROE	107	0.065	0.190	-0.940	0.648
COM_GAP	105	1.470	0.577	1.000	3.510

DIR_GAP	105	1.703	0.646	1.000	4.460
EMP_GAP	105	27.378	17.889	7.030	88.600
IND_COM	107	0.655	0.157	0.250	1.000
COM_SIZE	107	3.533	0.769	2.000	5.000
COM_EXP	107	0.726	0.262	0.200	1.000
DIR_EXP	107	0.697	0.335	0.200	2.500
LOAN	103	33.863	31.679	0.000	100.000
SALARY	107	0.233	0.197	0.024	2.089
EQUITY	107	0.234	0.328	0.000	2.618
LNSIZE	107	29.393	1.481	25.933	36.447
Panel C (Conventional Banks)					
ROA	132	0.026	0.019	-0.001	0.187
ROE	132	0.207	0.162	-0.008	0.965
COM_GAP	129	1.616	0.750	0.120	4.000
DIR_GAP	129	1.934	0.884	1.100	5.560
EMP_GAP	130	43.640	26.675	0.000	165.900
IND_COM	132	0.556	0.100	0.333	1.000
COM_SIZE	132	5.682	1.500	3.000	9.000
COM_EXP	132	0.735	0.173	0.333	1.000
DIR_EXP	132	0.734	0.205	0.125	1.000
LOAN	130	80.358	20.108	10.651	93.910
SALARY	132	0.171	0.083	0.041	0.556
EQUITY	132	0.115	0.037	0.001	0.210
LNSIZE	129	32.601	1.278	29.627	36.447

Table 2. Matrix Correlation

	COM_GAP	DIR_GAP	EMP_GAP	IND_COM	COM_SIZE	COM_EXP	DIR_EXP	LOAN	SALARY	EQUITY	LNSIZE	KIND_BANK
COM_GAP	1											
DIR_GAP	0.232	1										
EMP_GAP	0.086	0.404	1									
IND_COM	-0.019	0.015	-0.007	1								
COM_SIZE	-0.278	-0.242	0.244	-0.430	1							
COM_EXP	0.216	0.078	0.077	-0.070	-0.112	1						
DIR_EXP	-0.136	-0.260	-0.125	-0.095	0.202	-0.012	1					
LOAN	0.209	0.072	0.293	-0.204	0.462	-0.051	-0.072	1				
SALARY	-0.119	-0.002	-0.051	0.046	-0.102	0.115	0.006	-0.200	1			
EQUITY	-0.048	-0.014	-0.119	-0.145	-0.177	0.064	-0.149	-0.248	0.192	1		
LNSIZE	-0.059	-0.077	0.285	-0.313	0.771	-0.093	0.238	0.510	-0.145	-0.263	1	
KIND_BANK	-0.099	-0.115	-0.343	0.365	-0.681	0.007	-0.061	-0.679	0.198	0.270	-0.779	1

The results of the multicollinearity test (table 2) show that there is no correlation between the independent variables above 0.8 (Gujarati & Porter, 2009: 338). This shows that there is no multicollinearity in the model. The results of the VIF test (table 3) on all models have scores lower than 10. These results confirm that there is no multicollinearity in all models (Law, 2011). Breusch and Pagan Lagrangian multiplier test on all models has a score below 0.05, indicating that there is heterogeneity of data between banks and recommends using a FE or RE model. The FE and RE models were chosen based on the results of the Hausman test where the probability <0.05 recommends FE as a data analysis method and vice versa. The results of the Hausman test (Table 3) on models 2A, 2C, 3B, 3C, 4A, 4C, 6A, and 6C resulted in some models having a probability of less than 0.05 and recommending FE model. Another model produces a probability score of more than 0.05 and recommends the RE model for data analysis.

Following (Guermazi, 2020), we used the Wooldridge test to test for autocorrelation. The wooldridge test score below 0.05 indicates that there is autocorrelation in the model and vice versa. The results of the wooldridge test are presented in table 3. All models, except models 1B, 2A, 2B, 2C, 3A, 3B, 3C, 6A, 6B, and 6C, had a wooldridge score of more than 0.05 and indicated no autocorrelation. We also performed a modified wald test to test for heteroscedasticity. The results of the modified wald test on all models yielded a p-value of 0.000 and indicated that all models had heteroscedasticity problems. To overcome these two problems, we use robust standard deviation in data analysis (Hoechle, 2007). Following (Hoechle, 2007), we added the command “vce (robust)” for models experiencing heteroscedasticity and added a command “cluster ()” for models experiencing heteroscedasticity and autocorrelation. This method was also carried out by (Chamberlain, Hidayat, & Khokhar, 2020) (Almutairi & Quttainah, 2017).

The test results of all models, we present in table 3.

Table 3. FEM and REM Test Results

	ALL Bank												IB						CB					
	ROA			ROE			ROA			ROE			ROA			ROE			ROA			ROE		
	1A	1B	1C	2A	2B	2C	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	6C						
COM_GAP	0.006	-	-	-0.048	-	-	0.006	-	-	0.058	-	-	0.007	-	-	-0.060	-	-						
EMP_GAP	0.006	-	-	0.036	-	-	0.013	-	-	0.036	-	-	0.006	-	-	0.036	-	-						
DIR_GAP	-	0.010	-	-	0.011	-	-	0.001	-	-	-	-	-	0.012	-	-	0.001	-						
	-	0.001	-	-	0.001	-	-	0.000	-	-	-	-	-	0.001	-	-	0.011	-						
	-	-	-0.002	-	-	-0.007	-	-	0.002	-	0.058	-	-	-	-0.007	-	-	-0.008						
	-	-	0.002	-	-	0.021	-	-	0.004	-	0.036	-	-	0.003	-	-	-	0.014						
IND_COM	-0.005	-0.007	-0.005	-0.348	-0.356	-0.347	0.005	-0.018	-0.021	-0.127	0.133	-0.127	0.017	0.031	0.022	-0.545	-0.613	-0.571						
	0.016	0.018	0.017	0.103	0.115	0.106	0.024	0.018	0.017	0.106	0.083	0.106	0.031	0.029	0.025	0.123	0.255	0.150						
COM_SIZE	0.001	0.001	0.000	0.011	0.012	0.010	0.003	0.002	0.004	0.042	0.046	0.042	0.002	0.000	-0.002	0.030	0.000	0.029						
	0.002	0.002	0.002	0.029	0.030	0.030	0.005	0.004	0.005	0.023	0.037	0.023	0.003	0.001	0.002	0.039	0.016	0.037						
COM_EXP	0.001	0.001	0.003	0.021	0.018	0.014	-0.002	0.002	0.009	0.018	-0.025	0.018	-0.020	-0.012	-0.018	-0.230	-0.124	-0.235						
	0.010	0.011	0.010	0.097	0.094	0.096	0.015	0.018	0.016	0.123	0.108	0.123	0.012	0.009	0.008	0.149	0.105	0.153						
DIR_EXP	-0.008	-0.010	-0.009	-0.006	0.003	0.006	-0.008	-0.013	-0.013	-0.085	-0.021	-0.085	-0.008	-0.022	-0.024	0.225	0.118	0.266						
	0.009	0.009	0.009	0.054	0.059	0.059	0.009	0.014	0.015	0.062	0.056	0.062	0.009	0.012	0.011	0.171	0.145	0.212						
LOAN	0.000	0.000	0.000	-0.001	-0.001	-0.001	0.000	0.000	0.000	-0.001	-0.001	-0.001	0.001	0.001	0.001	0.001	0.003	0.001						
	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.006	0.001	0.006						
SALARY	-0.004	-0.002	-0.005	0.030	0.039	0.034	-0.020	-0.016	-0.015	0.011	0.005	0.011	0.101	0.108	0.100	0.280	0.215	0.274						
	0.011	0.013	0.011	0.043	0.041	0.041	0.012	0.008	0.008	0.059	0.032	0.059	0.065	0.051	0.050	0.105	0.160	0.108						
EQUITY	0.002	0.001	0.001	0.007	0.008	0.009	0.006	-0.002	0.000	0.050	0.039	0.050	-0.057	-0.012	0.015	-2.096	-0.854	-1.937						
	0.004	0.003	0.004	0.042	0.040	0.039	0.007	0.004	0.004	0.046	0.032	0.046	0.079	0.054	0.052	0.693	0.663	0.855						
LNSIZE	0.000	0.001	0.000	-0.029	-0.029	-0.029	0.002	-0.001	0.000	-0.021	-0.003	-0.021	-0.001	0.002	0.003	-0.002	0.001	-0.007						
	0.002	0.002	0.002	0.016	0.015	0.015	0.003	0.003	0.003	0.020	0.017	0.020	0.004	0.003	0.003	0.033	0.024	0.035						
_cons	0.022	0.014	0.037	1.276	1.191	1.218	-0.041	0.053	0.032	0.547	-0.145	0.547	0.014	-0.071	-0.050	0.651	0.363	0.702						
	0.070	0.059	0.067	0.576	0.515	0.523	0.063	0.087	0.092	0.632	0.457	0.632	0.103	0.067	0.072	1.325	0.704	1.436						

	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No
Control Bank Kind	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Breusch and Pagan Lagrangian multiplier test	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VIF Means	2.09	1.96	2.05	1.38	1.33	1.32	1.33	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38
Wooldridge test	0.0451	0.073	0.0392	0.324	0.324	0.324	0.3998	0.3013	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324	0.324
Modified Wald test	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hausman	0.9673	0.92765	0.98	0.0272	0.0272	0.4107	0	0	0.0272	0.4452	0.0272	0.9063	0.9737	0.2375	0.01284	0.34426	0.0001
R-Square	0.0388	0.0305	0.0691	0.0818	0.0818	0.0459	0.1076	0.0677	0.0818	0.0348	0.0818	0.171	0.1351	0.0953	0.2994	0.2431	0.2793
N	228	229	228	101	101	101	101	101	101	101	101	127	128	127	127	128	127

Table 3 presents the coefficient and standard error values. The standard error score is based on the robust standard error value. This method is used to solve the

problems of autocorrelation and heteroscedasticity (Hoechle, 2007). \*\*\* sig. 1%; \*\* sig. 5%; \* sig. 10%

## 4.2. Discussion

Table 3 for all banks shows that the employee salary gap (EMP\_GAP) has no effect on ROA and ROE. The same result also shows the director salary gap (DIR\_GAP) and commissioner salary gap (COM\_GAP) which are not proven to influence ROA and ROE. This finding shows that tournament theory is not effectively applied to employees, directors, and commissioners of banks in Indonesia. The ineffectiveness of tournament theory on directors and commissioners' remuneration policies shows that banks in Indonesia take a policy to provide salaries that tend to be evenly distributed. This is to support the effectiveness of communication, cooperation, and collaboration among employees, directors, and commissioners, so that their effect on competition is not dominant. The policy of reducing the salary gap. The salary gap can lead to negative attitudes of employees, feeling exploited and indifferent to bank performance. This result is different from (Liu et al., 2020) (Y. Xu et al., 2016) (Banker et al., 2016) (Yang et al., 2015) (Hu et al., 2013). We argue that this difference in results is due to differences in the payroll system controlled by the government. In Indonesia, the remuneration policy is monitored by the government by setting a minimum wage. This policy reduces the ability of banks to carry out tournament theory.

The results of the study using conventional banks as research samples showed that the employee salary gap (EMP\_GAP) had a positive effect at the 5% level on ROA. However, the employee salary gap has no effect on ROE. The different results are shown by the commissioner salary gap (COM\_GAP) which is not proven to influence ROA and ROE. Different results are also shown by the director salary gap (DIR\_GAP). The director's salary gap has a negative effect on ROA but does not affect ROE. The test results using conventional banks show that tournament theory is effectively implemented on conventional bank employees where the salary gap supports employees to be competent and subsequently has a positive impact on improving bank performance (Y. Xu et al., 2016). However, the salary gap for directors strengthens the behavioral theory, where the salary gap will reduce bank performance. In this approach, the salary gap will create communication, coordination problems, and does not promote effective collaboration among directors (Yang et al., 2015) (Wang, 2015) (Henderson & Fredricksonckson, 2014). This disparity in the salary of directors will reduce the emotional bond of directors and lead to an indifferent attitude towards bank performance (Wang, 2015).

The results of the study using a sample of Islamic banks produced different findings. Table 3 provides evidence that the employee salary gap (EMP\_GAP) in Islamic banks has a positive

effect on ROA and ROE. The director's salary gap (DIR\_GAP) has no effect on ROA and ROE. The same finding also applies to the commissioner salary gap (COM\_GAP) which has no effect on ROA or ROE. These results indicate that the tournament theory is effectively implemented on Islamic bank employees. Tournament theory creates salary by giving different bonuses to employees. Employees who have good performance will be given a large bonus and vice versa employees who have lower performance will be given a low bonus. This range of bonuses is what causes the salary gap between employees. Giving bonuses based on performance will encourage employees to be motivated by using all their resources to complete their tasks, so they will get bigger bonuses (Dai et al., 2017) (Chi et al., 2019).

The difference in results from the tournament theory in Islamic banks and conventional banks may be due to differences in assets and the large number of employees between Islamic banks and conventional banks. Islamic banks in Indonesia have an asset percentage of 5.3% of all bank assets in Indonesia (Mukhibad, Muthmainah, & Andraeny, 2020). These low assets encourage employees to compete in performing their respective duties, so that it has a positive impact on bank performance. In addition, lower number of Islamic bank employees will have a more effective impact on the implementation of tournament theory than conventional banks that have larger number of employees (Eriksson, 1999); (Conyon et al., 2001).

In addition, the more effective implementation of the tournament theory to Islamic banks than conventional banks may be seen because of the cultural differences between the two banks. Islamic banks that use Islamic law guide them to keep making free-will (*ikhtiyar*) to perform their duties. Completing a mandated task is something that must be completed by a Muslim. (Buldan et al., 2021), (Basheer et al., 2019), and (Azmin et al., 2018) have provided evidence that the Islamic business ethics implemented by employees will have a positive impact on company performance. Thus, Islamic culture can increase the effectiveness of the tournament theory, so that the employee competition system will be more effective in improving bank performance.

The effectiveness of applying the tournament theory to Islamic banks is also applied to the bonus system for the director. This result can see the effectiveness of the director's labor market at the Islamic bank which demands the director to compete by showing their best performance. An effective labor market will encourage individual directors to fight for the highest position and earn bigger bonuses (Liu et al., 2020); (Hu et al., 2013). The very low number of Islamic banks in Indonesia, that is not comparable to the Muslim population in Indonesia, causes the high potential

for Islamic banks in Indonesia to grow beyond conventional banks. This growth potential causes directors to always devote their skills, innovate, and take better strategic policies to improve bank performance. The results of this study on Islamic bank confirm the findings of previous studies (Lin & Lu, 2009) (Hu et al., 2013) (Ismail, Yabai, & Hahn, 2014) (Y. Xu et al., 2016) that the director's salary gap will improve company performance.

#### 4.3. Robustness and Endogeneity Test

We tested all major models by adding the number of directors as a robustness test. We use this method because the director is a board that has direct duties in managing bank resources (Hillman & Dalziel, 2003), so the number of directors will affect the bank's success in managing bank resources, innovation, and bank financial performance (Sierra-Morán, Cabeza-García, González-Álvarez, & Botella, 2021) (Kalsie & Shrivastav, 2016) (Ali, 2018). Using the same steps as the main model test, we present the results of this robustness test in table 4. The test results in table 4 show that using the entire sample, the salary gap for directors, commissioners and employees does not affect bank performance. These test results corroborate our main test results.

Table 4. Robustness Test

	All Banks						Conventional Banks						Islamic Banks					
	ROA		ROE		29 ROA	ROE	ROA		ROE		ROA	ROE	ROA		ROE			
COM_GAP	0.006	-0.047	-	-	0.006	-	-	0.025	-	-	0.005	-	-	0.003	-	-		
EMP_GAP	0.006	0.038	-	-	0.006	-	-	0.032	-	-	0.012	-	-	0.033	-	-		
DIR_GAP	-	-	0.011	0.001	-	0.001	-	-	0.001	-	-	0.001	-	-	0.003	0.003		
DIR_EXP	-	-	0.001	0.001	-	0.001	-	-	0.001	-	-	0.001	-	-	0.003	0.001		
DIR_SIZE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
IND_COM	-	-	-0.001	-	-0.008	-	-0.007	-	-	-0.014	-	-	-0.001	-	-	0.003		
IND_SIZE	-	-	0.002	-	0.021	-	0.003	-	-	0.015	-	-	0.004	-	-	0.033		
COM_SIZE	-0.004	-0.352	-0.360	-0.354	0.019	0.032	-0.475	-0.556	-0.590	-0.005	-0.019	-0.006	0.253	0.133	0.133	0.253		
COM_EXP	0.016	0.106	0.116	0.109	0.032	0.034	0.277	0.188	0.152	0.028	0.015	0.031	0.133	0.075	0.075	0.133		
LOAN	0.001	0.000	0.012	0.013	0.002	0.001	-0.002	0.038	0.031	-0.005	0.002	-0.006	0.009	0.026	0.026	0.009		
SALARY	0.002	0.001	0.030	0.030	0.003	0.002	0.019	0.040	0.038	0.007	0.004	0.007	0.033	0.026	0.026	0.033		
EQUITY	0.001	0.002	0.021	0.019	-0.020	-0.016	-0.124	-0.256	-0.263	-0.005	0.002	-0.004	-0.039	-0.053	-0.039	-0.039		
DIR_SIZE	0.010	0.010	0.096	0.093	0.012	0.009	0.139	0.159	0.154	0.016	0.017	0.014	0.118	0.100	0.118	0.118		
LNSIZE	-0.007	-0.009	-0.001	0.000	-0.008	-0.017	-0.022	0.071	0.242	0.004	-0.014	0.004	0.038	0.016	0.038	0.038		
_cons	0.009	0.010	0.057	0.061	0.009	0.011	0.118	0.232	0.214	0.008	0.015	0.008	0.056	0.054	0.056	0.056		
COM_GAP	0.000	0.000	-0.001	-0.001	0.001	0.001	0.002	0.003	0.004	0.002	0.001	0.002	-0.001	-0.001	-0.001	-0.001		
EMP_GAP	0.000	0.001	0.001	0.001	0.011	0.001	0.002	0.008	0.008	0.001	0.001	0.002	0.001	0.001	0.001	0.001		
DIR_GAP	-0.004	0.031	0.040	0.035	0.100	0.106	0.099	0.328	0.318	-0.017	-0.016	-0.019	-0.024	0.010	-0.024	-0.024		
DIR_EXP	0.011	0.044	0.043	0.042	0.065	0.058	0.224	0.130	0.113	0.009	0.008	0.011	0.026	0.031	0.026	0.026		
DIR_SIZE	0.002	0.006	0.007	0.007	-0.057	-0.032	-0.473	-2.125	-1.718	0.008	-0.002	0.007	0.046	0.036	0.046	0.046		
LNSIZE	0.004	0.042	0.040	0.039	0.078	0.056	0.674	0.964	0.886	0.009	0.003	0.009	0.025	0.027	0.025	0.025		
_cons	0.002	-0.004	-0.005	-0.007	0.001	0.002	0.014	-0.024	-0.023	0.010	0.000	0.010	0.032	0.017	0.032	0.032		
COM_SIZE	0.002	0.014	0.014	0.013	0.001	0.001	0.013	0.016	0.020	0.006	0.005	0.007	0.026	0.022	0.026	0.026		
COM_EXP	0.000	-0.028	-0.028	-0.028	-0.002	0.000	-0.002	0.019	0.011	0.001	-0.001	0.000	0.004	0.004	0.004	0.004		
LOAN	0.003	0.016	0.015	0.015	0.005	0.004	0.028	0.037	0.039	0.002	0.003	0.002	0.018	0.018	0.018	0.018		
SALARY	0.025	1.292	1.207	1.249	0.035	0.005	0.392	-0.105	0.040	-0.022	0.055	0.001	-0.377	-0.345	-0.377	-0.377		

Control Bank	0.071	0.060	0.066	0.571	0.514	0.523	0.114	0.104	0.115	0.829	1.637	1.674	0.062	0.075	0.050	0.571	0.443	0.571
19 Breusch and Pagan Lagrangian multiplier test	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No
VIF Means	0.000	0.000	0.000	0.028	0.0150	0.044	0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	2.090	1.860	2.050	2.570	2.400	2.480	2.780	2.520	2.550	2.780	2.520	2.550	1.430	1.480	1.480	1.480	1.460	1.480
Wooldridge test	0.045	0.063	0.039	0.096	0.067	0.090	0.013	0.024	0.036	0.062	0.109	0.049	0.339	0.375	0.287	0.309	0.222	0.309
20 Modified Wald test	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hausman	0.967	0.671	0.980	0.000	0.000	0.000	0.892	0.997	0.367	0.158	0.000	0.000	0.837	0.000	0.350	0.594	0.299	0.594
R-Square	0.040	0.038	0.030	0.078	0.069	0.069	0.173	0.159	0.103	0.130	0.302	0.293	0.019	0.108	0.016	0.070	0.020	0.070
N	228	229	228	228	229	228	127	128	127	127	128	127	101	101	101	101	101	101

Table 4 presents the coefficient and standard error values. The standard error score is based on the robust standard error value. This method is used to solve the problems of autocorrelation and heteroscedasticity (Hoechle, 2007). \*\*\* sig. 1%; \*\* sig. 5%; \* Sig. 10%.

Following (Roberts & Whited, 2013) endogeneity problems can occur in corporate financial research. The problem of endogeneity in the model causes inconsistent research results and wrong conclusions to be drawn, resulting in incorrect theoretical conclusions and interpretations (Mukhibad et al., 2022). To overcome this, we use suggestions from (Ullah, Akhtar, & Zaefarian, 2018) and (Wintoki, Linck, & Netter, 2012) to use the Generalized Method of Moments (GMM). We followed the steps (Mukhibad et al., 2022) in conducting the GMM test and our test results are presented in table 5.

The GMM System test shows that the probability score for all models is 0.05 lower. The results of the AR test (1) resulted in a probability score lower than 0.05. However, AR (2) produces a probability greater than 0.05. The results of the Sargan and AR (2) tests indicate that the instrument and specification model are valid.

Table 5 shows that lag 1 ROA is not significant because it produces a p-probability of more than 0.05. However, lag 1 ROE has a significant effect on ROE. These results indicate that there is endogeneity of ROE. The GMM test shows that the salary gap for directors, commissioners and employees has no effect on ROE. So, the GMM test results confirm the results of our main model test.

**Table 5. Endogeneity Test**

	ROA			ROE		
LAG1 ROA/ ROE	0.098	0.099	0.079	0.275 **	0.272 ***	0.270 ***
	0.063	0.063	0.064	0.073	0.073	0.073
DIR_SAL_GAP	-0.004 0.004	- -	- -	0.000 0.028	- -	- -
EMP_SAL_GAP	- -	0.000 0.000	- -	- -	0.004 0.001	- -
COM_SAL_GAP	- -	- -	0.010 ** 0.005	- -	- -	-0.009 0.039
IND_COM	-0.006 0.026	-0.014 0.026	-0.008 0.026	-0.114 0.191	-0.241 0.195	-0.107 0.190
COM_SIZE	-0.003 0.004	-0.003 0.004	-0.002 0.004	0.061 ** 0.025	0.041 0.026	0.058 ** 0.025
COM_EXP	0.014 0.012	0.016 0.012	0.011 0.012	0.019 0.088	-0.015 0.090	0.021 0.089
DIR_EXP	-0.001	-0.004	-0.003	0.097	0.091	0.094

	0.011	0.011	0.011	0.088	0.086	0.087
LOAN	0.000	0.000	0.000	-0.001	-0.001	-0.001
	0.000	0.000	0.000	0.001	0.001	0.001
SALARY	-0.010	-0.010	-0.011	-0.072	-0.064	-0.075
	0.013	0.012	0.012	0.101	0.101	0.101
EQUITY	0.007	0.008	0.007	0.102	0.084	0.104
	0.013	0.012	0.012	0.100	0.100	0.100
LNSIZE	-0.001	-0.001	-0.002	-0.035	-0.047	-0.035
	0.002	0.002	0.002	0.021	**	0.021
KIND_BANK	-0.037	-0.040	-0.041	0.002	-0.065	-0.007
	**	***	***	0.142	0.140	0.138
	0.016	0.015	0.016	0.142	0.140	0.138
_cons	0.093	0.099	0.089	0.919	1.388	0.940
	0.083	0.083	0.083	0.707	*	0.707
Sargan	0.001	0.001	0.001	0.012	0.021	0.097
AR (1)	0.020	0.020	0.016	0.009	0.007	0.008
AR (2)	0.942	0.791	0.830	0.367	0.738	0.367

Table 5 presents the coefficient and standard error values. \*\*\* sig. 1%; \*\* Sig. 5%; \* Sig.105.

## 5. Conclusion

This study aims to prove tournament theory on banks in Indonesia and compare the impact of tournament theory on Islamic and conventional banks. To prove it, we use the employee salary gap, director salary gap and commissioner salary gap. We use these three salary gap indicators to expand the previous study which focused more on the salary gap between directors and employees. Bank performance is measured by ROA and ROE. In the sample of all banks, we find that tournament theory is not effectively implemented in banks because the director salary gap, commissioner salary gap and employee salary gap have no effect on bank performance. However, by dividing the sample into two (Islamic banks and conventional banks), we find that tournament theory is effective on employee pay gaps, but tournament theory is more effective on Islamic bank employees.

We found no evidence of tournament theory on board of commissioners. This shows that giving bonuses in stages given to board of commissioners is not able to encourage them to improve their performance, so it does not have a significant effect on bank performance. However, the director salary gap in conventional banks has a negative impact on performance. The gap in bonuses, allowances, and salaries of conventional bank directors will cause communication, coordination, and collaboration problems between directors, thus giving rise to an indifferent attitude towards bank performance. However, in Islamic banks, the director's pay gap does not affect performance.

In Islamic banks, a large employee salary gap can encourage employees to use all their energy and skills to carry out their duties as well as possible, so that they will get a bigger bonus. Their high enthusiasm to complete tasks can also be influenced by the large potential of Islamic banks in Indonesia because Indonesia has the largest Muslim population in the world. In addition, the consequences of Islamic law carried out by Islamic banks encourage employees to free-will (*ikhtiyar*) to use all skills at work.

Based on the results of this study, we recommend conventional banks to reduce the salary gap for directors because bank performance is the performance of the entire board, coordination, communication, and collaboration among directors greatly support the achievement of bank performance. For Islamic banks, determining the appropriate pay gap for directors is needed so that each member of the directors can use their skills and knowledge more effectively to manage bank resources and further improve bank performance. Regulators can take policies that can

increase the efficiency of the director's labor market for banks, so that it will increase the competence between directors and commissioners.

<sup>13</sup> This study uses a sample of Islamic and conventional commercial banks in Indonesia, most of which are not listed. So, we cannot use market-based performance. Further research can expand the object of research by using listed banks, so that market-based performance measurements can be carried out. In addition, the effectiveness of tournament theory also needs to be investigated by explaining the demographic characteristics <sup>42</sup> of the board, and ownership structure on the relationship between the pay gap and company performance.

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### <sup>1</sup> Author Statement

The author is a lecturer and researcher in the field of Islamic finance. One of our focuses is the performance evaluation of Islamic banks (IB). This paper focuses on the theoretical tournament in Islamic banks by emphasizing the payroll system. <sup>2</sup> Islamic banks and conventional banks have different principles, operations and cultures resulting in different performance outputs. This paper encourages <sup>8</sup> banks to take appropriate payroll policies to improve bank performance.

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