Pandemic and Financial Performance: Pre and During Pandemic Effect of Covid-19 on Financial Performance of Pension Funds Defined Benefit Plans and Defined Contribution Plans

Andi Reski Almaida Daeng Macenning[1], Meyjerd Rombebung[2], Poltak Simanullang[3]
School of Business - IPB University
**Email: [1)]reskialmaida@gmail.com , [2)]rombebungameyjerd@gmail.com ,
[3)]poltak1701@gmail.com**

How to Cite :

ARTICLE HISTORY

KEYWORDS

ABSTRACT

Assessment of the financial performance of a pension fund can be done by analyzing the pension fund's financial reports. Based on the program, employer pension funds (EPF) are divided into two types, namely Defined Benefit Plan (DBP) and Defined Contribution Plan (DCP). This research aims to assess the financial performance of the Defined Benefit Plan (DBP) pension fund industry when compared with Defined Contribution Plan (DCP) pension funds pre-pandemic and during-pandemic for each financial ratio. Research was conducted on Pension Funds in Indonesia as a whole for the period January 2018 – December 2021. The ratios used to test the performance of each group of pension funds are Return on Assets (ROA), Return on Investment (ROI), Operational Cost Efficiency (EBO), Investment Cost Efficiency (EBI) and Pension Fund Growth (PDP). By using the Shapiro-Wilk W Test, Paired t Test, and Wilcoxon Signed Rank Test, the test results show that in DBP-EPF there are significant differences between pre-pandemic and during-pandemic for ROI and ROA. Where the ROI and ROA performance values pre-pandemic were higher than during-pandemic. There are no significant differences between EBO, EBI and PDP between pre-pandemic and during-pandemic in the DBP-EPF. Meanwhile, in the DCP-EPF there were no significant differences between pre-pandemic and during-pandemic for all variables. This proves that DBP-EPF experienced significant shocks during-pandemic. DBP-EPF is anticipating a strategy by reducing asset allocation to equity investment instruments, resulting in returns received that are not as good pre-pandemic.

INTRODUCTION

In order to provide welfare guarantees to employees, pension funds are one of the alternatives provided by companies when their employees have reached retirement age (Sari and Nasution, 2022). According to the Statement of Financial Accounting Standards (PSAK) No. 18 concerning Pension Fund Accounting, a pension fund is a legal entity that manages and runs programs that promise pension benefits. Pension benefits are periodic payments paid to participants at the time and in the manner specified in the pension fund regulations (PSAK 24). This means that pension benefits are the amount of income that employees will receive when entering retirement which is paid by the pension fund company, based on certain calculations. According to Law no. 11 of 1992, in Indonesia there are only two institutions that can administer Pension Fund programs, namely: 1) Employer Pension Fund (EPF) is a pension fund established by the person or entity that employs employees, as the founder, to administer the Defined Benefit Plan (DBP) or Defined Contribution Plan (DCP), for the benefit of some or all employees as participants, and creates obligations for the employer; 2) Financial Institution Pension Fund (PPIF) is a pension fund established by a bank or Life Insurance company to provide a Pension Program for individuals, both employees and self-employed workers, which is separate from the employer's pension fund for employees of the bank or insurance concerned primarily for employees in when you retire later.

In essence, the interest in having a pension fund is not only for employees, but also concerns various parties, both micro and macro. At a micro level, the objectives and provision of pension fund programs can be seen from the perspective of employee interests and employer interests. With this program, employees participating in the program will gain a sense of security and better compensation because of additional income from the company during their puma service. And this is expected to increase their motivation to be more productive. At a macro level, pension funds can be a source of financing for national development in an effort to reduce dependence on foreign sources of funds. However, with the increasing development of this pension fund program, it is also necessary to measure the performance of a pension fund like companies in general. This is mainly so that pension funds can fulfill their obligations.

The contribution of pension funds to the national economy is bridged by various investment instruments from both the banking sector and the capital market. In the last five years, the pension fund industry has continued to have an increasing trend, showing its role in the Indonesian economy. Indicators of the growth of the Pension Fund industry can be seen from the growth in assets, investment and increasing number of participants. The number of pension funds in the last five years has experienced a downward trend, especially Employer Pension Funds that run the DBP program. In 2022, the number of DBP-EPF pension funds will decrease by 5, while DBP-EPF pension funds 6 and PPIF will stagnate. Apart from the dissolution of the pension fund, this dissolution was carried out by the founders to improve operational and financial efficiency. Apart from that, the presence of a mandatory pension guarantee program by BPJS employment was also one of the factors that caused the founder to disband his pension fund. Furthermore, there is a EPF that has switched programs from DBP to DCP. Thus, the number of pension funds still actively operating for the period 31 December 2022 is 208 pension funds, consisting of 172 DPPK and 25 PPIF. The development of pension funds in the last five years can be seen in Figure 1.

**Figure 1. Total pension funds for 2018 - 2022**
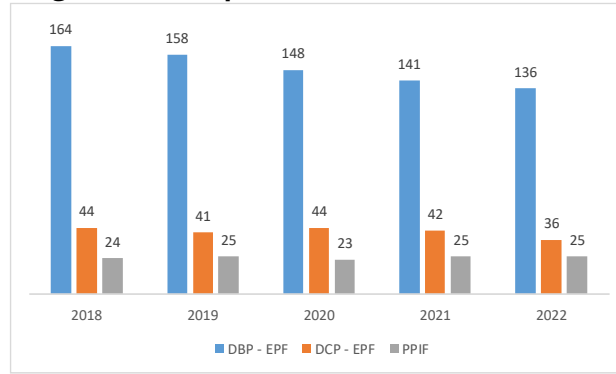
Source: OJK, 2022

Based on the type of Pension Fund, the number of DBP still dominates the industry. However, when compared with the previous year, the number of DBP-EPF and DCP-EPF each decreased from 141 Pension Funds to 136 Pension Funds and 42 Pension Funds to 36 Pension Funds. Whereas, PPIF no changes. In 2021, the number of Pension Funds will decrease due to the Founder dissolving his Pension Fund. The dissolution was based on the Founder's policy to ensure operational and financial efficiency. Apart from that, the existence of the Pension Guarantee (JP) program which is mandatory and managed by BPJS Employment is also one of the factors causing the Founder to disband his Pension Fund. Furthermore, funds from the disbanded Pension Fund were transferred to PPIF.

During the pandemic, the pension fund industry, including both types of institutions, did not experience significant impacts, according to the OJK data until November 2020. Although resilient, the pension fund industry should remain attentive to its financial performance amid changing circumstances. Industry experts have noted pressures on pension fund investments due to the pandemic, particularly the decline in interest rates across various investment instruments. The rate of return on investment (Return on Investment/ROI) is one measure of Pension Fund investment performance. The greater the ROI achieved, it can be said that the better the Pension Fund investment performance. Based on financial data for 2021, Pension Funds as a whole obtained an ROI of 6.07%, down from 8.66% in the previous period. When compared to the last 5 years, the rate of return on pension fund investments tends to decrease which is not in line with the increase in investment growth held.

Figure 2. Total pension funds for 2018 - 2022
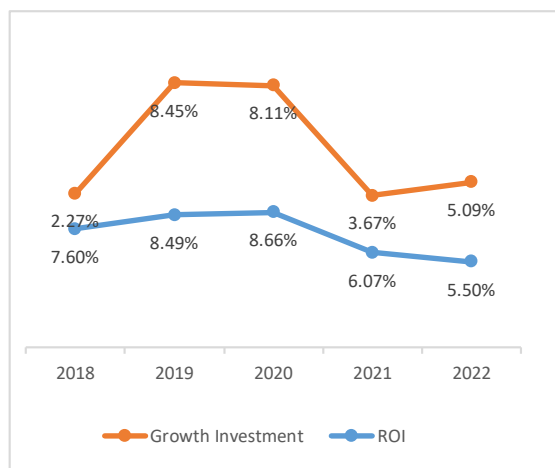
Source: OJK, 2022

In response to this, during the Covid-19 pandemic, the OJK issued new regulations that provided stimulus for insurance companies and pension funds as an effort to reduce the impact of weakening global financial conditions. This policy is expected to encourage national financial market stability and support the growth of insurance companies and pension funds. The stimulus policy is stated in the OJK Circular Letter, namely: (1) OJK Circular Letter Number 24 of 2015 concerning Debt Securities Investment Assessment and Risk-Based Minimum Capital Adjustments for Insurance Companies and Reinsurance Companies; (2) OJK Circular Letter Number 25 of 2015 concerning Investment Assessment in Sharia Securities and Calculation of Funds to Anticipate the Risk of Failure to Manage the Wealth and/or Liabilities of Sharia Insurance Companies and Sharia Reinsurance Companies; and OJK Circular Letter Number 26 of 2015 concerning Valuation of Investment in Securities for Pension Funds.

According to Macenning et al. (2020) In managing funds, pension funds are required to develop optimally through capital investments carried out based on investment directions by their founders and the conditions set by the government. In line with this, pension funds that carry out investment as their main activity are very important for evaluating performance. This is done as a form of accountability to various interested parties. Performance evaluation will show the ability of pension fund administrators to carry out activities related to pension fund management. Financial performance can be done by comparing financial ratios from previous years or comparing financial ratios with standard ratios. Pension fund performance assessment can be done using financial ratios. According to the Indonesian Pension Fund Association (ADPI), assessment of the financial performance of pension funds can be measured through financial performance ratio indicators, namely Return On Investment (ROI), Operational Cost Efficiency (EBO), Investment Cost Efficiency (EBI), and Fund Adequacy Ratio (RKD).). ADPI uses these indicators to determine which pension funds have the best performance, which will be determined yearly to be awarded. This research focuses on evaluating the performance of DBP and DCP pension funds through analysis of pension fund financial reports. The information provided regarding a description of the financial position can be used to assess the magnitude of the risks that exist in a pension fund. The analysis was carried out by comparing the financial performance of employer pension funds, namely between pension funds that implemented DBP and DCP during the pre-covid and during-covid periods.

LITERATURE REVIEW

Pension fund efficiency is an important indicator for analyzing the performance of a pension fund as well as a means of further increasing the effectiveness of monetary policy. The ability to produce maximum output with existing input is a measure of expected performance. When efficiency measurements are carried out, banks are faced with the condition of how to get the optimal level of output with the existing level of input, or get the minimum level of input with a certain level of output. By identifying the input and output allocation, it can be analyzed further to see the causes of inefficiency (Mansyur, 2012). Technical efficiency measurements tend to be limited to technical and operational relationships in the process of converting input into output. Novaković (2015) stated that pension funds are expected to support the national economy as long as the pension fund's financial performance is good and competitive, which can be measured by the level of success from the active portfolio management carried out, namely through good fund asset allocation.

The Covid 19 pandemic has triggered a crisis throughout the world. Not only a health crisis, but it also spreads to social and economic crises, including in the financial sector. The regulatory and supervisory authority for the financial sector, namely (OJK), said that the pandemic had dealt a heavy blow. One of the Composite Stock Price Index (IHSG). From the beginning of 2020 to March 20 2020, aka just three months, the JCI fell from the level of 6,300 to 3,900. Transaction volume also declined. If in 2019, transaction volume was 36,534,971,048, in 2020 it fell by 27,495,947,445.

This reflects the wait-and-see behavior of most investors. Investors are worried about future market conditions. At that time, investor panic was exacerbated by the emergence of various mutations of the COVID-19 virus, such as Delta which was first discovered in mid-2021, then Omicron at the end of 2021 to early 2022. Starting from Phan and Narayan (2020) who examined the market response capital and state against COVID-19. They argue that every time there is unexpected news, the market will react. This is consistent with the government's reaction to COVID-19. Then, research conducted by Hadar and Sethi (2021) suggests that market speculation influences capital market fluctuations. They also found that news related to COVID-19 also had an impact on the capital market. Then, Rizvi, Juhro and Narayan (2021) examined the market reaction to the monetary and fiscal stimulus of four Association of Southeast Asian Nations (ASEAN) countries, namely Indonesia, Malaysia, Singapore and Thailand as a result of the COVID-19 pandemic. They conclude that monetary policy takes time to influence stock market conditions. The government's fiscal policy can be used as a cushion to reduce the detrimental effects of the pandemic on capital markets. In general, asset allocation includes placement in: fixed income, equity and bank deposits. Investment performance is the key to whether the pension program can cover all the liabilities they have, especially when the demographic structure of the pension fund program participants is elderly. Not only that, the pension fund program must also guarantee that the percentage of dependents or benefits provided meets the minimum requirements that have been determined, namely the replacement rate. Bregnard and Salva (2022) stated that the relationship between pension fund governance and asset allocation is important in financial performance. Pension funds with good governance generally diversify their investments into global markets with a larger portion and lower cash holdings, while small-scale pension funds with limited governance generally invest more in risky assets. Qadri et al. (2023) stated that the pandemic has affected the world economy and reduced the profitability of several companies,

Factors that influence pension funds to invest in illiquid assets with the aim of profit, diversification and hedging, generally depend on liquidity and capital requirements (Broeders et al. , 2023). Short-term pension payments and margin on derivative contracts create liquidity requirements, while regulatory requirements require capital. In general, it can be said that the size of the pension fund, the type of pension fund, and the funding ratio have an impact on the allocation of illiquid assets, so that in pension fund regulations a greater emphasis is needed on managing liquidity and collateral. Broeders and Haan (2020) explain that there are four important decisions in producing investment results, namely asset allocation, benchmark selection, market timing, and security selection. Pension funds with certain investment specifications use standard proprietary benchmarks in evaluating returns. Benchmarks also serve as thresholds for investment manager compensation. Several important things in investment are decomposition of returns, contribution to variations in returns, contribution to variations in returns after market movements, returns from active changes in strategic asset allocation, returns adjusted for risk from active changes in strategic asset allocation.

Ogungbade et al. (2022) explains that the financial management performance of pension fund companies in Nigeria is significantly influenced by asset ownership, namely through selecting appropriate portfolio ownership to maximize pension fund profits, either through placement in ordinary shares and real estate which provide higher returns or in corporate debt securities or government securities that provide lower yields. So it can be concluded that pension fund managers in making investment decisions must always take into account the asset allocation (diversification) in their portfolio placement. Afolabi and Erasmus (2023) examines the financial performance of pension fund managers in the context of developing countries in Nigeria. The results obtained statistically are that there is a significant relationship between the benefits paid and all costs and pension income. Pension costs have a significant negative relationship with benefits paid, where as long as pension costs are above the permitted inflow it will cause the benefits paid to be lower, but administrative costs incurred by pension funds have a significant positive relationship with benefits paid both short term and long-term.

METHODS

The approach used in this research is a quantitative descriptive approach using monthly data from January 2018 to December 2021 obtained from financial services authorities recorded in the Non-Bank Financial Industry statistical report. Variable operationalization is needed to determine the types and indicators of the variables involved in this research. Apart from that, variable operationalization aims to determine the measurement scale of each variable, so that hypothesis testing using tools can be carried out appropriately. In more detail the operationalization of variables in this research can be seen in the following table:

a. ROI is the company's ability to generate profits in the past, obtained by the formula:

$$= \frac{Return}{Total\ Average\ Investment}\ x\ 100\%$$

b. ROA is a company's return on its assets invested with the following formula

$$= \frac{Net\ Income}{Net\ Assets}\ x\ 100\%$$

c. EBO is a ratio to measure the efficiency of pension funds in carrying out operational activities and carrying out their duties as fund collectors, investing and paying pension benefits to participants who have entered retirement. EBO is obtained by the formula:

$$= \frac{Cost\ of\ Operational}{Net\ Assets} x\ 100\%$$

d. EBI is a ratio to measure the efficiency of pension funds in carrying out their investment activities in various forms of investment in accordance with investment directions, and is obtained using the formula:

$$= \frac{Cost\ of\ Investment}{Return}\ x\ 100\%$$

e. Pension Fund Growth (PDP) is the ability of pension funds to increase in size which is highly expected by internal parties (pension fund administrators) and external parties (Pension Fund Bureau). PDP can be calculated using the formula:

$$= \frac{Net\ Assets\ t - Net\ Assets\ t-1}{Net\ Assets\ t-1} x\ 100\%$$

Sharpio-Wilk W test

Sharpio-Wilk test was used to test data normality. The normality test is used to test whether the research data obtained has a normal distribution or not. The normality test is carried out using the Shapiro-Wilk normality test. Guidelines for decision making can be seen from:

a. If the Sig value. or normal significant or probability <0.05 then the data is not normally distributed
b. If the Sig value. or significantly normal or probability > 0.05 then the data is normally distributed.

After the normality test is carried out, the data is then processed using the difference test between two paired samples with the following conditions:

a. If the data is not normally distributed, the Wilcoxon Signed Rank Test (non-parametric test) is used.
b. If the data is normally distributed, the t test (paired sample t-test) is used.

Paired Sample T-Test

This different test model is used to analyze prepost research models or with before and after. This difference test is used to evaluate certain treatments on the same sample in two different observation periods Pramana (2012). Paired sample t-test is used to test the differences between two paired samples. Paired samples are defined as samples with the same subjects but experiencing two different treatments in situations before and after the process (Santoso, 2001). Paired sample t-test is used if the data is normally distributed. Paired sample t-test is one of the tests used to assess the effectiveness of treatment, characterized by the difference in the average before and the average after the treatment is given. The basis for making decisions to accept and reject H0 in the paired sample t-test is as follows:

a. If probability (Asymp.Sig) < 0.05 then H0 is rejected and Ha is accepted
b. If probability (Asymp.Sig) < 0.05 then H0 is accepted and Ha is rejected

Wilcoxon Signed Rank Test

The Wilcoxon test is used to analyze whether paired observation results from two data are different or not. The Wilcoxon signed rank test is used only for interval or ratio type data. The Wilcoxon signed rank test is a non-parametric test used to analyze paired data because there are two different treatments (Pramana, 2012). The Wilcoxon signed rank test is used if the data is not normally distributed. The basis for making decisions to accept and reject H0 in the Wilcoxon signed rank test is as follows:

a. If probability (Asymp.Sig) < 0.05 then H0 is rejected and Ha is accepted
b. If probability (Asymp.Sig) > 0.05 then H0 is accepted and Ha is rejected

RESULTS

The results of the Sharpio-Wilk W test

Table 1. Shapiro-Wilk W test for DBP-EPF results

	ROI	ROA	EBO	EBI	PDP
N	24	24	24	24	24
W	0.66303	0.74132	0.94530	0.93516	0.95317
Z	4.500	3.961	0.793	1.140	0.476
Prob>z	0.00000	0.00000	0.21381	0.12718	0.31688

Based on Table 1, there are three variables that have a P value of the Shapiro Wilk test (Prob>z) more than the critical limit of 0.05, namely EBO, EBI and PDP. EBO, EBI and PDP are normally distributed. Meanwhile, ROI and ROA has a P value of 0.00000, which is less than 0.05. Thus, there are two variables that show a P value of the Shapiro Wilk test (Prob>z) of less than 0.05 so it can be concluded that H0 is rejected which means the diff variable is not normally distributed. Therefore, as an alternative to the paired t test, the Wilcoxon Signed Rank Test is carried out for these two variables.

Table 2. Shapiro-Wilk W test for DCP-EPF results

	ROI	ROA	EBO	EBI	PDP
N	24	24	24	24	24
W	0.94567	0.96387	0.94197	0.94580	0.98051
z	0.779	-0.052	0.914	0.774	-1.311
Prob>z	0.21787	0.52085	0.18048	0.21933	0.90515

Based on Table 2, all variables have a P value of the Shapiro Wilk test (Prob>z) more than the critical limit of 0.05. It can be concluded that ROI, ROA, EBO, EBI, and PDP are normally distributed, H0 is accepted. Therefore, the paired t test is carried out for all variables.

The Paired t test results

Table 3. Paired t results for DBP-EPF results

	EBO	EBI	PDP
t Stat	0.862	-0.039	-0.467
P(T<=t) two-tailed	0.3977	0.9689	0.6450

Based on the results of the Paired t Test, the t values obtained for EBO and EBI are 0.862 and -0.039 respectively with p values of 0.3977 and 0.9689, both of which are more than the research critical limit of 0.05 so the hypothesis decision is to accept H0 or which means there is no significant difference between pre-pandemic and during-pandemic for DBP. In line with that, the t value obtained for PDP is -0.467 with a p value of 0.6450 which is more than 0.05, the hypothesis decision is to accept H0, which means there is no significant difference between PDP pre-pandemic and PDP pre-pandemic for DBP-EPF.

Table 4. Paired t results for DCP-EPF results

	ROI	ROA	EBO	EBI	PDP
t Stat	1.375	1.628	0.629	-0.316	-0.077
P(T<=t) two-tailed	0.1823	0.1171	0.5355	0.7548	0.9389

Based on the results of the Paired t Test calculation, the t values obtained three variables that have positive t value, namely ROI, ROA, and EBO. It means that value for ROI, ROA, and EBO pre-pandemic is more than during-pandemic. Meanwhile, the t values obtained EBI and PDP have negatif value so the value of EBI and PDP pre-pandemic is less than during-pandemic. In line with that, the p value of all variables are more than the research critical limit of 0.05 so the hypothesis decision is to accept H0 or which means there is no significant difference between all variables pre-pandemic and during-pandemic for DCP-EPF.

The Wilcoxon Signed Rank Test results

Table 5. Wilcoxon Signed Rank results for DBP-EPF results

	ROI	ROA
Z	2.057	2.286
Asymp. Sig. (2-tailed)	0.0397	0.0223

Based on the results of the Wilcoxon Signed Rank Test calculation, the Z value obtained for ROI is 2.057 with a p-value of 0.0397 which is less than the research critical limit of 0.05 so that the hypothesis decision is to reject H0, which means there is a significant difference between ROI pre-pandemic and ROI during-pandemic for DBP. This is in line with ROA, where the z value obtained is 2.286 with a p value of and 0.0223 which is less than 0.05 so that the hypothesis decision is to reject H0 or which means there is no significant difference between ROA pre-pandemic and ROA during-pandemic for DBP-EPF.

DISCUSSION
DBP-EPF

ROI and ROA during the pre-pandemic period from January 2018 to December 2019 experienced fluctuations that ended with an increase. During the pre-pandemic period, ROI had the highest value in May 2018 at 1.39 percent and the lowest occurred in February 2019 at 0.48 percent. Meanwhile, during the pandemic period, ROI had the highest value in April 2021 at 0.79 percent and the lowest occurred in February 2021 at 0.48 percent. Based on the results of data analysis, it was found that the ROI was a significant difference between pre-pandemic and during-pandemic. This shows that the average ROI in the pre-pandemic had a value of 0.68 percent, indicating good criteria compared to during the pandemic. Meanwhile, ROA during the pre-pandemic period had the highest value in May 2018 at 1.33 percent and the lowest occurred in October 2019 at 0.45 percent. Meanwhile, during the pandemic period, ROA had the highest value in April 2021 at 0.75 percent and the lowest occurred in November 2021 at 0.39 percent. Based on the results of data analysis, it was found that ROA showed a significant difference between pre-pandemic and during-pandemic. So it can be concluded that there is no difference in the ability of pension fund institutions to manage investments and the ability to utilize their assets to generate returns between the pre-pandemic and during-pandemic periods. Based on the data, the average ROA in the pre-pandemic had a value of 0.64 percent, indicating good criteria compared to during the pandemic.

Furthermore, based on the results of data analysis, it was found that EBI did not show a significant difference between pre-pandemic and during-pandemic. The pressure of the pandemic has no impact on operational cost efficiency, where DBP-EPF continues to adhere to cost standards and budget considerations to maintain expenditure efficiency. This condition is able to maintain operational cost efficiency both before the pandemic and during the pandemic. This is in line with research conducted by Purwanti (2023) where there is no significant difference between EBI before the pandemic and during the pandemic. Investment costs, including commissions and fees, are always considered before making investment placements. If high investment costs are projected, the fund switches to investment forms with lower costs. Rarely does the fund purchase bonds on the secondary market to avoid high commission costs. High investment costs can diminish investment returns (Sharasanti and Ratnawati, 2017). This is in line with the efficiency of pension funds in carrying out their investment activities in the DBP-EPF pension fund, where there is no difference between pre-pandemic and during-pandemic. On the other hand, based on the results of data analysis, it was found that the PDP in DBP-EPF had

significant differences between pre-pandemic and during-pandemic. This shows that DBP-EPF does not increase the size of pension funds which is highly expected by internal parties (pension fund administrators) and external parties.

DCP-EPF

Based on the results of data analysis, it was found that there were no differences in all variables in the DCP-EPF between pre-pandemic and during-pandemic. Even though the pandemic has an impact on all business sectors, achieving ROI and ROA is not affected by the pressure of the pandemic. In managing its investment portfolio, DCP–EPF is able to choose forms of investment that provide high returns while still considering risks and adhering to predetermined investment guidelines. During the pandemic, DCP-EPF chose a moderate strategy while maintaining the existing portfolio. Where the largest asset allocation is still in fixed income investments at 53 percent in 2020, this allocation increased by 6.7 percent compared to the previous year. Meanwhile, investment in equity decreased by 14.3 percent in 2020. This cannot be separated from the initial period of the Covid-19 pandemic that hit Indonesia. Even though the pension fund places funds in long-term oriented equity investments, this decrease is a form of anticipation carried out by the DCP-EPF.

CONCLUSION

A comparison of the financial performance of employer pension funds that held pre-pandemic and during-pandemic DBP-EPF from January 2018 to December 2019 shows significant differences in ROI and ROA. This proves that DBP-EPF experienced shocks during the pandemic. In contrast, there is no significant difference in DCP-EPF. This means that DBP-EPF does not have the ability to manage investments and the ability to utilize the assets and assets owned to produce maximum returns. This is in line with the decrease in asset allocation made to equity investments instrument. At the beginning of the pandemic that hit Indonesia, both DBP-EPF and DCP-EPF mostly played in fixed income investment instruments which were safer and had lower risk. This results in the returns received not being as good as pre-pandemic. Furthermore, DBP-EPF reduced asset allocation to equity investments by 21.1 percent. This is inseparable from the condition of global and domestic stock markets experiencing high volatility. Then, if viewed from the risk side, DBP-EPF has a higher level of risk than DCP-EPF because the contributions received by DBP-EPF are the result of estimating the cost requirements to realize pension benefits based on actuarial calculations and the value can fluctuate in a paternalistic nature or the employer bears all or most of the risk including investment risks. Furthermore, EBO, EBI, and PDP did not have significant differences between pre-pandemic and during-pandemic in both DBP-EPF and DCP-EPF. This indicates that the pension fund is able to maintain its efficiency both in carrying out its operational activities and investment activities. Then the pension funds, both DBP-EPF and DCB-EPF, if seen from their net assets, did not experience significant growth. So there is no difference between pre-pandemic and during-pandemic in increasing the size that is expected by internal parties (pension fund administrators) and external parties.

REFERENCES

Afolabi AA., Erasmus LJ. (2023). Financial performance adequacy of pension fund managers in nigeria. Journal of accounting, financing and auditing studies, 9(2), 96-115. Doi: 10.32602/jafas.2023.014

Bregnard N, Salva C. (2022). Pension fund board governance and asset allocation: evidence from Switzerland. Journal of Pension Economics and Finance 22(3), 1-25. https://www.researchgate.net/publication/358547239_Pension_fund_board_governance_ and_asset_allocation_evidence_from_Switzerland

Broeders DWGA., Jansen KAE., Werker BJM. (2021). Pension fund's illiquid assets allocation under liquidity and capital requirements. Journal of Pension Economics and Finance 20 (1), 102–124. Doi:10.1017/S1474747219000398

Broeders DWGA., Han LD. (2020). Benchmark selection and performance. Journal of Pension Economics and Finance 19 (1), 511–531. Doi:10.1017/S1474747219000246

Sharasanti, DA., Prayitno RH. (2017). Analisis kinerja keuangan pada dana pensiun universitas surabaya. Junal Bisnis Terapan, 1 (1), 1-12. https://journal.ubaya.ac.id/index.php/JIBT/article/view/328

Hadar, A., & Sethi, N. (2021). The news effects of COVID-19 on global financial market volatility. Bulletin of Monetary Economics and Banking, Special Issues 2021, 33-58.

Hadar, A., & Sethi, N. (2021). The news effects of COVID-19 on global financial market volatility. Bulletin of Monetary Economics and Banking, Special Issues 2021, 33-58.

IAI. (2014). PSAK 18 Akuntansi dan Pelaporan Program Manfaat Purnakarya.

IAI. 2013. PSAK 24 (Revisi 2013): Imbalan Kerja.

Macenning ARAD, Hakim DB, Andati T. Analysis and optimization of investment portfolio performance (case study of PLN pension fund). International Journal of Research and Review. 2019; 6(12):481-488.

Mansyur, Fakhruddin. (2012). Analisis Perbandingan Efisiensi Bank Umum Syariah dan Bank Umum Konvensional di Indonesia Menggunakan Metode Stochastic Frontier Approach (SFA). UIN Sunan Kalijaga.

Novakovic Drazen. (2015). Evaluation on the financial performance Pension Fund in Cratia. Ekonomski Vjesnik, 28(1), 199-212. https://hrcak.srce.hr/ojs/index.php/ekonomski-vjesnik/article/view/3140

Ogungbade IO., Igbekoyi OE., Efuntade AO., Efuntade OO., Olaniyan NO. (2022). Assets holding and financial performance fund administrators in nigeria. Acta Universitatis Danubius. OEconomica, Danubius University of Galati, 18(3), 139-160. https://ideas.repec.org/a/dug/actaec/y2022i3p139-160.html

OJK. 2022. Statistik Dana Pensiun 2022. Jakarta (ID): Otoritas Jasa Keuangan.

Pemerintah Indonesia. (1992). Undang-Undang Nomor 11 Tahun 1992 tentang dana pensiun. Jakarta: Sekretariat Negara.

Phan, D. H. B., & Narayan, P. K. (2020). Country responses and the reaction of the stock market to COVID-19—A preliminary exposition. Emerging Markets Finance and Trade, 56(10), 2138-2150. https://doi.org/10.1080/1540496X.2020.1784719

Pramana, A. 2012. Analisis Perbandingan Trading Volume Activity dan Abnormal Return Saham Sebelum dan Sesudah Pemecahan Saham (Studi Kasus Pada Perusahaan Yang Terdaftar di Bursa Efek Indonesia Periode 2007-2011). Universitas Diponegoro, Semarang.

Purwanti, E. 2023. Analysis of the differences in the financial performance of the GKJ pension fund before and during the covid-19 pandemic. Management Journal. 14(4): 213-219.

Qadri SU., Shi X., Rahman SU., Anees A., Ali MSE., Brancu L., Nayel AN. Green finance and foreign direct investment–environmental sustainability nexuses in emerging countries: new insights from the environmental Kuznets curve. https://www.frontiersin.org/articles/10.3389/fenvs.2023.1074713/full

Rizvi SAR., Juhro SM., Narayan PK. (2021). Understanding market reaction to covid-19 monetary and fiscal stimulus in major asean countries. Bulletin of Monetary Economics and Banking, 24(3), 313-334. https://www.bmeb-bi.org/index.php/BEMP/article/view/1690/981

Sari, RI., Nasution MIP. Manajemen dan pensiun berbasis syariah. Jurnal Manajemen dan Sumberdaya, 1(3), 166-168. Lensa Ilmiah: Jurnal Manajemen dan Sumberdaya (ainarapress.org)

Santoso, S. (2001). Statistik Non Parametrik. PT. Elex Media

Sulianto, J., Purnamasari, V., & Febriarianto, B. (2019). Pengaruh Model Pembelajaran Think-Pair-Share terhadap Hasil Belajar Siswa Kelas V (Lima) Materi Organ Tubuh Manusia dan

Hewan. Internasional Journal of Elementary Education, 3(2), 124–131. https://doi.org/10.23887/ijee.v3i2.18515.

Suparman, M. A. (2012). Desain instruksional modern. Jakarta: Erlangga.

Syukur, A., Azis, R., & Sukarsih. (2020). Developing Reading Learning Model to Increase Reading Skill for Animal Husbandry Students in Higher Education. *Britain International of Linguistics, Arts and Education*, *2*(1), 484–493. https://doi.org/10.33258/biolae.v2i1.220.

Wahyuni, I., Slameto Slameto, & Setyaningtyas, E. W. (2018). Penerapan Model PBL Berbantuan Role Playing untuk Meningkatan Motivasi dan Hasil Belajar IPS. *Jurnal Ilmiah Sekolah Dasar*, *2*(4), 356–363. https://doi.org/http://dx.doi.org/10.23887/jisd.v2i4.16152.