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Analysis of determinants of financial and non-financial aspects for the fund adequacy ratio (FAR) at pension fund institutions

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ABSTRACT

The aim of this study is to analyze the determinants of Fund Adequacy Ratio (FAR) at Pension Fund Institutions listed in Indonesia Financial Services Authority (OJK) period 2013 - 2016. The determinants of financial aspect are proxied by financial ratio and the determinants of non-financial aspect are proxied by firm size. Sampling is done using purposive sampling method and the analysis used is SPSS version 2.0. The results of this study show that in financial aspect there are only 2 variables (the ratio of working capital / total asset and the ratio of retained earnings / total assets) that have a significant effect on FAR, while the other 4 variables consisting of the ratio of cash / total asset, the ratio of total debt / total revenue, the ratio of short-term debt / equity, and the ratio of current asset / short-term debt have no effect on FAR. In non-financial aspect, firm size also has no effect on FAR. However, all variables simultaneously have a significant effect on FAR.

ABSTRAK

Tujuan penelitian ini adalah untuk menganalisis determinan Rasio Kecukupan Dana Lembaga Dana Pensiun yang tercatat di Otoritas Jasa Keuangan periode tahun 2013 sampai dengan 2016. Determinan aspek keuangan direpresentasikan oleh rasio-rasio keuangan, sedangkan aspek non keuangan direpresentasikan oleh Ukuran Perusahaan. Metode sampling yang digunakan adalah purposive sampling dan analisis menggunakan SPSS Versi 2,0. Hasil penelitian menunjukkan bahwa untuk aspek keuangan hanya 2 variabel yang berpengaruh secara signifikan terhadap RKD yakni rasio Modal Kerja/Total Asset dan rasio Laba Ditahan/Total Asset, sedangkan 4 variabel lainnya yakni rasio-rasio Kas/Total Asset,Total Hutang/Total Penghasilan, Hutang Jangka Pendek/ Ekuitas, Asset Lancar/Hutang Jangka Pendek tidak berpengaruh signifikan terhadap RKD dan untuk aspek non finansial, Ukuran Perusahaan tidak berpengaruh signifikan terhadap RKD. Semua variabel independent secara Bersama-sama berpengaruh signifikan terhadap RKD

1. INTRODUCTION

In the last 4 years from 2013 to 2016, the number of Employer Pension Funds (Indonesia: Dana Pensiun Pemberi Kerja /DPPK) continues to shrink, as described in table 1 below:

On the other hand, the enactment of Government Regulation (PP) Number 45 of 2015 regarding Pension Insurance (JP) through the Social Security Management Agency (BPJS) which has been effective since July 2015 forces the DPPK-PPMP to stay afloat by continuously improving performance, in which one of the indicators of financial performance is the Fund Adequacy Ratio (FAR). Insufficient funds can result in bankruptcy (Altman, 1963 in Anwar, Waseem, 2014).

Table 2, shows the development of an unhealthy Fund Adequacy Ratio (FAR) level, a situation where the company does not have the ability to pay all of its debts ((Sneidere, R, 2009 in Rozenbaha, 2017).

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Table 1
Total Pension Fund for period 2013-2016

Types of Pension Funds	2013	2014	2015	2016
DPPK-PPMP	198	194	190	180
DPPK-PPIP	43	48	45	44
DPLK	24	25	25	25
TOTAL Adequacy	265	267	260	249

Source: 2016 Pension Fund Statistics Book

Table 2
Development of Fund Adequacy Ratio (FAR)DPPK-PPMP 2013-2016 (in %)

FAR Level	2013	2014	2015	2016
I	44	40.93	35.79	41.11
II	37	38.34	46.84	47.22
III	14	14.51	12.63	8.89
IV	5	6.22	4.74	2.78
Total	100	100	100	100

Source: Pension Fund Statistics Book 2013-2016

In the calculation, FAR is a comparison between the net assets of the Pension Fund and the actuarial liabilities (Anggraeni, 2012). In theory, FAR formulation is the same as solvency in finance.

In general, several studies related to financial factors that affect the adequacy of funds are conducted by Tsuji, Chikashi (2013), Kiplagat Komen (2012) Ming Shiu, Yung (2005), Al-Makassar T (2014) and Rozenbaha's study (2017), in which the studies summarize 8 studies conducted by Altman, EI (1968), BeaverW (1966), Ooghe, H (2008), Sneidere, R (2009) Linag, D (2016) Bhi mani, A (2010), Mironiuc, M (2015) Steinberga and Milliere (2016). However, from all of these studies the most influential ratios are the ratio of Working Capital / Total Assets , the ratio of Retained Earning / Total Assets, the ratio of Cash / Total Assets, the ratio of Total Liability / Sales, the ratio of Short-term Debt / Equity, and ratio of Current Asset / Short-term Debt.

Meanwhile, in non-financial factors, the most influential factors are payment behavior (Back P, 2005, Wilson N, 2013) age and size of the firm (Bhimani A, 2010; Wilson N, 2013) and industry types (Altman, EI, 2010, 2015; Ooghe, 2008). The combination of financial and non-financial factors will provide a more appropriate tool for predicting solvency in the future (Altman EI, 2015). Based on the phenomenon of decreasing FAR in the period of 2013 to 2016 and studies related to non-financial and financial factors that affect FAR, the formulation of the problem in this study is whether financial and non-financial ratios affect FAR.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS

Financial Ratio

Financial ratio analysis is an analysis conducted by evaluating the company's financial report, in which this report at least consists of: Income Statement of Balance Sheet, Cash Flow Statement, and Statement of Shareholders Equity (Titman, Keown, Martin (2014). Based on the 3 basic reports, the independent variables are limited in the understanding according to generally accepted accounting principles, PSAK (Kieso, Weygandt, Warfield, 2008) which explains the accounts of each variable consisting of ratio of Working Capital / Total Assets, ratio of Retained Earnings / Total Assets, ratio of Cash / Total Assets, ratio of Total Debt / Total Assets, ratio of Total Debt / Total Sales, ratio of Short-term Debt / Equity, and ratio of Current Asset / Short-term Debt.

Solvency / Bankruptcy

Bankruptcy is a condition in which a company is unable to fulfill all its obligations, both short-term and long-term obligations. Rozenbaha (2017) summarized 8 studies, related to financial factors that influence the solvency, done by Altman, EI (1968), 2010), Beaver , W (1966), Ooghe, H (2008), Sneidere, R (2009) Linag, D (2016) Bhimani, A (2010), Mironiuc, M (2015) Steinberga and Milliere (2016). Almost all financial ratios appear on the results of the

studies, but the most significantly influential ratios are Working Capital, Retained Earnings, Cash and Liability to Total Assets, Total Liability / Sales, Short Term Debt / Equity and Current Asset / Short Term Debt, while in non-financial factors are payment behavior, age and size of the firm, and industry type.

Fund Adequacy Ratio (FAR)

Fund Adequacy Ratio (FAR) is the ability of Pension Funds to fulfill their obligations to pay pension benefits to participants calculated based on 2 components: Wealth for Funding and Actuarial Obligations. In general, the Pension Fund Adequacy Ratio has 3 (three) levels of conditions: Level I (FAR> 100%), Level II (FAR = 100%) and Level III (FAR <100%). Pension Fund funding conditions at Level I and II mentioned above can provide a sense of security to participants because pension benefits are guaranteed. According to Kadarisman and Wahyuni (2010: 98), the first level is the safest condition of the funds, while the second and the third levels indicate the threatening and dangerous condition. In the Employer Pension Fund (DPPK) and Pension Benefits Pension Program (PPMP), the condition of funding is the responsibility of the employer so that the financial risk lies with the employer.

Framework

In terms of assets in the Financial Position Report, working capital owned by the company shows the difference between current assets and short-term debt, where this portion will contribute to the payment of long-term debt, while total assets describe the entire ability of the company, both to creditors and to owners of the company, so the ratio of capital work / total assets has an effect on FAR (Beaver, 1966; AltmanEI, 2010; Bhimani, 2010).

In terms of the liability in the Financial Position Report, retained earnings is part of the owner of the company's assets, in addition to creditors. Thus the ratio of retained earnings / total assets will clearly affect the FAR (Altmant, EI, 2010,2015; Ooghe, 2008). On the other hand, Cash is part of the company's assets that are the rights of creditors and company owners. Thus the ratio of Cash to Total Assets has a contribution to the fulfillment of FAR of pension fund institutions (Altman EI, 2010,2015). Meanwhile, total debt is the amount that must be paid by the company to creditors that comes from assets owned. Thus the ratio of Total Debt / Total Assets affects the FAR (Altmaan, EI, 2010). On the other hand, total debt is the amount that companies must pay to creditors which is sourced from the ability to obtain additional assets from the company's sales activities (Altman EI, 2010, Sneidere (2009); Bhimani (2010). Furthermore, short-term debt is a company's obligation that must be settled in less than 1 year, while equity is a company's obligation that must be settled by the company to the owner, where short-term debt and equity are part of all liabilities on the liability side of the Financial Position Report. Therefore, the ratio of Short-Term Debt to Equity affects FAR (Altmant EI, 2010; Al Kassar T, 2014).

Meanwhile, current assets are cash and other assets expected to become cash within no more than 1 year, which is part of all assets owned by the company. All assets will basically be used to pay obligations, both to creditors, in the form of current and long-term debt, and to the owner. Thus, the ratio of Current Assets / Short-term Debt clearly influences the FAR (Altman, EI, 2015). From the descriptions above, it can be concluded that the financial factors proxied by the ratios of working capital / total assets, retained earnings / total assets , Cash / Total Assets, Total Debt / Total Assets, Total Debt / Sales, Short-Term Debt / Equity, Current Assets / Short-term Debt have an effect on FAR. In terms of non-financial factors, Firm size is closely related to the scale of the company's ability to earn income in order to increase assets for the fulfillment of the

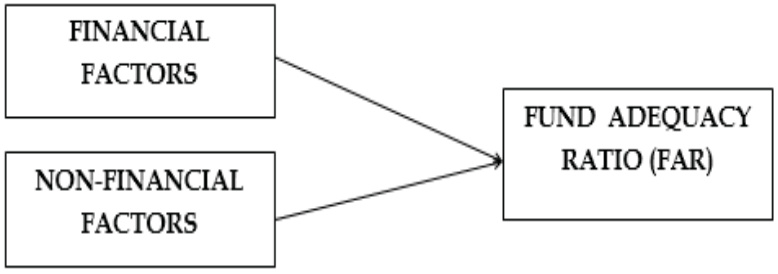

FIGURE 1
Framework

company's obligations to creditors and owners. The bigger the company, the bigger the scale of ability to earn income while increasing the company's assets. Thus, firm size has an effect on FAR (Ooghe, 2008; Wilson N, 2013; Altman EI, 2015).

From the descriptions above, it can be concluded that non-financial factors that are explained by the variable of firm size have an effect on FAR. Based on all descriptions above, the schematic framework can be seen in Figure 1.

Hypothesis

Based on the literature review, the results of previous studies, the reviews on the schematic framework, the hypotheses are formulated as follows:

H1: The Ratio of Working Capital / Total Asset has an effect on FAR

H2: The Ratio of Retained Earnings / Total Assets has an effect on FAR

H3: The Ratio of Cash / Total Assets has an effect on FAR

H4: The Ratio of Total Debt / Income has an effect on FAR

H5: The Ratio of Short-term Debt / Equity has an effect on FAR

H6: The Ratio of Current Asset / Short-term Debt has an effect on FAR

H7: Firm size has an effect on FAR

3. RESEARCH METHOD

Research Design

The design used in this study is a causal research method that aims to test hypotheses about the effect of one or several variables (independent variables) on other variables (the dependent variables). The independent variables used are the ratio of Working Capital / Total Assets, the ratio of Retained Earnings / Total Assets, the ratio of Cash / Total Assets, the ratio of Total Debt / Income, the ratio of Short-term Debt / Equity, the ratio of Current Assets / Short-Term Debt, Payment Behavior, and firm size, while the dependent variable is the Fund Adequacy Ratio (FAR).

Research Subject, Population, and Sample

The population in this study is Employer Pension Fund Institutions (DPPK) period 2013 - 2016 consisting of as many as 48 institutions. The data are obtained from Employer Pension Fund Institutions (DPPK) registered in the Financial Services Authority.

Analysis Method

The analysis used in this study includes a) Descriptive Statistical Analysis, b) Classical Assumptions Test, where the classical assumption test consists of: Normality test, Multicollinearity test, Heteroscedasticity test, and Autocorrelation test, c) Hypothesis testing includes Analysis of the Coefficient of Determination ($R2$), F test, t test, and Multiple Linear Regression Analysis. The regression equation model is $Y = a + \beta1\ [X1] + \beta2\ [X2] + \beta3\ [X3] + \beta4\ [X4] + \beta5\ [X5] + \beta6\ [X6] + \beta7\ [X7]$ where X1 = Working Capital / Total Assets ratio , X2 = Retained Earnings / Total Assets ratio, X3 = Cash / Total Assets ratio, X4 = Total Debt / Total Earnings ratio, X5 = Short-term Debt / Equity ratio, X6 = Current Assets / Short-term Debt ratio, and X7 = ln Total Assets.

4. DATA ANALYSIS AND DISCUSSIONS

Descriptive Statistics

The results of descriptive statistical test in table 5.

1. The number of samples (N) is 48 included

Table 4
Operational Definition

VARIABLE	DIMENSION	INDICATOR	SCALE
WC/TA Ratio (X1)	Financial	Working Capital /Total Assets	Ratio
RE/TA Ratio (X2)	Financial	Retained Earnings / Total Assets	Ratio
Cash/TA Ratio (X3)	Financial	Cash / Total Assets	Ratio
TD/Sales Ratio (X4)	Financial	Total Debt / Income from Sales	Ratio
Rasio STD/Equity Ratio (X5)	Financial	Short-term Debt / Equity	Ratio
CA/STD Ratio (X6)	Financial	Current Assets / Short-term Debt	Ratio
Firm Size(X7)	Non-Financial	Ln total assets	Ratio
FAR	Financial	Total Assets for Funding / Actuarial Obligations	Ratio

in the category of Employer Pension Fund Institutions for 4 consecutive years consisting of X1, X2, X3, X4, X5, X6, X7 and Y.

2. The minimum value of X1 (Working Capital / Total Assets ratio) of 0.6879 was owned by in 2015, while the maximum value of 1.0000 was owned by PLN Pension Fund in 2015, with an average value of 0.972721 and an average variation (standard deviation) of 0.0690994.
3. The minimum value of X2 (Retained Earnings / Total Assets ratio) of -0.3722 was owned by BI Pension Fund in 2015, while the maximum value of 0.2825 was owned by MANDIRI2 Pension Fund in 2015, with an average value of 0.32323 and an average variation (standard deviation) of 0.1276112.
4. The minimum value of X3 (Cash / Total Assets ratio) of 0.0000 was owned by BUN Pension Fund in 2016, NIAGA Pension Fund in 2013, MANDIRI2 Pension Fund in 2013-2016, while the maximum value of 0.0128 was owned by NIAGA Pension Fund in 2015, with an average value of 0.001335 and an average variation (standard deviation) of 0.0022931.
5. The minimum value of X4 (Total Debt / Total Income ratio) of 3.0651 was owned by BNI Pension Fund in 2015, while the maximum value of 24.3362 was owned by BUN Pension Fund in 2015 with an average value of 11.674042 and an average variation (standard deviation) of 3.1811131.
6. The minimum value of X5 (Short-Term Debt / Equity ratio) of 0.4552 was owned by MANDIRI Pension Fund in 2015, while the maximum value of 35.4591 was owned by BUN Pension Fund in 2015, with an average value of 6.175498 and an average variation (standard deviation) of 7.7263336.
7. The minimum value of X6 (Current Assets / Short-term Debt ratio) of 0.00 was owned by PLN Pension Fund in 2013-2016, ANTAM Pension Fund in 2015-2016, and BCA Pension Fund in 2013-2016, while the maximum value of 0.1383 was owned by

Table 5
Results of Descriptive Statistical Test

	N	Minimum	Maximum	Mean	Std. Deviation
X1	48	.6879	1.0000	.972721	.0690994
X2	48	-.3722	.2825	.032323	.1276112
X3	48	.0000	.0128	.001335	.0022931
X4	48	3.0651	24.3362	11.674042	3.1811131
X5	48	.4552	35.4591	6.175498	7.7263336
X6	48	.0000	.1383	.013508	.0290127
X7	48	261018.0	17839484.0	5827147.658	5077439.1082
Y	48	73	139	102.48	14.058
Valid N (listwise)	48				

Source: Output SPSS version 2.0

Table 6
Results of Normality Test One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		48
Normal Parameters[a,b]	Mean	0E-7
	Std. Deviation	2,33242759
Most Extreme Differences	Absolute	,139
	Positive	,139
	Negative	-,124
Kolmogorov-Smirnov Z		,963
Asymp. Sig. (2-tailed)		,311

a. Test distribution is Normal.

b. Calculated from data.

Source: Output SPSS Version 2.0

BUN Pension Fund in 2015, with an average value of 0.013508 and an average variation (standard deviation) of 0.0290127.

8. The minimum value of X7 (Firm Size / ln Total Assets ratio) of 26.018 was owned by BPD RIAU Pension Fund in 2013, while the maximum value of 17839484 was owned by TELKOM Pension Fund in 2016, with an average value of 5827147,658 and an average variation (standard deviation) of 5077439.108
9. The minimum value of Y of 73 was owned by BI Pension Fund in 2015, while the maximum value of 139 was owned by MANDIRI2 Pension Fund in 2015, with an average value of 102.48 and an average variation (standard deviation) of 14.058.

Classical Assumption Test

Normality Test

In Table 6 it can be seen that the significance value of the Unstandardized Residual is 0.311> 0.05. So, it can be concluded that the data in this study are normally distributed.

Multicollinearity Test

In Table 7, the results of multicollinearity test show that all independent variables used produce variance inflation factor (VIF) values less than 10 and tolerance values more than 0.1. So, it can be concluded that there are no symptoms of multicollinearity between the independent variables used in the regression model.

Autocorrelation Test

The results of autocorrelation test are shown in Table 8. The Runs Test results indicate that the value of Asymp. Sig. (2-tailed) is 0.466, or greater than 0.05. So, it can be concluded that there is no autocorrelation in the regression model. Therefore, H0 is accepted.

Heteroscedasticity Test

The Park test in Table 9 shows the results of heteroscedasticity test. It is obtained information that the independent variables have no statistically significant effect on the dependent variable of LNU^2i value. This can

Table 8
Results of Autocorrelation Test Runs Test

	Unstandardized Residual
Test Value[a]	-.14889
Cases < Test Value	24
Cases >= Test Value	24
Total Cases	48
Number of Runs	22
Z	-.729
Asymp. Sig. (2-tailed)	.466

a. Median

Source: Output SPSS Version 2.0

Table 7
Results of Multicollinearity Test Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-12.219	10.932		-.118	.270		
	X1	113.337	10.554	.557	10.739	.000	.256	3.911
	X2	97.666	3.362	.887	29.046	.000	.739	1.354
	X3	193.583	262.492	.032	.737	.465	.375	2.664
	X4	.113	.191	.026	.592	.557	.370	2.705
	X5	.077	.074	.042	1.038	.305	.413	2.419
	X6	-12.965	25.334	-.027	-.512	.612	.252	3.972
	X7	-9.966E-08	.000	-.036	-1.170	.249	.728	1.374

a. Dependent Variable: Y

Source: Output SPSS Version 2.0

Table 9
PARK TEST

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta			
1	(Constant)	-.690	9.754		-.071	.944
	X1	-.397	9.417	-.012	-.042	.967
	X2	-5.233	3.000	-.298	-1.744	.089
	X3	-1.597	234.216	-.002	-.007	.995
	X4	.151	.170	.214	.887	.381
	X5	-.021	.066	-.073	-.320	.750
	X6	-5.109	22.605	-.066	-.226	.822
	X7	-7.648E-08	.000	-.174	-1.007	.320

a. Dependent Variable: Ln2Ui

Source: Output SPSS Version 2.0

Table 10
Results of Coefficient of Determination Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin -Watson
1	.986[a]	.972	.968	2.528	1.848

a. Predictors: (Constant), X7, X2, X5, X3, X6, X4, X1

b. Dependent Variable: Y

Source: Output SPSS Version 2.0

be seen from the significant profitability of all the independent variables used which have values above the significant level of 0.05 or 5%. So, this regression model does not contain heteroscedasticity.

Hypothesis Test

Coefficient of Determination (adjusted (R^2)

In table 10 it can be seen that the adjusted R2 value is 0.968, indicating that the variability of the dependent variable that can be explained by the independent variable is 96.8%. This means that 96.8% diversity of Y is determined by X1, X2, X3, X4, X5, X6, X7, while 3.2% is determined by other factors not examined in this study.

Results of Simultaneous Significance Test (F-test)

Based on the ANOVA test in table 11, the value of F count is 201.885 with a probability value of 0.000. Because the probability is much smaller than 0.05, the regression model can be used to predict Y, or it can be said that X1, X2, X3, X4, X5, X6, X7 simultaneously affect Y, thus the regression model is feasible to use .

T test aims to determine whether or not there is an influence between each independent variable and the dependent variable. T test compares the value of t count and the value of t table with the provisions of the confidence interval of 95% and a significance level of 5%. If the probability or significance α > 0.05, the independent variable individually has no effect on the dependent variable. If α < 0.05, the independent variable individually has an effect on the dependent variable.

Individual Parameter Significance Test (t statistical test)

- **The Effect of X1 on Y**

Based on the results in the table above, the value of t count is 10.739 and the value of t table is 2.021, or 10.739 > 2.021, with the t significance level of 0.000, or 0.000 < 0.05. so, the hypothesis is accepted because X1 has a significant positive effect on Y.

- **The Effect of X2 on Y**

Based on the results in the table above, the value of t count is 29.046 and the value of t table is 2.021, or 29.046 > 2.021, with and the t significance level of 0.000, or 0.000 <0.05. So, the hypothesis is accepted because X2 has a significant positive effect on Y.

Table 11
Results of Simultaneous Significance Test (F-test)

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9032.289	7	1290.327	201.858	.000[b]
	Residual	255.690	40	6.392		
	Total	9287.979	47			

a. Dependent Variable: Y

b. Predictors: (Constant), X7, X2, X5, X3, X6, X4, X1

Source: Output SPSS Version 2.0

Table 12
Results of Individual Parameter Significance Test (t statistical test)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-12.219	10,932		-1.118	.270
	X1	113.337	10.554	.557	10.739	.000
	X2	97.666	3.362	.887	29.046	.000
	X3	193.583	262.492	.032	.737	.465
	X4	.113	.191	.026	.592	.557
	X5	.077	.074	.042	1.038	.305
	X6	-12.965	25.334	-.027	-.512	.612
	X7	-9.966E-08	.000	-.036	-1.170	.249

a. Dependent Variable: Y

Source: Output SPSS Version 2.0

- **The Effect of X3 on Y.**

Based on the results in the table above, the t value of t count is 0.737 and the value of t table is 2.021, or 0.737 <2.021, with the t significance level of 0.465, or 0.465> 0.05. So, the hypothesis is rejected because X3 has no significant effect on Y.

- **The Effect of X4 on Y**

Based on the results in the table above, the value of t count is 0.592 and the value of t table is 2.021, or 0.592 <2.021, with the t significance level of 0.557, or 0.557> 0.05. So, the hypothesis is rejected because X4 has no significant effect on Y.

- **The Effect of X5 on Y**

Based on the results in the table above, the value of t count is 1.038 and the value of t table is 2.021, or 1.038 < 2.021, with the t significance level of 0.305, or 0.305> 0.05. So, the hypothesis is rejected because X5 has no significant effect on Y.

- **The Effect of X6 Y**

Based on the results in the table above, the value of t count is 0.512 and the value of t table is 2.021, or 0.512 < 2.021, with the t significance level of 0.612, or 0.612 > 0.05. So, the hypothesis is rejected because X6 has no significant effect on Y.

- **The Effect of X7 on Y**

Based on the results in the table above, the value of t count is 1.170 and the value of t table is 2.021, or 1.170 < 2.021, with the t significance level of 0.249, or 0.249 > 0.05. So, the hypothesis is rejected because X7 has no significant effect on Y.

Multiple Linear Regression Analysis

Thus the regression equation is as follows:

Y = -12.219 + 113.337 [X1] + 97.666 [X2] + 193.583 [X3] + 0.113 [X4] + 0.077 [X5] – 12.965 [X6] – 9.966E-08 [X7],

Where:

X1 = Working Capital / Total Assets, X2 = Retained Earnings / Total Assets, X3 = Cash / Total Assets, X4 = Total Debt / Total Income, X5 = Short-term Debt / Equity, X6 = Current Assets / Short-term Debt, and X7 = ln Total

Assets. So, the multiple linear regression equation can be explained as follows:

a. α constant has a value of -12.219, which means that if X1, X2, X3, X4, X5, X6, X7 are considered constant, Y decreases by 12.219.
b. Regression coefficient value of X1 (Working Capital / Total Assets) is 113.337 with a positive direction. This shows that every increase of 1 (one) point in Working Capital / Total Assets, with the assumption that the other independent variables are fixed, will cause an increase in the FAR variable of 113.337.
c. Regression coefficient value of X2 (Retained Earnings / Total Assets) is 97.666 with a positive direction. This shows that every increase of 1 (one) point in Retained Earnings / Total Assets, with the assumption that the other independent variables are fixed, will cause an increase in the FAR variable of 97.666.
d. Regression coefficient value of X3 (cash / Total Assets) is 193,583, with a positive direction. This shows that every increase of 1 (one) point in Cash / Total Assets, with the assumption that the other independent variables are fixed, will cause an increase in the FAR variable of 193.583.
e. Regression coefficient value of X4 (Total Debt / Total Income) is 0.113, with a positive direction. This shows that every increase of 1 (one) point in Total Debt / Total Income, with the assumption that the other independent variables are fixed, will cause an increase in the FAR variable of 0.113.
f. Regression coefficient value of X5 (Short-term Debt / Equity) is 0.077, with a positive direction. This shows that every increase of 1 (one) point in Short-Term Debt / Equity, with the assumption that the other independent variables are fixed, will cause an increase in FAR variably of 0.077.
g. Regression coefficient value of X6 (Current assets / Short-term assets) is -12.965, with a negative direction. This shows that every increase of 1 (one) point in Current Assets / Short-term Debt, with the assumption that the other independent variables are fixed, will cause a decrease in FAR variable of 12.965.
h. Regression coefficient value of X7 (Company Size / ln Total Assets) is -9.966E-08, with a negative direction. This shows that every increase of 1 (one) point in Company Size, with the assumption that the other independent variables are fixed, will cause a decrease in FAR variable of 9.966E-08.

Discussion

Based on Table 12, Statistical Test of Individual Parameter, the following is a summary of the test results as presented in table 13 below:

A summary of the results of the hypothesis test in table 13 can be explained as follows:

- **The effect of the Ratio of Working Capital / Total Assets on FAR**

The results of statistical data show that the ratio of Working Capital / Total Asset has a significant effect on FAR as stated in the results of the research conducted by Beaver, 1996 and Bhimani, 2010 in Rozenbaha, (2017), AltmanEI (2010) with the explanation that

Table 13
Results of Multiple Linear Regresion Analaysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	-12.219	10.932	
	X1	113.337	10.554	.557
	X2	97.666	3.362	.887
	X3	193.583	262.492	.032
	X4	.113	.191	.026
	X5	.077	.074	.042
	X6	-12.965	25.334	-.027
	X7	-9.966E-08	.000	-.036

a. Dependent Variable: Y

Source: Output SPSS Version 2.0

Working Capital is the difference between Current Assets and Current Debt, where the difference will contribute to the payment of Long-term Debt, while Total Assets indicate all the company's ability to meet its obligations, both to creditors and to shareholders, therefore the ratio of Working Capital / Total Asset has a significant effect on FAR.

- **The Effect of the Ratio of retained Earnings / Total Assets on FAR**

The results of statistical data show that the ratio of Retained Earnings / Total Assets has a significant effect on FAR as stated in the results of the research conducted by Altmant, EI (2010,2015), Ooghe, 2008 in Rozenbaha (2017) with the explanation that Retained Earnings are the rights of stockholders over the company, therefore the Ratio of Retained Earnings / Total Assets has a significant effect on FAR.

- **The Effect of the Ratio of Cash / Total Assets on FAR**

The results of statistical data show that the ratio of Cash / Total Assets has no significant effect on FAR. Information in Table 4 on descriptive statistics shows that the Ratio of Cash / Total Assets and the Ratio of Total Assets for Funding / Actuarial Liabilities (FAR) are relatively stable. There is no variation that drives the FAR to change. This is likely due to the type and category of business of the Pension Fund in which most of the funding is obtained from debt sources, so there is no significant variation in the ratio of Cash / Total Assets as well as the ratio of Total Assets to Funding / Actuarial Obligations (FAR).

- **The Effect of the Ratio of Total Debt / Total Income on FAR**

The results of statistical data show that the ratio of Total Debt / Total Income has no significant effect on FAR. Total Debt is the amount the company must pay to creditors whose source comes from the ability to obtain additional assets from sales or income-generating activities. Therefore, the ratio of Total Debt / Total Income is expected to affect the FAR. From table 4 on descriptive statistics, it is obtained information that the ratio of Total Debt / Total Earnings and the ratio of Total Assets to Funding / Actuarial Liabilities are relatively stable. Therefore, there is no significant variation that encourage FAR to change. This is likely due to the business character that causes most funding comes from debt, so there is no significant variation in the ratio of Total Debt / Total Income as well as the ratio of Total Assets to Funding / Actuarial Liabilities.

The Effect of the Ratio of Short-Term Debt / Equity on FAR

The results of statistical data show that the ratio of Short-Term Debt / Equity has no significant effect on FAR. Short-term debt is a company's obligation that must be settled within no more than 1 year, while Equity is a company's obligation to shareholders. Therefore, it will contribute to influencing the FAR. In the descriptive statistics, it can be seen that the ratio of Short-term Debt / Equity and the ratio of Total Assets for Funding / Actuarial Liabilities are relatively stable. There is no significant variation that encourages FAR to change. This is likely due to the character of

Table 14
Summary of Hypothesis Test Results

Hypotheses	Explanation	Result
H_1	The ratio of Working Capital / Total Assets has a significant effect on FAR	The ratio of Working Capital / Total Assets has a significant effect on FAR
H_2	The ratio of Retained Earnings / Total Assets has a significant effect on FAR	The ratio of Retained Earnings / Total Assets has a significant effect on FAR
H_3	The ratio of Cash / Total Assets has a significant effect on FAR	The ratio of Cash / Total Assets has a significant effect on FAR
H_4	The ratio of Total Debt / Total Income has a significant effect on FAR	The ratio of Total Debt / Total Income has a significant effect on FAR
H_5	The ratio of Short-term Debt / Equity has a significant effect on FAR	The ratio of Short-term Debt / Equity has a significant effect on FAR
H6	The ratio of Current Asset / Short-term Debt has a significant effect on FAR	The ratio of Current Asset / Short-term Debt has a significant effect on FAR
H7	Firm Size has a significant effect on FAR	Firm Size has a significant effect on FAR

Source: Processed Data

the business where most of the funding sources come from debt so that the equity position is dominated by debt.

The Effect of the Ratio of Current Assets / Current Debt on FAR

The results of statistical data show that the ratio of Current Assets / Current Debt has no significant effect on FAR. In theory, Current Assets are Cash and other Current Assets that are expected to be Cash no more than 1 year, which is part of the Total Assets that the company has. Basically, all company assets are prepared to pay all the company obligations, both to creditors in the form of short or long term debt and to shareholders. Therefore, the ratio of Current Assets / Current Debt should affect the FAR. In the descriptive statistics, it can be seen that the ratio of Current Assets / Current Debt and the ratio of Total Assets for Funding / Actuarial Liabilities (FAR) are relatively stable. There is no significant variation that encourages the FAR to change. This is likely due to the business character with the majority of funding comes from debts that cause no such variation.

- **The Effect of Firm Size on FAR**

The results of statistical data show that firm size has no significant effect on FAR. The firm size is related to the scale of the company's ability to earn income in order to increase the company's assets to meet its obligations to both creditors and company owners. The larger the scale of the company, the greater the scale of the ability to earn income while increasing its assets. Thus, firm size will increase the FAR. In the descriptive statistics, it can be seen that firm size and FAR are relatively stable. There is no significant variation that encourages FAR to change. This is likely due to the character of the business that the majority of funding sources come from debt so as to increase the Size of the Company. The company must owe, so there is no significant variation in firm size, as well as in the FAR.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Implication

Two determinants that have been proven to have a significant effect on FAR are the ratio of Working Capital / Total Asset and the ratio of Retained Earning / Total Asset. Therefore, the implication of this study is the need for the management of the Pension Fund Institutions to calculate the ratio of Working Capital / Total Asset and the ratio of Retained Earnings / Total assets in the strategy of achieving the Fund Adequacy Ratio (FAR).

Suggestion

It is recommended that the next researchers carry out further studies of the 5 ratios which are proven to have no significant effect on FAR to obtain additional information on the direction of these variables in relation to achieving the Fund Adequacy Ratio (FAR). The 5 variables are: Cash / Total Assets Ratio, Total Debt / Total Income Ratio, Short-Term / Equity Debt Ratio, Current Asset / Current Debt Ratio, and Firm Size.

Limitation

The availability of data for research was only 4 years, so the analysis was only done in a relatively short period of time and this potentially could not describe the real conditions.

REFERENCES

Anggraeni, Kurnia Agustina. 2012. Analisis Kinerja Keuangan dan Rasio Kecukupan Dana pada Dana Pensiun Pemberi Kerja Manfaat Pasti di Indonesia. *Jurnal Ilmu & Riset Akuntansi Vol. 1 No. 11 (2012).*

Brigham, Eugene dan Joel F. Houston 2013. "Dasar-Dasar Manajemen Keuangan". Edisi Sebelas. Jakarta: Salemba Empat.

Demirhan, H Gukcehan& Anwar, Waseem. 2014. *"Factors Affecting TheFinancial Performance of The Firms DuringThe Financial Crisis: EvidenceFrom Turkey"*. Ege StratejikArastumalarDergisi, Ege Stratejik Research Journal.

Dana Pensiun Bank Indonesia. 2017. *Buku Laporan Tahunan 2016*, Jakarta. Penerbit Dana Pensiun Bank Indonesia.

Dana Pensiun Bank Negara Indonesia. 2017. *Buku Laporan Tahunan 2016*, Jakarta. Penerbit Dana Pensiun Bank Negara Indonesia.

Dana Pensiun Bank Rakyat Indonesia. 2017. *Buku Laporan Tahunan 2016*, JakartaPenerbit Dana Pensiun Bank Rakyat Indonesia.

Dana Pensiun PT Telkom. 2017. *Buku Laporan Tahunan 2016*, Bandung. Penerbit Dana Pensiun PT. Telkom.

Dana Pensiun PT Telkom. 2016. *Buku Laporan Tahunan 2015*, Bandung. Penerbit Dana Pensiun PT. Telkom.

Dana Pensiun PT PLN (Persero). 2017. *Buku Perkembangan Dana Pensiun PT PLN (Persero) Tahun 2016*, Jakarta. Penerbit Dana Pensiun PT. PLN (Persero).

Dana Pensiun PT PLN (Persero). 2015. *Buku Perkembangan Dana Pensiun PT PLN (Persero) Tahun 2014*, Jakarta. Penerbit Dana Pensiun PT. PLN (Persero).

Dana Pensiun Perkebunan. 2017. *Buku Laporan Tahunan 2016*, Jakarta. Penerbit Dana Pensiun Perkebunan.

Dana Pensiun Bank Mandiri. 2017. *Buku Laporan Tahunan 2016*, Jakarta. Penerbit Dana Pensiun Bank Mandiri.

Dana Pensiun PT. Antam. 2015. *Buku Laporan Tahunan 2014*, Jakarta. Penerbit Dana Pensiun PT. Antam

Dana Pensiun PT. Antam. 2017. *Buku Laporan Tahunan 2016*, Jakarta. Penerbit Dana Pensiun PT. Antam.

Dana Pensiun PT. Antam. 2015. *Buku Laporan Tahunan 2014*, Jakarta. Penerbit Dana Pensiun PT. Antam.

Dana Pensiun PT. Pertamina. 2015. *Buku Laporan Tahunan 2014*, Jakarta. Penerbit Dana Pensiun PT. Pertamina.

Dana Pensiun PT. Pertamina. 2017. *Laporan Keuangan Tahun 2016*, Jakarta.Penerbit Dana Pensiun PT. Pertamina.

Kherkof, Juliet. 2017. "Determinants of Investment Policy of Dutch Pension Funds" University of Twente.

Komen, Dickson Kiplagat. 2012."*Determinants of Solvency Margins of Insurance Companies in Kenya, University of Nairobi.*

Kieso, Donald E'Wegrand, Jerry J; Warfield, Terry D, 2008. *" Intermediate Accounting" Eleventh Edition, John Wiley and Son.*

Ming Shiu, Yung. 2005." *The Determinants of Solvency in the United Kingdom Life Insurance Market". Journal of Aplied Economics Letters Vol 12, Issue 6.*

Pengertian Dana Pensiun Definisi Jenis, Manfaat, Program Pensiunan dan Sistem Pemberian Tunjangan. Accessed on Februrary 14, 2018 from World Wide Website :http://www.landasanteori.com/2015/10/pengertian-dana-pensiun-definisi-jenis.html.

Kementerian Sekretariat Negara R.I. 1992. *Undang-Undang Republik Indonesia Tahun 1992 Tentang Dana Pensiun*, Jakarta. Penerbit Kementerian Sekretariat Negara R.I.

Kementerian Hukum dan Hak Asasi Manusia R.I. 2015. *Peraturan Pemerintah No. 45 Tahun 2015 Tentang Penyelenggaraan Program Jaminan Pensiun*, Jakarta. Penerbit Kementerian Hukum dan Hak Asasi Manusia R.I.

Otoritas Jasa Keuangan R.I. 2015. *Peraturan Otoritas Jasa Keuangan R.I. No. 1/ POJK. 05/2015 Tentang Penerapan Manajemen Risiko Bagi Lembaga Jasa Keuangan Non-Bank*, Jakarta. Penerbit Kementerian Hukum dan Hak Asasi Manusia R.I.

Otoritas Jasa Keuangan R.I. 2015. *Peraturan Otoritas Jasa Keuangan R.I. No. 3/POJK. 052015 Tentang Investasi Dana Pensiun*, Jakarta. Penerbit Kementerian Hukum dan Hak Asasi Manusia R.I.

Otoritas Jasa Keuangan R.I. 2017. *Buku Statistik Dana Pensiun 2016*, Jakarta. Otoritas Jasa Keuangan R.I.

Rozenbaha, Inese, 2017. "*Financial and Non Financial Factors Affecting Solvency : A Theory Review". Proceedings of the 2017 International Conference "ECONOMIC SCIENCE FOR RURAL DEVELOPMENT" No. 46Jelgava, LLU ESAF, 27-28 April 2017 pp 345-350*

Sawir, Agnes. 2015. *Analisis Kinerja Keuangan dan Perencanaan Keuangan Perusahaan.* Jakarta: Gramedia Pustaka Utama.

Suryowati, Estu. 2017, *Jumlah Dana Pensiun Pemberi Kerja Terus Menyusut.* Accessed on Januari 12, 2018 from World Wide Web : https://ekonomi.kompas.com/ read/2017 /04/02/143000926/jumlah.dana.pensiun.pemberi.kerja.terus.menyusut.

Sekaran, Uma. 2016. *Research Methods For Business (Metodologi Penelitian untuk Bisnis).* Jakarta: Salemba Empat (2016)

Setiawan, Sakina Rakhma Diah. 2017, *Lambat, Pertumbuhan Industri Dana Pensiun Nasional.* Accessed on Januari 13, 2018 from World Wide Web : https://ekonomi.kompas.com/read/2017/04/25/132600126/lambat.pertumbuhan.industri.dana.pensiun.nasional.

Titman, Sheridan; Keown, Arthur J; Martin, John D, 2014. *Financial Management: Principles and Aplications", Pearson Education, Inc,Edinburgh Gate, Harlow, England.*

Tsuji, Chikashi. 2013. "Corporate Solvency and Capital Structure: The Case of the Electric Appliances Industry Firms of the Tokyo Stock Exchange". International Journal of Economic and Finance, vol 5, no 6.

Tinjauan Pustaka. 2015. Accessed on January 14, 2018 from World Wide Website : https://repository.widyatama.ac.id/xmlui/bitstream/handle/123456789/6471/Bab%202.pdf?sequence=10.