

Analyzing the Impact of Employee Perks on Organizational Turnover in the Pharmaceutical Sector of Bangladesh

Kawsar Jahan¹, Israt Jabin²

¹Associate Professor, Department of Accounting & Information Systems
University of Dhaka, Bangladesh

²Department of Accounting & Information Systems
University of Dhaka, Bangladesh

doi.org/10.51505/IJEBMR.2024.8304

URL: <https://doi.org/10.51505/IJEBMR.2024.8304>

Received: Feb 28, 2024

Accepted: Mar 11, 2024

Online Published: Mar 19, 2024

Abstract

This study explores the impact of employee benefits on organizational earnings within the pharmaceutical sector in Bangladesh, an emerging economy. To conduct this investigation, researchers gathered pertinent data from the annual reports of 26 pharmaceutical companies listed on the Dhaka Stock Exchange (DSE), spanning the period 2017–2021. The primary variable under scrutiny is the employee benefits ratio (EBR), calculated by dividing the total benefits, excluding regular salaries and wages, by the total revenue. Additionally, the study examines the association between the salaries and wages ratio (SWR) and firm turnover. Focusing on these two key variables, the research also incorporates various control factors—namely, leverage, firm age, tangibility, liquidity, firm size, growth, and non-debt tax shield—to enhance the model's robustness. Organizational turnover are measured using return on assets (ROA) and return on equity (ROE) as the dependent variables. The panel-corrected standard error regression analysis reveals that the employee benefits ratio (EBR) and salaries and wages ratio (SWR) exert a significant positive influence on ROA. This implies that increased salaries and additional benefits serve as motivational factors for employees, fostering job satisfaction and enhancing performance. However, these variables do not demonstrate a significant association with ROE. Furthermore, factors such as firm age, leverage, tangibility, liquidity, and firm size exhibit a notable impact on firm performance. These findings collectively contribute to a comprehensive understanding of the relationship between employee benefits, organizational turnover and will help organizations to design their incentive programs effectively.

Keywords: Employee Benefits, Salaries and Wages, Organizational Turnover, Return on Assets (ROA), Return on Equity (ROE).

1. Introduction

A company's most valuable asset is its human resources. The collective knowledge, skills, experience, and dedication of the workforce form the cornerstone of the organization's success and sustainability. Vroom's Expectancy Theory posits that individuals work with the anticipation of receiving various rewards, both material and spiritual (Vroom, 1964.) Employee benefits, in addition to salaries, are among the rewards provided by organizations. In recent decades, talent

retention in firms has become less dependent solely on salary, primarily due to the evolving expectations of younger generations compared to previous ones (Marescaux et al., 2012). The Society for Human Resource Management conducted a survey in 2018 that found strong connections between pay, benefits, and job satisfaction. The survey found that 92% of respondents considered pay and benefits essential factors contributing to their overall job satisfaction. This highlights the changing dynamics in the workforce, where various benefits in addition to salary play a crucial role in retaining talent within organizations.

Employee benefits are additional perks and advantages offered to employees beyond their regular salary or compensation. This comprehensive package typically includes various elements such as medical allowances, life insurance coverage, profit-sharing opportunities, bonuses, complimentary meals, travel allowances, entertainment benefits, and retirement provisions like gratuity and provident fund contributions. In essence, employee benefits can be broadly defined as any form of indirect remuneration extended to employees, whether it is a mandatory requirement or an optional offering. Optional benefits are those provided by a company voluntarily, not necessarily bound by legal obligations or contractual agreements. Despite the absence of legal or contractual mandates, companies choose to offer these benefits with the aim of enhancing the overall performance and satisfaction of their workforce. In this article, employee benefits are defined as any kind of indirect remuneration given to workers on top of their regular salary or wages, regardless of whether it's obligatory or not. The term "employee benefits" thus encompasses a range of offerings designed to contribute to the well-being and motivation of the workforce.

According to Sprinkle (2001), an employee benefit is defined as anything that fulfils a need, enhances a desire, and is linked to achieving specific objectives aimed at maximizing employee productivity. Financial incentives are highlighted as crucial elements that not only reduce workloads but also contribute to improved employee performance within an organization. Atkinson and Messy (2013) support the idea that financial incentives are frequently recommended to energize and enhance employee performance, ultimately contributing to the overall success of a firm. The origin of employee incentives can be traced back to human resource development, influenced by labor movements that emphasized better job practices, organizational efficiency, and strategies to boost productivity. The industrial revolution also played a role in shaping this concept. In the 20th century, labor became recognized as a production factor alongside raw resources, money, and equipment, driving the development of the scientific method. This method was developed by earlier researchers Fredrick Taylor, advocated for a scientific examination of workforce demands to determine the most efficient ways to carry out activities.

Gagne and Deci (2005) asserted that monetary incentives serve as tangible proof and validation sought by individuals from the beginning of their careers. However, despite the widely held belief that benefits increase effort and productivity, prior research has yielded inconclusive results. The relationship between employee incentives and productivity has been a subject of various proposals by researchers. While increased compensation may lead to improved employee efforts, productivity may not necessarily rise if the employee lacks essential qualifications.

Financial incentives may boost certain aspects of effort but may not consistently translate to enhanced performance when employees lack the necessary skills.

According to Armstrong (2010), monetary compensation serves as a motivating factor for employees by fulfilling their desires. Since money is essential for meeting basic needs for existence and security, it plays a crucial role in inspiring employees. Monetary incentives for employees have a significant positive impact on overall productivity and performance in global contexts, including Bangladesh (Charity, E., 2008; Huang et al 2006; Shahjadi & Javed, 2014; Aktar et al 2012; Shafiqul, 2013). Contrary to this perspective, Neilan & Schreiber (2019) propose a different viewpoint, suggesting that whether individuals perceive money as an incentive depends on their understanding of motivation.

Although we found numerous studies exploring the relationship between employee incentives and firm performance, there is a notable dearth of research from the perspective of Bangladesh. In 2013, Shafiqul conducted a research project focusing on the Ready-Made Garments (RMG) sector in Bangladesh, revealing a significant positive correlation between employee benefits and firm performance. However, there is a lack of updated information on the broader scenario in Bangladesh. According to a recent report by CPD, Bangladesh's labor productivity growth rate remains alarmingly low, and the country is at risk of being trapped in a low-wage and low-productivity spiral. In light of this, the current research aims to investigate the relationship between employee incentives and organizational turnover within the pharmaceutical and chemical industry of Bangladesh.

Data for the study was collected from 26 listed pharmaceutical and chemical companies on the Dhaka Stock Exchange, spanning the five consecutive years (2017-2021). The pharmaceutical sector was chosen due to its relevance to the main explanatory variable, employee benefits, and its status as one of the most developed and growing manufacturing sectors in Bangladesh. The industry's growth cycle is influenced by international market dynamics, local policy support, and the balance between demand and supply of skilled labor. Providing financial incentives, along with fair salaries and wages, is essential for retaining skilled workers. Despite the overarching economic challenges posed by the COVID-19 pandemic, Bangladesh's pharmaceutical companies have capitalized on opportunities for expansion. The sector not only meets domestic demands but also exports pharmaceuticals to other nations, ranking 71st among 134 nations in pharmaceutical exports and contributing approximately 1.83% to the nation's GDP with a market value of around 3 billion.

The main focus of this study is to assess the impact of employee benefits, expressed through variables employee benefits ratio and salaries and wages ratio, on organization's performance in the pharmaceutical industry of Bangladesh. In addition to exploring the connection between these variables and firm performance, the study also considers other critical factors influencing firm's profitability, such as leverage ratio, liquidity, firm age, tangibility, sales growth, and firm size. These factors have been found to have conflicting effects on a firm's overall profitability and turnover in earlier studies. This research aims to challenge conventional thinking and enhance managers' understanding, providing valuable insights for top-level executives to thoughtfully consider incentives and reward systems for their employees. The findings are

anticipated to contribute to the literature and serve as a foundation for further research in this area.

2. Literature Review

Employee performance is commonly assessed based on both the quantity and quality of output, attendance, interpersonal skills, adaptability, and timeliness of work completion. Herzberg's hygiene-factor hypothesis challenges the conventional belief that monetary rewards, such as pay and working conditions, act as direct motivators for employees. Instead, these factors are viewed as affirmations of satisfactory performance. The hypothesis contends that non-monetary incentives, such as responsibilities, advancement opportunities, feedback, acknowledgment, and career prospects, play a more significant role in stimulating enhanced performance compared to financial compensation alone. Yang's (2008) investigation on individual performance highlights the challenge of validating an individual's performance but suggests that businesses can leverage direct incentives and rewards based on visible employee achievements. Businesses try incredibly hard to satisfy consumers, but frequently pay little attention to satisfying workers. Customers won't be happy, though, until the crew is happy. The argument is that satisfied employees contribute to higher productivity, ultimately leading to satisfied customers and increased profitability (Ahmad, 2012). Employee incentives are seen as effective in encouraging workers and boosting output by engaging employees, prompting increased effort in their work over time (Azar & Shafiqhi, 2013).

Mehmod (2013) posits that incentives are crucial for transforming unhappy employees into content and motivated ones. It is demonstrated that contented employees approach tasks with greater zeal and diligence, resulting in improved performance. Intrinsic incentives, as revealed in research, directly impact workers' performance as employees become more aware of their potential and strive for recognition when receiving intrinsic rewards (Edirisooriyaa, 2014). The success of a business and its compensation structure significantly influence employee morale and productivity (Yazıcı, 2008)). According to Wang (2004), incentives serve multiple purposes, including raising employee accountability, ensuring management objectivity, establishing clear expectations, aligning behavior with goals or strategic objectives, and linking incentive payments to output. Intrinsic motivation refers to an individual's internal drive and interest in a task, rather than being influenced by external forces or relying on external rewards. Organizations commonly use various incentives, such as salary and bonuses, to keep their employees engaged, which plays a crucial role in ensuring sustained commitment and involvement in their work. This is essential to maintaining the quality and quantity of work and overall productivity (Williams, 2004).

According to Rowden and Conine (2005), the purpose of training is to enhance employee satisfaction with their jobs, and satisfied employees contribute to improved performance that benefits their customers. Employees who are committed to learning tend to exhibit higher job satisfaction and, consequently, demonstrate more positive performance compared to their counterparts (Tsai et al., 2007). Consistent with Tsai et al. (2007), Harrison (2000) found that training-induced learning positively impacts employee performance and is a crucial element for achieving organizational goals. The study conducted by Malik, S., et al. (2012) highlights that

the performance of firms is influenced by various factors, with employee motivation being a key determinant. Higher employee motivation is associated with enhanced organizational performance, emphasizing the integral role motivation plays in the overall success of an organization. The outcomes of the study on the association between motivation and job satisfaction of employees by Sirota et al. (2005), involving 135,000 respondents from diverse groups and countries, found that organizations implementing motivation programs with constructs such as camaraderie, equity, and achievement were more effective than those without such programs. This was particularly evident in organizations where approximately 45% of employees were classified as 'enthusiastic.' The research highlighted the positive impact of motivation on job satisfaction. Certainly, employees who are satisfied undoubtedly make more significant contributions to the overall success of the organization. Another study conducted by Asim (2013) explored the effect of employee motivation on performance, concluding that increased employee motivation correlates with improved performance. In a study focused on a Taiwanese construction firm, Huang, Lin, and Chuang (2006) found that monetary compensation remained a potent motivator for employees. However, Di Pietrantonio, Neilan, & Schreiber (2019) introduced a contrasting perspective, suggesting that the perception of money as a motivator is subjective and depends on individuals' conceptualization of motivation. Various motivation theories often describe motivation as an internal drive and ambition to achieve predetermined targets.

While there has been considerable theoretical and empirical research conducted internationally on the relationship between employee benefits, employee productivity, and firm performance, there is a notable scarcity of empirical work focusing on Bangladesh. In 2013, Shafiqul, a Bangladeshi researcher, surveyed 36 medium and large-scale Ready-Made Garments (RMG) factories in Bangladesh. His findings indicated that labor incentive programs contributed to increased firm performance and reduced delivery delays. Bridging this research gap is the primary objective of our study. The key metrics for measuring firm performance in our study are return on assets (ROA) and return on equity (ROE). While our primary focus lies on the independent variable of employee benefit ratio, we also examine the relationship between salaries, wages, and performance. The aim of this research is to investigate whether employee benefits serve as motivators for improved employee performance, contributing to the overall success of the company. Additionally, we consider several other determinants of firm performance, including leverage ratio, firm age, sales growth, liquidity ratio, tangibility, net debt tax shield, and firm size, drawing on insights from previous literature.

3. Explanations of Variables

3.1 The Explained variables

This paper utilizes two accounting-based indicators to estimate firm performance: return on assets (ROA) and return on equity (ROE). ROA is computed by dividing net income by total assets, offering a common metric for evaluating a company's turnover. This ratio has been frequently employed in assessing the performance of organizations across different regions and industries (Samad, 2022; Ahmed Sheikh et al., 2013). ROA measures the effectiveness with

which a business utilizes its total assets, including equipment, vehicles, and intellectual property, to generate revenue, providing insight into the overall profitability of the organization.

ROE is another pertinent proxy used to assess organizational turnover. It illustrates the relationship between a company's profit and its return to investors. ROE serves as a metric for evaluating the efficiency of management in generating gains and growth from shareholders' investments. Scholars such as Bari et al. (2021) and Chiang & Lin (2011) commonly employ ROE as an indicator of firm performance.

3.2 The Explanatory Variables

A leverage ratio is a financial metric that assesses the proportion of capital derived from debt and evaluates a company's ability to meet its financial obligations. Companies utilize a mix of equity and debt to fund their operations, making the leverage ratio critical for determining a firm's capacity to repay its loans. The ratio is calculated by dividing long-term liabilities by total assets. Several studies, including those by Cai & Zhang (2011) and Vithessonthi & Tongura (2015), suggest a negative association between leverage and firm performance.

Firm age is one of the important firm characteristics found to be a relevant determinant of firm performance by several scholars (Coad et al., 2018; Pervan et al., 2017). We defined firm age as the number of years of incorporation of the company; though some believe that listing age should define the age of the company. In this paper, we use the number of years of incorporation of the company.

Lazar (2016) found that growth, expressed as a yearly percentage change in sales, positively impacts business performance. Sales growth, calculated by dividing the change in sales in the current period by total sales revenue in the previous period, is employed in our study. From a Bangladeshi perspective, Jahan et al. (2021) identified a significant relationship between growth and firm performance.

Tangibility, in financial terms, refers to physical assets that contribute to a company's overall value and substance. Represented as a ratio, tangibility is calculated by dividing net fixed assets by total assets. This measure has been found to be used as a determinant of firm performance, as demonstrated in studies by Jahan & Tumpa (2020) and Lazar (2016).

Liquidity pertains to a company's ability to meet financial obligations promptly, utilizing ample cash and current assets. For our analysis, we use the current ratio as a measure of liquidity. Literature, including studies by Hongli et al. (2019) and Bari et al. (2021), recognizes liquidity as an important determinant of performance with a significant association with organizational performance.

Tax shield refers to the tax-saving benefit derived from deducting taxes on a company's net borrowings. In this study, Net Debt Tax Shield (NDTS) refers to the tax savings resulting from the tax-deductibility of depreciation expenses on net fixed assets. Deitiana & Robin (2016) found that NDTS has a significant impact on a firm's profitability.

Firm size is another salient characteristic influencing firm performance, as acknowledged in numerous pieces of literature. In this study, we use total sales revenue to denote firm size. Instead of taking an absolute figure, we take the logarithm of sales revenue to express firm size for better analysis. Several studies, including those by Pervan et al. (2017) & Opeyemi (2019), affirm the significant impact of firm size on corporate profitability.

This study aims to investigate the influence of employee benefits on organizational turnover, with a primary focus on the employee benefits ratio (EBR). The Employee Benefits Ratio represents the total benefits provided to employees, excluding salaries and wages. It is expressed as a percentage of revenue to highlight the company's contribution to the welfare of its employees out of its earnings. Comprehensive benefits encompass various components, including contributions to the worker's profit participation fund, contributory provident fund, gratuity fund, and short-term benefits such as medical allowance, entertainment, free food or canteen service, car conveyance, travel allowance, incentive bonus, transportation service, festival bonus, picnic expense, and training expense, among others. It is important to note that not all companies provide all these benefits to their employees.

During data collection, the amounts of these benefits, typically categorized under "factory overhead, selling and distribution expenses, and administrative expenses" in notes of financial reports, were aggregated. Mehmod (2013) highlighted the crucial role incentives play in turning dissatisfied employees into satisfied ones. Previous scholarly work has shown that employees who are content tend to approach their tasks with increased enthusiasm and diligence, resulting in enhanced performance. Previous research indicates that intrinsic incentives have a direct influence on the performance of workers. Wang (2004) noted that incentives align behavior with goals or strategic objectives and link incentive payments to output. Additionally, in a separate investigation, Huang et al. (2006) identified that monetary compensation remains a significant motivator for employees. These findings collectively underscore the importance of understanding and analyzing the various components of employee benefits and their potential impact on overall corporate performance.

This study also incorporate another variable known as the salaries and wages ratio, calculated by dividing the total salaries and wages expense by total assets. Here, the reason for expressing salaries and wages as a percentage of total assets is that total assets indicate the overall capacity of the company. The capacity, in turn, dictates how the company organizes and executes its production or operations, making a direct connection between these two variables. The significance of salaries and wages in influencing customer satisfaction and firm performance has been established in Bamberger's study (2021).

Furthermore, the dependent variable is intricately tied to company performance, and the total assets of an organization serve as a representation of its overall performance. The distinction between the two variables, the employee benefits ratio and the salaries and wages ratio, lies in the fact that the former includes voluntarily provided benefits that are not subject to contracts or legal obligations. These benefits are aimed at motivating employees, fostering a sense of belonging, and demonstrating the organization's concern for their needs. This, in turn, enhances

employee productivity and the organization’s performance. On the other hand, the salaries and wages ratio considers the mandatory obligations companies are bound to fulfill. Companies must provide salaries and wages to their employees as per legal requirements, irrespective of other voluntary benefits. Any delay in salary disbursement can directly demotivate employees. During data collection, we observed a substantial disparity in salaries offered by different companies. This study seeks to provide empirical evidence on whether a relationship exists between salary expenses and firm performance. Salaries and wages have a significant positive impact on firm performance, according to numerous studies, including those by Ebmer & Zweimüller (1999) and Obasan & Kehinde (2012).

H1: There is no significant relationship between employee benefits ratio and organization’s performance.

H2: There is no significant influence of salaries and wages ratio on organization’s performance.

4. Methodology

The study employed panel data to examine the influence of employee benefits on a company's overall success. Utilizing panel data involves incorporating both cross-sectional and time-series changes, allowing for a comprehensive analysis that considers variations across individual firms and over different years. The research conducted panel regression using panel econometric analysis, incorporating two dimensions in the model. The regression model is expressed through the following equation, where "i" denotes individual firms, and "t" signifies the relevant years. Given that the study employs two proxies for company performance, two distinct models have been developed, outlined as follows.

Model 1:

$$(ROA)_{it} = \beta_0 + \beta_1(FAage)_{it} + \beta_2(leverage)_{it} + \beta_3(Growth)_{it} + \beta_4(TANG)_{it} + + \beta_5(Fsize)_{it} + B_6(liquidity)_{it} + B_7 (NDTS)_{it} + B_8 (EBR)_{it}+ B_9 (SWR)_{it} + \epsilon_{it} \dots \dots \dots (1)$$

Model 2:

$$(ROE)_{it} = \beta_0 + \beta_1(FAage)_{it} + \beta_2(leverage)_{it} + \beta_3(Growth)_{it} + \beta_4(TANG)_{it} + + \beta_5(Fsize)_{it} + B_6(liquidity)_{it} + B_7 (NDTS)_{it} + B_8 (EBR)_{it}+ B_9 (SWR)_{it} + \epsilon_{it} \dots \dots \dots (2)$$

Table1: Explanation of Endogenous and Exogenous variables

Operational variable	Proxy variables & symbol	Applied research
Endogenous variable		
Return on Assets	Net income/total assets = (ROA)	Samad (2022); Ahmed Sheikh et al. (2013)
Return on Equity	Net income/total equity = (ROE)	Bari et al. (2021); Chiang & Lin (2011)
Exogenous variable		
Employee BenefitsRatio	Total employee benefits/total revenue= (EBR)	Mehmod (2013); Wang (2004); Shafiqul(2013); Huang et al. (2006)
Financial leverage	long term debt/ total assets= (LEV)	Cai& Zhang (2011); Vithessonthi&Tongura (2015)
Firm Age	Ln(current year- year of incorporation)= Fage	Coad et al. (2018); Pervan et al. (2017)
Growth	[Sales(t)-sales(t-1)]/sales(t-1) = GR	Lazar (2016); Jahan et al. (2021)
Salaries and Wages Ratio	Salaries and wages/ total assets= (SWR)	Bamberger, (2021); Ebmer, Zweimüller(1999); Obasan Kehinde (2012)
Tangibility	Net fixed assets/total assets = (TANG)	Lazar(2016); Jahan &Tumpa (2020)
Liquidity	Current Assets/ Current liability = (LIQ)	Hongli et al.(2019); Bari et al. (2021)
Net-debt Tax Sheild	Depreciation/Total Assets = (NDTS)	TitaDeitiana& Robin (2016)
Firm size	ln(Total Assets) = Fsize	Pervan et al., 2017, Opeyemi's 2019

5. Data Analysis

5.1 Data Collection and Sample Size

As the main focus of this study has been concentrated on one macro-variable, labor or employee (the impact of employee benefits), that's why researchers decided to collect information from the manufacturing industry because of the direct connection between these two. The researcher working on the pharmaceutical and chemical industry of Bangladesh, and collected data from 26 listed pharmaceutical companies for the last five years (2017–2021). The main source of data collection for this study has been the company's annual report. Currently, there are 33 companies listed under the pharmaceutical and chemical industries on the Dhaka Stock Exchange (DSE). The study find the required information for this study from 26 companies, representing 79% of the population. Annual reports for the other seven companies were not available on their websites, therefore sample size comprises 130 firm years of panel observations. The necessary secondary information was gathered from company audited annual reports, websites, the internet, and industry reports. Various statistical tools and software, such as Excel and Stata, were employed to analyze and interpret the collected data.

5.2 Descriptive Statistics

Table 1 presents the descriptive statistics for proxies of endogenous and exogenous variables. This table shows the mean, standard deviation, minimum, and maximum values of the explained and explanatory variables for the years 2017–2021 (130 firm years). The summary statistics of different proxy variables show that the average value of the total employee benefit ratio is roughly 3%, while the mean value of the salary and wages ratio is around 11% for pharmaceutical firms in Bangladesh. Average profitability is around 8% when measured by ROA, but 24% when measured by ROE. The average value of leverage ratio, firm age, growth, tangibility, liquidity, net debt tax shield, and firm size is respectively 9.5%, 3.22, 6.83, 49%, 3.46, 3%, and 22.09 respectively. The standard deviation, minimum, and maximum values for EBR are 0.01697, 0, and 0.0668, respectively. For ROA, the corresponding figures are 0.1168, -0.6171, and 0.537.

Table 2: Results of descriptive statistics

Variables	Observation	Mean	Std. Dev.	Min	Max
ROA	130	0.0816278	0.1167784	-0.617072	0.5365432
ROE	130	0.2415227	0.6513015	-0.290158	6.587256
LEV	130	0.0949522	0.1124687	0	0.5325935
Fage	130	3.222203	0.8063486	1.098612	8.288786
GR	130	6.827575	29.47721	-100	201.673
TANG	130	0.491553	0.1763972	0.1207118	0.8273624
LIQ	130	3.455939	4.672288	0.4170016	28.31168
NDTS	130	0.0304703	0.0241374	0	0.1249831
Fsize	130	22.08745	1.424628	19.21907	25.18459
SWR	130	0.1056795	0.1159555	0	0.4953196
EBR	130	0.0264152	0.0169765	0	0.0667879

5.3 Test for Multicollinearity

By applying regression analysis, the study checked how the independent variables: long-term debt (LDT), firm age (Fage), growth rate (GR), tangibility (TANG), liquidity (LIQ), non-debt tax shield (NDTS), firm size (Fsize), and employee benefit ratio (EBR) influence the firm's profitability, which tied with the return on asset and return on equity. The estimated regression models have been checked for multicollinearity. The researchers assessed the presence of multicollinearity by examining the pairwise correlation between explanatory variables. According to Gujrati (2004), multicollinearity exists only when explanatory variables are strongly correlated (80% or more).

Here, the highest negative correlation between the independent variables can be seen between tangibility (TANG) and firm age (Fage), and it amounts to -0.374, which indicates that when one rises the other decreases. The highest positive correlation exists between salaries and wages ratio (SWR) and firm age, which is 0.355. These correlations are small enough to say that they are not highly correlated. However, all other correlation values are much closer to the 0 value, with many variables being negatively correlated with each other. By looking at this, it is seen that the variables do not show outright any multicollinearity, as all correlation values are much lower than the threshold point of 0.80, which indicates the presence of multicollinearity.

Table3: Results of correlation

	ROA	ROE	LEV	Fage	GR	TANG	LIQ	NDTS	Fsize	SWR	EBR
ROA	1										
ROE	-0.075	1									
LEV	-0.321	0.133	1								
Fage	0.051	0.104	-0.03	1							
GR	0.204	-0.061	0.103	-0.046	1						
TANG	-0.287	-0.198	0.195	-0.374	0.014	1					
LIQ	0.025	-0.117	-0.143	-0.178	-0.057	0.114	1				
NDTS	0.110	-0.003	-0.191	-0.189	0.034	0.179	-0.1	1			
Fsize	0.058	-0.074	0.064	0.147	0.105	0.176	0.069	-0.024	1		
SWR	0.177	0.052	-0.083	0.355	0.065	-0.248	-0.292	0.068	-0.228	1	
EBR	0.213	-0.107	-0.173	0.055	0.209	0.115	-0.172	0.006	0.266	-0.055	1

5.4 Regression Assumption

The econometric analysis of panel data has been used to the assess the impact of employee benefits on enhancing a firm's financial turnover value. Initially, a pooled regression analysis used to examine the influence of the employee benefit ratio on the improvement of the firm's value. Subsequently, we performed Wald and Breusch-Pagan Lagrange Multiplier tests to assess the robustness of the pooled regression model in comparison to fixed effect and random effect models.

The results of the analysis indicated that both fixed effect and random effect models were more suitable than the pooled regression model. To determine the more appropriate model between fixed and random effects, we applied the Hausman test (Hausman, 1978) and conducted a chi-

square test for the dependent variables: ROA and ROE ($\chi^2(8) = 22.19, 14.93$). The chi-square test yielded probability values of 0.0046 for ROA and 0.0605 for ROE. Interpreting the results, the probability value for ROA suggests rejecting the null hypothesis (<0.05), indicating that the fixed effect model is more appropriate for the ROA model. However, for the ROE model, the result suggests accepting the null hypothesis, indicating that the random effect model is more suitable.

The Variance Inflation Factor (VIF) test results revealed a value of 1.3, indicating no significant correlation among the independent variables for both dependent variables. Post-estimation tests, specifically the modified Wald test, were conducted to examine group-wise heteroscedasticity in the residuals. The fact that the chi-square values (χ^2) for return on assets (ROA) and return on equity (ROE) were 17623.26 and 51099.75, respectively, and the corresponding probability values were 0.0000 for both models, demonstrated heteroscedasticity in the models. Additionally, the study employed the Wooldridge test to investigate serial correlation in the panel data. The $F(1, 25)$ statistic was utilized to identify autocorrelation for the dependent variable ROE, yielding a probability value of 0.165. Furthermore, the presence of unit in most variables indicated that the variables in the regression were not co-integrated. To address the problems of heteroscedasticity, autocorrelation in the panel data, and lack of co-integration, a panel-corrected standard regression model was put into place.

5.5 Panel Correlated Standard Errors Regression Model

The econometric analysis finds heteroscedasticity, autocorrelation, contemporaneous correlation, and non-stationarity problems in the regression model. Thus, to fix the problem in the econometric model, the study employed panel-correlated standard errors (PCSE) to estimate panel data. The PCSE model considers that there exists correlation among the errors, and the error terms are heteroscedastic and contemporaneously correlated across panels.

Table 4: Regression Results of the Panel Corrected Standard Regression

Variable	ROA			ROE		
	OLS	FE	PCSE	OLS	RE	PCSE
Fage	-0.017 (0.014)	-0.026* (0.13)	-0.02*** (0.007)	0.039 (0.086)	0.047 (0.104)	0.045 (0.669)
LEV	-0.214** (0.092)	-0.107 (0.065)	-0.305*** (0.107)	1.048* (0.573)	1.254** (0.626)	2.157* (1.169)
GR	0.001* (0)	0 (0)	0 (0)	-0.001 (0.002)	-0.0015 (0.002)	-0.003 (0.006)
TANG	-0.213*** (0.06)	0.012 (0.11)	-0.164*** (0.038)	-0.805** (0.378)	-0.552 (0.499)	-0.547 (0.789)
LIQ	0.003 (0.002)	0.002 (0.002)	0.003** (0.001)	-0.009 (0.014)	-0.007 (0.017)	-0.139 (0.011)
NDTS	0.488 (0.409)	2.867*** (0.617)	0.249 (0.496)	2.079 (2.557)	2.126 (3.355)	1.312 (4.637)
Fsize	0.009 (0.007)	0.053** (0.023)	0.015** (0.006)	-0.017 (0.045)	-0.049 (0.064)	-0.080 (0.074)
SWR	0.172* (0.092)	0.253 (0.22)	0.337*** (0.087)	-0.202 (0.578)	-0.037 (0.804)	-0.272 (0.982)
EBR	1.262** (0.609)	-0.964 (1.217)	1.887*** (0.672)	-1.667 (3.807)	0.254 (5.136)	-3.567 (8.050)
_cons	-0.022 (0.15)	-0.935* (0.532)	-0.178 (0.13)	0.838 (0.940)	1.305 (1.354)	2.157 (1.483)
Observations	130	130	130	130	130	130
R-squared	0.276	0.318	0.38	0.30	0.35	0.39

***, ** and * depict significance level 1%, 5% and 10% respectively.

From the results of the regression analysis stated in the above table, the study clearly find out the effect of our exogenous variables on our endogenous variables. The study considered ROA and ROE as the endogenous variables and EBR, SWR, Fage, leverage, growth, TANG, liquidity, NDTs and Fsize as our exogenous variables. The regression result of the PCSE model reveals that both the Employee Benefits Ratio (EBR) and Salaries and Wages Ratio (SWR) are significant at the 1% level of significance. The coefficient values of EBR and SWR of 1.887 and 0.337 indicate that these two variables have a significant positive influence on a firm’s economic performance. It implies that the more firms contribute to the welfare of their employees in terms of salaries and other financial benefits, the more it will boost employees’ productivity and overall performance, which will positively impact firms return on assets. In the case of model 1, the study discloses that firm age, leverage, and tangibility have a significant negative influence

on firm performance, while liquidity and firm size reveal a significant positive influence on firm performance.

Further in the PCSE analysis of model 2, the study finds different results. The regression results of model 2 EBR and SWR have no influence on improving the ROE of firms. In this model, liquidity, firm age, and NDTs act positively to improve the value of ROE, but only leverage ratio reveals a significant positive impact on ROE, which is the exact opposite of model 1.

6. Discussion of the Findings

The results of the regression analysis reveal a significant positive relationship between the explanatory variable Employee Benefits Ratio (EBR), the primary focus of this study, and the explained variable Return on Assets (ROA). According to Wang (2004), Azar & Shafiqhi (2013), and Shafiqul (2013), this finding is consistent with the body of existing literature. The consensus among these studies suggests that offering additional financial benefits beyond salaries and wages establishes a positive association. Such benefits foster employee motivation and create a sense of commitment to the organization, ultimately contributing to heightened employee productivity and improved efficiency in profit generation.

In tandem with the conclusions drawn by Ebmer & Zweimüller (1999), Piekkola (2005), and Obasan & Kehinde (2012), our study also identifies a significant positive relationship between salaries and wages ratio and return on assets. This outcome implies that beyond voluntary employee benefits, the mandatory obligations of providing satisfactory salaries and wages can significantly impact a firm's performance. It is reasoned that employee dissatisfaction with their remuneration can lead to demotivation, subsequently affecting their performance negatively.

It has been shown in the empirical literature that leverage either has a positive, negative, or insignificant influence on performance. The results of our model 1 portray a significant negative relationship, which is consistent with the findings of Cai & Zhang (2011), Giroud et al. (2012), Jahan & Tumpa (2020). This negative association is also supported by pecking order theory (Myers & Majluf, 1984), which implies that to compensate for information asymmetry, external users demand a higher return to counter the risk that they are taking, therefore reducing firm performance. On the other hand, the outcome of our model 2 is consistent with the findings of Margaritis & Psillaki's (2010) and Cai & Zhang (2011), indicating that leverage enhances the performance of businesses.

The significant positive association between firm performance and liquidity is consistent with the results of Khidmat & Rehman (2013) and Chukwunweike (2014). In a study conducted on the pharmaceutical industry of Bangladesh, Jahan & Tumpa (2020) also found a significant positive relationship between these variables.

Loderer & UrsWaelchli (2010) came to the conclusion that a negative relationship exists between firm age and profitability; when a firm grows older, profitability declines. In alignment with this finding, our analysis also finds similar results. But it is contradictory with a recent study by Dvouletý & Blažková (2022), which suggests that as companies operating in the Czech high-

tech industry get older, they are able to generate higher sales and profits, which refers to the importance of learning processes in gaining capabilities to succeed in the high-tech market.

The negative association between tangibility and firm ROA is compatible with Lazar (2016). They draw attention to the fact that repeated revaluations of land and buildings raise physical assets without also raising earnings. But the study by Jahan & Tumpa (2020) observed that tangibility and firm performance aren't statistically significant for the listed pharmaceutical companies in Bangladesh.

In line with the research project of Pervan & Višić (2012), the study revealed that firm size has a significant positive influence on firm profitability. But this finding is contradictory with the results of Bangladeshi researchers Jahan et al. (2021), which disclose that return on assets and net profit margin are negatively related to firm size.

Table 5: Review of the findings

Dependent variable	Explanatory variables	Relationship	Comparison with previous studies
ROA	EBR	Positive	consistent with Wang (2004), Azar & Shafiqhi (2013) and Shafiqul(2013)
	SWR	Positive	congruent with Ebmer, Zweimüller(1999), HannuPiekkola(2005) and Obasan&Kehinde (2012)
	Leverage	Negative	consistent with Cai and Zhang (2011), Giroud et al. (2012), Tumpa (2020)
			contradict with Margaritis and Psillaki's (2010) and Cai and Zhang (2011)
	Tangibility	Negative	consistent with Lazar (2016).
			incompatible with Jahan & Tumpa, (2020)
	Liquidity	Positive	compatible with Khidmat&Rehman,(2013), Chukwunweike, (2014)
	Firm Age	Negative	Compitable with Loderer, C., and UrsWaelchli (2010)
contradict with the result of Dvouletý and Blažková (2022)			
Firm Size	Positive	in line with Pervan and Višić, (2012)	
		contradict with Jahan et al., (2021)	
ROE	Leverage	Positive	consistent with Margaritis&Psillaki's (2010) and Cai& Zhang (2011)

7. Concluding Remarks

This research aims to assess the impact of employee benefits on the performance of companies in the pharmaceutical and chemical industry in Bangladesh. Data for the study was collected from

26 companies in this sector, spanning the years 2017 to 2021. The analysis utilized two proxies for organizational turnover, namely return on assets (ROA) and return on equity (ROE). In addition to the primary independent variables, employee benefits ratio (EBR) and salaries and wages ratio (SWR), the study considered various firm-specific factors as explanatory variables. These factors included firm size, leverage, growth, firm age, tangibility, liquidity, and non-debt tax shield. To analyze the relationship between these variables and firm performance, panel regression models were employed. Given the presence of two dependent variables, separate regression models were used for ROA and ROE. The models underwent scrutiny for adherence to regression assumptions, leading to the decision to apply panel-corrected standard errors (PCSE) for estimating panel data. The analysis revealed a significant positive relationship between employee benefits ratio (EBR) and organization performance (ROA), indicating the rejection of the null hypothesis in favor of the alternative hypothesis. Similarly, the salaries and wages ratio (SWR) exhibited a significant positive influence on firm performance. In the ROA model, firm age, leverage, tangibility, liquidity, and firm size were identified as having a significant impact on profitability. However, EBR and SWR did not show any significant relationship with return on equity (ROE), with only leverage found to have a significant impact. Hence, the study emphasizes that employee benefits positively influence employee productivity and overall firm performance. Drawing on Mintberg et al. (1998), as cited by Burns (2009), the research underscores the importance of a shared organizational vision, guiding decision-making and actions. The significant positive relationship observed between Return on Assets (ROA) and both the salaries and wages ratio, as well as the employee benefits ratio, suggests that employee benefits contribute to aligning employee goals with organizational objectives, fostering attachment, job satisfaction, and ultimately enhancing firm performance. This research is poised to make a meaningful contribution to the field of human resource management literature. It aims to offer valuable insights that can assist organizations in the design and implementation of effective incentive and reward systems, with the ultimate goal of enhancing overall performance.

8. Scope for Further Studies

The current study exclusively focuses on the pecuniary advantages extended to employees across various forms. However, prior research has consistently highlighted the considerable impact of non-monetary factors on employee motivation and performance. So integrating these factors, like a conducive work environment, recognition, career development prospects, and collaborative team dynamics, into the analysis has the potential to enhance the overall understanding of employee performance. To explore this, further investigations could be conducted through interviews with employees spanning different hierarchical levels. Furthermore, it is imperative to examine the correlation between employee benefits and the susceptibility to earning management risks. Forensic accounting theories suggest that feelings of deprivation among employees act as motivating factors for fraudulent activities and manipulative techniques. Work conditions, at times, may act as catalysts for such manipulations. Employing advanced econometric techniques holds promise for a more nuanced measurement of firm performance in the foreseeable future. It is noteworthy that this study only encompasses a subset of listed companies. A more comprehensive and panoramic perspective on the scenario can be achieved by extending the scope to include all listed companies on the Dhaka Stock Exchange (DSE). This broader approach is anticipated to provide more accurate and extensive insight into the subject matter.

References

- Ahmad, M. B., Wasay, E., & Malik, S. U. (2012). Impact of Employee Motivation on Customer Satisfaction: Study of Airline Industry in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 4(6), 531-539.
- Ahmad, Muhammad & Wasay, Ejaz & Ullah, Saif. (2012). Impact of Employee Motivation on Customer Satisfaction: Study of Airline Industry in Pakistan. *Interdisciplinary Journal of Contemporary Research In Business*. Vol 4, No 6 October 2012
- Ahmed Sheikh, N., Wang, Z. and Khan, S. (2013), "The impact of internal attributes of corporate governance on firm performance: Evidence from Pakistan", *International Journal of Commerce and Management*, Vol. 23 No. 1, pp. 38-55.
- Aktar, S., Sachu, M. K. & Ali, M. E. (2012). The impact of Rewards on Employee Performance in Commercial Banks of Bangladesh: An Empirical Study. *IOSR Journal of Business and Management*, 6(2), 9-15.
- Armstrong, M. (2010). *Armstrong's Handbook of Reward Management Practice: Improving Performance Through Reward*. Kogan Page Publishers.
- Asim, M., 2013. impact of motivation on employee performance with the effect of training: specific to education sector of Pakistan. *international journal of scientific and research publications*, Volume 3, pp. 1-9.
- Atkinson, A. & Messy, F. A. (2013). Promoting Financial Inclusion Through Financial Education: OECD/INFE evidence, policies and practice.
- Azar, M., & Shafiqhi, A. A. (2013). The effect of work motivation on employees' job performance (Case study: employees of Isfahan Islamic Revolution Housing Foundation). *International journal of academic research in business and social sciences*, 3(9), 432.
- Bamberger, B., Homburg, C., & Wielgos, D. M. (2021). Wage Inequality: Its Impact on Customer Satisfaction and Firm Performance. *Journal of Marketing*, 85(6), 24-43.
- Bari, Ghosh and Kabir (2021). Relationship between Liquidity and Firm Performance: Evidence from the Pharmaceutical Industry of an Emerging Economy *Journal of Knowledge Globalization*, Vol 13(1), 2021.
- Bonner, S. E., & Sprinkle, G. B. (2002). The effects of monetary incentives on effort and task performance: theories, evidence, and a framework for research. *Accounting, organizations and society*, 27(4-5), 303-345.
- Cai, J., & Zhang, Z. (2011). Leverage change, debt overhang, and stock prices. *Journal of Corporate Finance*, 17(3), 391-402.
- Chiang, H., & Lin, M. (2011). Examining board composition and firm performance. *The International Journal of Business and Finance Research*, 5(3), 15–28.
- Chukwunweike, V., (2014). The Impact of Liquidity on Profitability of Some Selected Companies: The Financial Statement Analysis (FSA) Approach. *Research Journal of Finance and Accounting*, Vol.5, No.5.
- Coad, A., Holm, J.R., Krafft, J. et al. Firm age and performance. *J Evol Econ* 28, 1–11 (2018). <https://doi.org/10.1007/s00191-017-0532-6>

- Dvouletý, O. and Blažková, I. (2022). Relationship between Firm Total Factor Productivity and Performance: Case of the Czech High-Tech Industry. *International Journal of Entrepreneurial Venturing*, 14(4), p.1. doi:10.1504/ijev.2022.10047629.
- Di Pietrantonio, J., Neilan, R. M., & Schreiber, J. B. (2019). Assessing the Impact of Motivation and Ability on Team-based Productivity using an agent-based model. *Computational and Mathematical Organization Theory*, Vol. 25(4), Page 499-520.
- Edirisooriyaa, W. A., 2014. Impact of Rewards on Employee Performance: With Special Reference to ElectriCo. *Proceedings of the 3rd International Conference on Management and Economics*, pp. 311-318.
- Ezigbo Charity, A. (2008) The Effects of Monetary and Non-Monetary Rewards on The Employees' Performance in Manufacturing Firms in Rivers State, Nigeria.
- Gagné, M., & Deci, E. L. (2005). Self Determination Theory and Work Motivation. *Journal of Organizational behavior*, 26(4), 331-362
- Giroud, X., Mueller, H.M., Stomper, A., Westerkamp, A., 2012. Snow and leverage. *Ivana BlažkováOndřej DvouletýOndřej DvouletýReview of Financial Studies*, 2012, vol. 25, issue 3, 680-710
- Harrison, R. (2000), *Employee Development*, Beekman Publishing, Silver Lakes, Pretoria.
- Pool, S. and Pool, B. (2007), “A management development model”, *Journal of Management Development*, Vol. 26 No. 4, pp. 353-69.
- Hongli, J., Ajorsu, E.S. and Bakpa, E.K. (2019) The Effect of Liquidity and Financial Leverage on Firm Performance: Evidence from Listed Manufacturing Firms on The Ghana Stock Exchang. *Research Journal of Finance and Accounting*. ISSN 2222-1697 (Paper) ISSN 2222-2847
- Huang, C., Lin, H. C., & Chuang, C. H. (2006). Constructing factors related to worker retention. *International Journal of Manpower*.
- Jahan, K. and Tumpa, K., (2020). An assessment of financial leverage for listed pharmaceutical firms of Bangladesh. *Daffodil international university journal of business and entrepreneurship*, Vol. 13, No. 2, PP. 19-35
- Jahan, K., Bhuiyah, S. and Khasnobish, T. (2021). Working capital management and Firm's Performance: A Study on Listed Textile Companies in Bangladesh. *The Cost and Management*, ISSN 1817-5090, Vol. 49, No. 5.
- Kim, B., Burns, M. L., & Prescott, J. E. (2009). The strategic role of the board: The impact of board structure on top management team strategic action capability. *Corporate Governance: An International Review*, 17(6).
- Lazar, Sebastian (2016). Determinants of Firm Performance: Evidence from Romanian Listed Companies. *Review of Economic & Business Studies*, Vol. 9, Issue 1, PP. 53-69.
- Loderer, Claudio and Waelchli, Urs (2010). Firm age and performance. *Munich Personal RePEC Archive (MPRA)*, Paper No. 26450, Posted, 07 Nov 2010.
- Marescaux, E., De Winne, S., & Sels, L. (2012). HR practices and HRM outcomes: The role of basic need satisfaction. *Personnel Review*, 42(1), 4-27.
- Margaritis, D., Psillaki, M., 2010. Capital Structure, Equity Ownership and Firm Performance. *Journal of Banking & Finance* 34, 621-632

- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics*, 13(2), 187-221.
- Obasan, K. A. (2012). Effect of compensation strategy on corporate performance: Evidence from Nigerian firms. *Research Journal of Finance and Accounting*, 3(7), 37-44.
- Opeyemi, A. (2019). The Impact of Firm Size On Firms Performance in Nigeria: A Comparative Study of Selected Firms in The Building Industry in Nigeria. *Asian Development Policy Review*, Vol. 7, No. 1, PP. 1-11.
- Pervan, M., Pervan, I., & Ćurak, M. (2017). The Influence of Age on Firm Performance: Evidence from the Croatian Food Industry. *Journal of Eastern Europe Research in Business and Economics*. Vol. 2017 (2017), Article ID 618681, 9 pages DOI: 10.5171/2017.618681
- Pervan, M. and Višić, J. (2012). Influence of Firm Size on Its Business Success. *Croatian Operational Research Review (CRORR)*, Vol. 3.
- Piekkola, H. (2005). Performance-related pay and firm performance in Finland. *international Journal of Manpower*, 26(7/8), 619-635.
- Raihan, S., Khondker, B. H., & Chowdhury, O. R. (2022, July). Labour Market Study under Skills for Employment Investment Program (SEIP): Skill Gap in the Pharmaceutical Industry of Bangladesh
- Rehman, M. & Khidmat, W., 2013. Impact of liquidity and Solvency on Profitability: chemical sector of Pakistan. *Economika Management Inovace*, Vol. 6, issue 3, 2014.
- Rowden, R.W. and Conine, C.T. Jr (2005), "The impact of workplace learning and job satisfaction in small US commercial banks", *Journal of workplace Learning*, Vol. 17 No. 4, pp. 215-30.
- Samad,S., (2022).Unravelling Factors Influencing Firm Performance: Evidence from the SMEs in Tourism Industry. *International Journal of Financial Studies*, 10(3),p.77.
- Shafiqul, I.M. (2013). Labor Incentives and Performance of Industrial Firm: A Case Study of Bangladeshi RMG Industry. *IOSR Journal of Business and Management*. Volume 7, Issue 3, Page 52-63.
- Shahzadi, I. & Javed, A. (2014). Impact of Employee Motivation On Employee Performance. *European journal of business and management*. Vol. 6, No.23.
- Sirota, D., & Klein, D. (2013). The enthusiastic employee: How companies profit by giving workers what they want. *FT Press. Business Book Review™* Vol. 23, No. 31
- Tita Deitiana MM; Robin, (2016). The Effect of Firm Size, Profitability, Tangibility, Non-Debt Tax Shield and Growth to Capital Structure on Banking Firms Listed in Indonesia Stock Exchange from 2007 – 2012. *South East Asia Journal of Contemporary Business, Economics and Law*, Vol. 10, Issue 1 (Aug.) ISSN 2289-1560.
- Tsai, P., Yen, C.Y., Huang, L. and Huang, I. (2007), "A study on motivating employee's learning commitment in the post-downsizing era: job satisfaction perspective", *Journal of World Business*, Vol. 42 No. 2, pp. 157-69.
- Vithessonthi, C., & Tongurai, J. (2015). The effect of leverage on performance: Domestically-oriented versus internationally-oriented firms. *Research in International Business and Finance*, 34, 265-280.

Vroom, V.H., Work and Motivation, Wiley, New York, NY, 1964.
Wang, G. G., & Wang, J. (2004). Toward a theory of human resource development learning participation. Human Resource Development Review, 3(4), 326-353.
Weiss, M. R., & Williams, L. (2004). The Why of Youth Sport Involvement: A Developmental Perspective on Motivational Processes. In M. R. Weiss (Ed.), Developmental sport and exercise psychology: A lifespan perspective (pp. 223–268). Fitness Information Technology.
Winter-Ebmer, R., & Zweimüller, J. (1999). Intra-firm wage dispersion and firm performance. Kyklos, 52(4), 555-572.

Appendix:

Results of Variance Inflation Factor

Variable	VIF	1/VIF
Fage	1.49	0.673341
SWR	1.39	0.716857
TANG	1.38	0.722418
EBR	1.30	0.770408
LEV	1.29	0.775693
Fsize	1.28	0.783730
LIQ	1.26	0.792548
NDTS	1.18	0.845008
GR	1.11	0.904128
Mean VIF	1.30	