

## A Long Window Event Study of Financial Performance: Does Debt Restructuring Triumph Over Bankruptcy?

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Irene Angelina, Gabriella Lavenia, Irene Citrawati, \*Nanik Linawati  
School of Business and Management, Petra Christian University,  
Indonesia

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### ABSTRACT

The number of companies undergoing debt restructuring in Indonesia has significantly increased yearly. Debt restructuring, as an alternative to mergers and acquisitions, has become a strategy for many companies facing financial challenges. This research aims to conduct a long-window event study of debt restructuring in Indonesian companies from 2003 – 2022. This study utilizes a method involving the differential analysis of financial performance ratios of companies two years before and after undertaking debt restructuring. The main financial ratios focused on in this research are liquidity ratio, solvability ratio, profitability ratio, and efficiency ratio. This study involves 44 samples and is analyzed through paired sample t-tests using SPSS statistical analysis. Based on the empirical findings, this research concludes that debt restructuring has caused significant differences in the cash ratio, profit margin, return to asset, and asset turnover. This study helps investors and creditors to identify signs of betterment of companies undertaking debt restructuring via financial ratios.

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### ABSTRAK

Jumlah perusahaan yang melakukan restrukturisasi liabilitas di Indonesia meningkat signifikan setiap tahunnya. Restrukturisasi liabilitas, sebagai alternatif merger dan akuisisi, telah menjadi strategi bagi banyak perusahaan yang menghadapi tantangan keuangan. Tujuan dari penelitian ini adalah untuk melakukan studi peristiwa long window atas restrukturisasi liabilitas pada perusahaan-perusahaan di Indonesia selama periode 2003 – 2022. Penelitian ini menggunakan metode analisis diferensial terhadap rasio kinerja keuangan perusahaan 2 tahun sebelum dan sesudah melakukan restrukturisasi liabilitas. Rasio keuangan utama yang menjadi fokus dalam penelitian ini adalah rasio likuiditas, rasio solvabilitas, rasio profitabilitas, dan rasio efisiensi. Penelitian ini melibatkan 44 sampel dan dianalisis melalui uji t sampel berpasangan dengan menggunakan analisis statistik SPSS. Berdasarkan temuan empiris, penelitian ini menyimpulkan bahwa restrukturisasi utang menyebabkan perbedaan yang signifikan pada rasio kas, profit margin, return to asset, dan perputaran aset. Studi ini membantu investor dan debitor untuk mengidentifikasi tanda-tanda perbaikan perusahaan yang melakukan restrukturisasi utang melalui rasio keuangan.

Keyword:

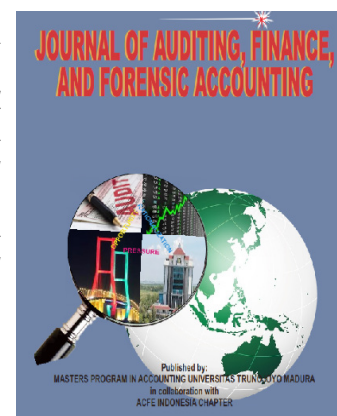
Debt Restructuring, Efficiency, Liquidity, Profitability, Solvability

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## **1. INTRODUCTION**

Credit problems are still one of the triggers for bankruptcy globally (Ahiadorme, 2023; Black & Maggina, 2016; Borhan et al., 2014). It is further exacerbated by the weakening condition of banking performance and bad debt from the company due to the Covid-19 pandemic (Kusno et al., 2022). Syahrizal (2020) adds that the risk of default is increasing every year in all sectors of Indonesia. Sariwangi LLC is one of the companies that experienced bankruptcy due to a debt burden that was too significant (Ramadhan et al., 2022). Garuda LLC also experienced something similar and made them submit a debt restructuring application (Amalia et al., 2022) caused by a decline in the LLC's performance, resulting in losses in its financial reports (Sari et al. 2020). Debt restructuring is, therefore, a relevant and vital topic in Indonesia today, especially after the global financial crisis during and after Covid-19 (Mehmood & De Luca, 2023). This issue must be addressed carefully, as it could lead to bankruptcy (Magri & Marchini, 2024) due to liquidity pressures caused by the impact of debt restructuring.

Firm Level credit risk and bankruptcy prediction are one of long-standing topics in risk management (Huang & Wang, 2017; Nyitrai, 2019). Previous studies have tried to address the gap regarding this topic by using various methods (Huang & Wang, 2017; Nyitrai, 2019; Purves & Niblock, 2018), one of which is financial ratios. Huang & Wang (2017) distinguish between creditworthy companies (CWCs) and less creditworthy companies (LCWCs) in the U.S. using key financial ratios. Nyitrai (2019) enhances the predictive model power of bankruptcy by using financial ratios. On the other hand, Purves & Niblock (2018) investigate the relationship of success and failure of U.S. and Australian firms with financial ratios and non-financial factors. Financial ratios are one of the vehicles used to measure financial performance in several contexts, such as comparing performance between sectors (Katchova & Enlow, 2013), comparing the performance of two countries (Liu et al., 2013), predicting auditor opinion (Zarei et al., 2020), or building a new taxonomy for financial ratios (Zeller et al., 2016).

This research aims to prove whether there are differences in debt ratios and other financial ratios in the two years before the company underwent debt restructuring (t-2) and two years after the company underwent debt restructuring (t+2). Financial ratios such as liquidity, solvability, profitability, and efficiency ratios are used as indicators to depict the discrepancy before and after debt restructuring. These four ratios were chosen referring to the explanation by Grela & Hofman (2021), which explains that these four ratios are mainly used as indicators of the health and financial performance of an entity in many studies related to assessing financial performance after implementing strategic policies (in the context of this study, namely debt restructuring). This study focuses on financial ratio as a predictor of the success of debt restructuring as this indicator can assess and analyze the financial standing, progress of the business (Ahrendsen & Katchova, 2012),

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and financial soundness (Eljelly & Abdelgadir Elobeed, 2013). It is essential to understand corporate communication better to assess a firm's performance better (Aripin et al., 2011).

In Indonesia, in 2003 - 2022, more than 34 companies were carrying out debt restructuring. The current research examines the effect of strategic policies, namely debt restructuring, on financial performance as represented by financial ratios. This study refers to previous research, namely studies from Gupta (2017), Riani & Nugraha (2020), and Sibarani & Yuningsih (2023). Gupta (2017) examined the differences between 6 companies in India that carried out debt restructuring by referring to 10 financial ratios derived from liquidity, profitability, and solvability ratios. This study was conducted three years before the year of debt restructuring and three years after the year of debt restructuring. His findings show that debt restructuring does not automatically lead to better business results. Riani & Nugraha's (2020) study was conducted on one company using a narrow window event study and looked at changes in financial performance every month before and after debt restructuring was carried out one year before and one year after the year of debt restructuring. This study employed three ratios, namely operating profit margin, current ratio, and time interest earned ratio, and found that debt restructuring did not improve the financial performance of X LLC. On the other hand, Sibarani & Yuningsih (2023) focus on 13 mining companies in Indonesia. Six ratios were used to test the difference between companies undergoing debt restructuring between 2015 and 2018 by comparing the companies' financial performance three years before and after debt restructuring. The empirical findings show a significant difference in financial performance for ROA and TIER ratios, while there was no difference in the CR, DR, TATO, and EVA ratios.

This study is motivated to reduce the gap from previous studies. However, to the best of our knowledge, this research area is still limited. This research uses a smaller long-window event study, namely two years before and two years after debt restructuring. Still, this study employs 11 financial ratios from liquidity, solvability, profitability, and efficiency and observes more samples, namely 44 companies that carry out debt restructuring. The novelty of this research is using more financial ratios by adding efficiency ratios and a more significant number of observations to provide a more generalizable picture of the effects before and after debt restructuring. By using paired sample t-test, this study found a significant difference in cash ratio, profit margin, ROA, and asset turnover, meanwhile there is no significant difference for the rest of financial ratios. This study on debt restructuring and financial performance provides some contributions. First, from empirical evidence, only cash ratio, profit margin, ROA, and asset turnover experienced significant differences before and after debt restructuring. This study, therefore, provides a reference for indicators of financial ratios that significantly change when debt restructuring occurs. Second, the decision to restructure debt

could not change and improve the condition of the company's liabilities. It was proven by the insignificant difference between the solvability ratio before and after debt restructuring. Third, this study can reference what indicators investors and creditors need attention to after debt restructuring.

## **2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **Pecking Order Theory**

Pecking order theory was first proposed by Myers (1984), who stated that the changes in debt are a consequence of the financial needs of companies, which must exhaust domestic sources of financing first, followed by indebtedness, and only in the last option the issue of capital abroad. Companies prefer internal funds as they have no information asymmetry or flotation costs and are prioritized over external financing (Bhama et al., 2016). They use external financing only when their internal funds are insufficient (Karadeniz et al., 2009). Thus, the pecking order theory predicts that firms with a higher degree of information asymmetry are associated with higher levels of debt usage, *ceteris paribus* (Qu et al., 2018). Vasiliou et al. (2009) examined the validity of the pecking order theory using several methodologies in Greek companies. It is believed that different methodologies will produce different implications. Findings from Vasiliou et al. (2009) confirm that a negative relationship between leverage and profitability does not necessarily mean that the pecking order financing hierarchy holds. Zhang & Kanazaki (2007) test static trade-off against pecking order models of capital structure in Japanese firms. Their findings prove that both models can explain some parts of the capital structure. The static trade-off model shows that firm leverage is affected by several determinants, and the pecking order model displays similar movements between net debt retired and financial surplus. However, both models have shortcomings. The static trade-off model fails to explain the negative correlation between profitability and firm leverage, and the pecking order model fails to explain the low deficit coefficient.

### **Trade-Off Theory**

Trade-off theory was first introduced by Modigliani & Miller (1963) in their seminal work "Corporate Income Taxes and the Cost of Capital: A Correction." The static trade-off theory states that the optimal capital structure results from the balance between the benefits of tax and associated costs of bankruptcy (Modigliani & Miller, 1963). According to the trade-off theory, the companies aim to achieve an optimal level of debt, which considers the combination of debt tax benefits and the company's insolvency costs (Brito et al., 2020). In recent years, however, the static trade-off theory has been revisited and extended to incorporate dynamic features into valuations and financing decisions (Glover & Hambusch, 2014). Roy & Bandopadhyay's (2022) work is one study that used and revisited trade-off theory in the context of investigating the

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relationship between financial risk and the value of the company. Their study found that the financial risk and corporate value had a significant negative relationship during the period of study. Bukair (2019) also employs trade-off theory in Islamic perspective by investigating the influence of company-specific attributes on capital structure decisions of Islamic banks in Gulf Cooperation Council (GCC) countries during the period 2009-2011. His findings support the application of the trade-off theory.

### **Debt Restructuring and Financial Performance**

According to Financial Services Authority Regulation 11 2020, debt restructuring is a process of changing loan agreements carried out between creditors and debtors to overcome the financial difficulties experienced by the debtor. Surya & Suyatna (2014) write that merger and acquisition is one type of debt restructuring that can be done in Indonesia. According to Andy et al. (2023), the use of external funds (debt) by a company can trigger agency problems, which is a conflict of interest between shareholders and managers. This conflict is related to the study Tan & Luo (2021), which examines the impact of debt restructuring on investment and financing decisions and agency issues between shareholders and creditors. As a result, the company must face agency costs, which include monitoring costs, bonding costs, and residual losses. However, applying the debt financing theory (trade-off theory) can minimize these agency costs. According to Wikartika & Fitriyah (2018), trade-off theory is the condition in which a company chooses the optimal capital structure by balancing the costs and benefits of using debt.

This statement is also supported by Andy et al. (2023), which states that the decision to use external financing (debt) can lead to financial difficulties for companies. To overcome this problem, companies can conduct debt restructuring. According to Riani & Nugraha (2020), debt restructuring is a process of restructuring and organizing the company's obligations to overcome financial issues. It is hoped that the company's financial condition will be better after debt restructuring. Companies need to consider debt restructuring if they experience difficulties meeting principal obligations and interest on time, a decrease in cash flows, and unhealthy financial ratio changes. According to Ghosh (2019), companies are faced with two options to reorganize their debt contracts at this challenging time. The first option is for the company to renegotiate with creditors to discuss the recruitment of the debt claims. The alternative option is for the company to take the extreme step of filing for official bankruptcy. It is then followed by a legal process to allocate or liquidate assets, and the proceeds will be distributed to creditors. Both options allow companies to resolve their financial problems through debt restructuring.

Hoshi et al. (2018) and Payne (2018) argue that debt restructuring can elevate the relationship between creditors so that the company can expand and have more room to adapt. The study of Soedarmono et al. (2021) explains the impact of debt

restructuring on risk and financial performance in Indonesia. The study mentions that the amount of debt restructured in companies with high capitalization and state-owned companies can increase solvency risk. In general, an increase in debt restructuring lowers profitability ratios. Nubli & Viverita's (2021) study points out that companies generally perform better after debt restructuring, especially when using the debt-to-equity swap method. The study proves that debt restructuring will increase the company's PBV and capital structure in a positive direction. However, some studies show no significant difference in DER before and after debt restructuring. Permana (2020) researched the impact of debt restructuring through debt-to-equity swap policies on financial performance. Based on the results of hypothesis testing, it was found that debt restructuring measured by DER significantly affects profitability ratios and activity ratios. Meanwhile, debt restructuring does not affect a company's liquidity.

Debt restructuring results in fundamental changes to financial performance (Gupta, 2017; Riani & Nugraha, 2020; Sibarani & Yuningsih, 2023). It is due to the relaxation and relief debtors feel regarding their obligations. Improvements in financial performance before and after debt restructuring can be explained through two different theories, namely, the pecking order theory and the trade-off theory. These two theories are fundamentally different but explain how companies balance their capital structure (Cotei et al., 2011; Guermazi, 2020; Saif-Alyousfi et al., 2020), especially in conditions after experiencing credit insolvency. Therefore, there will be a significant difference in financial performance before and after debt restructuring. Based on the above statements, the research hypothesis can be formulated as follows:

- H<sub>1</sub>: There is a significant difference in Liquidity Ratios (Current Ratio, Quick Ratio, Cash Ratio) between before (t-1 and t-2) and after (t+1 and t+2) Debt Restructuring.
- H<sub>2</sub>: There is a significant difference in Solvability Ratios (Debt to Asset Ratio, Debt to Equity Ratio) between before (t-1 and t-2) and after (t+1 and t+2) Debt Restructuring.
- H<sub>3</sub>: There is a significant difference in Profitability Ratios (Profit Margin, Return on Asset, Return on Equity) between before (t-1 and t-2) and after (t+1 and t+2) Debt Restructuring.
- H<sub>4</sub>: There is a significant difference in Efficiency Ratios (Inventory Turnover, Account Receivable Turnover, Asset Turnover) between before (t-1 and t-2) and after (t+1 and t+2) Debt Restructuring.

### **3. RESEARCH METHODS**

The research uses a quantitative approach involving collecting and analyzing numerical data. The main objective of this research is to identify significant differences in financial conditions before and after the company restructures its credit. The data source and collection technique used are secondary data. This study is categorized as an event study as it used a paired sample t-test to assess firms' performance after undertaking corporate policy

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(McWilliams & Siegel, 1997), although this study does not specifically observe changes in corporate policy on abnormal returns (Ang & Zhang, 2015; Krivin et al., 2003). The data was obtained from the sample company's annual financial statements for two years before (pre) and two years after (post) the debt restructuring was carried out.

The research sample is 44 events from 34 companies that restructured their debt in 2003-2022. The data analysis technique used is a parametric statistical test technique paired sample t-test in the SPSS (Statistical Program for Social Science) program. According to Ahmaddien & Syarkani (2019), paired sample t-test is a statistical test technique used to assess the effectiveness of a particular treatment by comparing the difference in mean results before and after the treatment is performed. This analysis compares the company's financial performance ratios two years before debt restructuring (t-2) and two years after (t+2). The financial ratios used as a benchmark are liquidity, solvability, profitability, and efficiency. The liquidity ratio consists of the current, quick, and cash ratios. The solvability ratio consists of DER and DAR. The profitability ratio consists of profit margin, ROA, and ROE. The last ratio is the efficiency ratio, which consists of inventory turnover, account receivable turnover, and asset turnover.

#### **4. RESULTS AND DISCUSSION**

##### **Results**

The liquidity, solvability, profitability, and efficiency ratio testing were conducted through the paired sample t-test using the SPSS 25. Significance ( $\alpha$ ) represents the threshold for the acceptable error probability in a research study. This study establishes a significance level ( $\alpha$ ) of 0.05, indicating that the researcher can tolerate a maximum error of 0.05. If the significance value ( $\alpha$ ) falls below ( $<$ ) 0.05, it can be inferred that there is a noteworthy impact on financial ratios before and after debt restructuring. Conversely, if the significance value ( $\alpha$ ) exceeds ( $>$ ) 0.05, it can be deduced that there is no significant effect of financial ratios before and after debt restructuring. The outcomes of these calculations are elucidated in the tabulated format presented in Table 1 until Table 8 below.

Table 1 illustrates the significance of the difference in liquidity ratios between one and two years before and after debt restructuring. Both the current ratio and quick ratio exhibit no significant differences. In the period t-2 and t+2 (Pair 1), the significance figure for the current ratio is notably high, reaching 0.87816. This value exceeds the permissible error limit of 0.05. Similarly, the significance figure for quick ratio (Pair 3) is relatively high at 0.56180 in the same period. Although during the period t-1 and t+1, both ratios (Pair 2 and Pair 4) show lower significance compared to the t-2 and t+2 periods (Pair 1 and 3), the figures still have no significant difference. Conversely, the significance of cash ratio in the one and years before and after debt restructuring is categorized as having a significant difference, with significance values t-1 and t+1 (Pair 6) at 0.04852. Meanwhile, the results of

**Debt Restructuring**

the significance of t-2 and t+2 (Pair 5) is 0.05307, larger than 0.05. It can be concluded that H<sub>1</sub> is partially supported.

**Liquidity Ratio**

**Table 1**  
**Paired Samples Test on Liquidity Ratios**

		Mean	Std. Deviation	Error	Sig (2-tailed)
Pair 1	Current Ratio (t-2) - Current Ratio (t+2)	-.32659	1.81421	.27350	.87816
Pair 2	Current Ratio (t-1) - Current Ratio (t+1)	.11591	.94231	.14206	.17058
Pair 3	Quick Ratio (t-2) - Quick Ratio (t+2)	-.26068	.99042	.14931	.56180
Pair 4	Quick Ratio (t-1) - Quick Ratio (t+1)	-.00386	.69906	.10539	.21640
Pair 5	Cash Ratio (t-2) - Cash Ratio (t+2)	-.01386	.12897	.01944	.05307
Pair 6	Cash Ratio (t-1) - Cash Ratio (t+1)	-.01114	.12297	.01854	.04852*

\*significance with 5% α

**Table 2**  
**Paired Samples Statistics on Liquidity Ratios**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Current Ratio (t-2)	1.7780	44	1.26374	.19052
	Current Ratio (t+2)	2.1045	44	2.48799	.37508
Pair 2	Current Ratio (t-1)	1.6882	44	1.21422	.18305
	Current Ratio (t+1)	1.5723	44	.80150	.12083
Pair 3	Quick Ratio (t-2)	1.1136	44	.71307	.10750
	Quick Ratio (t+2)	1.3743	44	1.52303	.22961
Pair 4	Quick Ratio (t-1)	1.0641	44	.76134	.11478
	Quick Ratio (t+1)	1.0680	44	.59244	.08931
Pair 5	Cash Ratio (t-2)	.1382	44	.18764	.02829
	Cash Ratio (t+2)	.1520	44	.22171	.03342
Pair 6	Cash Ratio (t-1)	.1193	44	.20263	.03055
	Cash Ratio (t+1)	.1305	44	.17159	.02587

Table 3 displays the significance of the differences in solvability ratios between one and two years before and after debt restructuring. The outcomes of the paired sample t-test indicate no significant difference is observed in the DAR and DER. In the period of t-2 and t+2 (Pair 1), the significant value of DAR



is 0.05294. In the period of t-1 and t+1 (Pair 2), the significant value of DAR is 0.05039. Both values are categorized as having no significant differences. Similarly, the DER is deemed to have no significant difference, as the significance values, whether one or two years before and after debt restructuring, are comparatively high. Specifically, in the time range of t-2 and t+2 (Pair 3), the significant value of DER is 0.53350, and at t-1 and t+1 (Pair 4), the significant value of DER is 0.41975. The statistical result showed that  $H_2$  is not supported.

**Solvability Ratio**

**Tabel 3  
Paired Samples Test on Solvability Ratios**

		Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Pair 1	DAR (t-2) - DAR (t+2)	.00159	.17938	.02704	.05294
Pair 2	DAR (t-1) - DAR (t+1)	-.00318	.15526	.02341	.05039
Pair 3	DER (t-2) - DER (t+2)	-.11295	1.38326	.20853	.53350
Pair 4	DER (t-1) - DER (t+1)	-.12000	.98594	.14864	.41975

\*significance with 5%  $\alpha$

**Table 4  
Paired Samples Statistics on Solvability Ratios**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	DAR (t-2)	.3045	44	.16667	.02513
	DAR (t+2)	.3030	44	.18881	.02846
Pair 2	DAR (t-1)	.3023	44	.16460	.02481
	DAR (t+1)	.3055	44	.18413	.02776
Pair 3	DER (t-2)	.9170	44	1.16367	.17543
	DER (t+2)	1.0300	44	1.17182	.17666
Pair 4	DER (t-1)	.8914	44	.90575	.13655
	DER (t+1)	1.0114	44	1.14415	.17249

**Table 5  
Paired Samples Test on Profitability Ratios**

		Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Pair 1	Profit Margin (t-2) - Profit Margin (t+2)	.00409	.08987	.01355	.02323*
Pair 2	Profit Margin (t-1) - Profit Margin (t+1)	.00068	.10137	.01528	.03014*
Pair 3	ROA (t-2) - ROA (t+2)	.01000	.08570	.01292	.01605*
Pair 4	ROA (t-1) - ROA (t+1)	.00159	.09004	.01357	.02578*
Pair 5	ROE (t-2) - ROE (t+2)	.03136	.27035	.04076	.05083
Pair 6	ROE (t-1) - ROE (t+1)	-.00568	.17808	.02685	.05982

\*significance with 5%  $\alpha$

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Table 5 elucidates the significance of the differences in profitability ratios one and two years before and after debt restructuring. Two tested profitability ratios, profit margin and ROA, exhibit a noteworthy difference. Meanwhile, ROE doesn't. This assertion is based on the significant results, with the profit margin in the time range t-2 and t+2 (Pair 1) reaching 0.02323, and in the time range t-1 and t+1 (Pair 2), the significant value of the profit margin is 0.03014. Moreover, the significance results of ROA in the time range t-2 and t+2 (Pair 3) is 0.01605, and at t-1 and t+1 (Pair 4), it is 0.2578. Additionally, the significance results of ROE in the time range t-2 and t+2 (Pair 5) is 0.05083, and at t-1 and t+1 (Pair 6), it is 0.5982. Almost all the significance test results on profitability ratios signify a substantial difference between before and after debt restructuring, except for ROE. It means  $H_3$  is partially supported.

**Table 6  
Paired Samples Statistics on Profitability Ratios**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Profit Margin (t-2)	.3230	44	.16212	.02444
	Profit Margin (t+2)	.3189	44	.16201	.02442
Pair 2	Profit Margin (t-1)	.3184	44	.16719	.02521
	Profit Margin (t+1)	.3177	44	.15833	.02387
Pair 3	ROA (t-2)	.1207	44	.12199	.01839
	ROA (t+2)	.1107	44	.13225	.01994
Pair 4	ROA (t-1)	.1168	44	.13692	.02064
	ROA (t+1)	.1152	44	.13080	.01972
Pair 5	ROE (t-2)	.2545	44	.23482	.03540
	ROE (t+2)	.2232	44	.36403	.05488
Pair 6	ROE (t-1)	.2298	44	.28363	.04276
	ROE (t+1)	.2355	44	.29018	.04375

Table 7 presents the significance of the differences in efficiency ratios one and two years before and after debt restructuring. The test results revealed that inventory and account receivable turnover exhibited no significant differences. In the period of t-1 and t+1 (Pair 2), the significance figure for inventory turnover was notably high, reaching 7.25317. Furthermore, in the period of t-2 and t+2 (Pair 1), the significance figure for inventory turnover increased even higher than the previous year, reaching 8.39462. Additionally, in the period of t-1 and t+1 (Pair 4), the significance result for account receivable turnover was 1.38341, and in t-2 and t+2 (Pair 5), the significance result for account receivable turnover was even higher, reaching 3.43860. Both ratios exhibited significance values well below the significance threshold of 0.05 or 5%.

Conversely, the significant results for asset turnover in the periods one and two years before and after debt restructuring indicate a significant difference. This conclusion is drawn from the significance results for t-2 and t+2 (Pair 5), which were 0.02195, and for t-1 and t+2 (Pair 6), which were 0.01828. These results conclude that asset turnover exhibited a significant difference between before and after debt restructuring, as the significance values were below the specified significance level. Thus,  $H_4$  is partially supported.

**Efficiency Ratio**

**Table 7  
Paired Samples Test on Efficiency Ratios**

		Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Pair 1	Inventory Turnover (t-2) - Inventory Turnover (t+2)	2.21000	34.88042	5.25842	8.39462
Pair 2	Inventory Turnover (t-1) - Inventory Turnover (t+1)	5.47659	41.87038	6.31220	7.25317
Pair 3	AR Turnover (t-2) - AR Turnover (t+2)	-.41773	9.93618	1.49793	3.43860
Pair 4	AR Turnover (t-1) - AR Turnover (t+1)	-.19909	3.89544	.58726	1.38341
Pair 5	Asset Turnover (t-2) - Asset Turnover (t+2)	.12818	.34942	.05268	.02195*
Pair 6	Asset Turnover (t-1) - Asset Turnover (t+1)	.10386	.28151	.04244	.01828*

\*significance with 5%  $\alpha$

**Table 8  
Paired Samples Statistics on Efficiency Ratios**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Inventory Turnover (t-2)	23.9284	44	56.65253	8.54069
	Inventory Turnover (t+2)	21.7184	44	55.16930	8.31708
Pair 2	Inventory Turnover (t-1)	29.4834	44	82.53072	12.44197
	Inventory Turnover (t+1)	24.0068	44	69.42469	10.46617
Pair 3	AR Turnover (t-2)	11.8505	44	12.88915	1.94311
	AR Turnover (t+2)	12.2682	44	17.99240	2.71246
Pair 4	AR Turnover (t-1)	11.8152	44	13.01484	1.96206
	AR Turnover (t+1)	12.0143	44	14.65702	2.20963
Pair 5	Asset Turnover (t-2)	.8955	44	.57088	.08606
	Asset Turnover (t+2)	.7673	44	.49190	.07416
Pair 6	Asset Turnover (t-1)	.8561	44	.53409	.08052
	Asset Turnover (t+1)	.7523	44	.44167	.06658

**Discussion**

The outcomes presented in Table 2 reveal a notable trend in the average current ratio among the sampled companies. It indicates a decrease in the first year, succeeded by an increase in the second year following the implementation of debt restructuring. Specifically, the average current ratio during the t-1 to t+1 period (Pair 2) decreased by 0.1159. Conversely, during the t-2 to t+2 period (Pair 1), debt restructuring demonstrated a positive impact on the companies, leading to a noteworthy increase in the average current ratio at t+2 by 0.3265, rising from the baseline at t-2 of 1.7780 to 2.1045. In contrast to the current ratio, the average quick ratio displayed an upward trajectory in the one and two years before and after debt restructuring. In the t-1 to t+1 period (Pair 4), the average quick ratio increased by 0.0039. Furthermore, in the t-2 to t+2 period (Pair 3), the average quick ratio experienced a further augmentation. The quick ratio at t+2 of debt restructuring reached 1.3743, reflecting a growth of 0.2607 from the average quick ratio at t-2. Sopini (2016) explained that a higher quick ratio value indicates a swifter ability for the company to meet its short-term obligations without relying on inventory. This consistent elevation indicates that the company is well-positioned to fulfill its debts, particularly in the near term.

Like the quick ratio, the average cash ratio also consistently increased over the one and two years before and after the debt restructuring. Specifically, in the time intervals of t-1 and t+1 (Pair 6) and t-2 and t+2 (Pair 5), there was an average rise in the cash ratio by 0.0112 and 0.0138, respectively. Furthermore, the cash ratio gradually increased from the first to the second year. As elucidated in Masyitah & Harahap (2018), an elevated Cash Ratio signifies the company's enhanced capacity to settle its debts, relying solely on cash and cash equivalents. Upon comprehensive data analysis, it can be inferred that there was no significant difference in the current and quick ratios during the one to two years post-debt restructuring. However, the cash ratio exhibited a notable disparity, with a consistent average increase observed after two years of debt restructuring. This discovery indicates that alterations in the current and quick ratios necessitate more time to manifest post-debt restructuring, whereas the cash ratio demonstrates a swifter response.

Analyzing the outcomes presented in Table 4 reveals a distinct trend in the average DAR among the sampled companies following debt restructuring. It demonstrates an increase in the first year, succeeded by a decrease in the second year. Specifically, the average DAR during the t-1 to t+1 period (Pair 2) increased by 0.0032. Conversely, during the t-2 to t+2 period (Pair 1), debt restructuring positively impacted the companies, leading to a decrease in the average DAR at t+2 by 0.0015, reducing it from the average at t-2 to 0.3030. Fraser & Ormiston (2021) state that a higher DAR signifies a more significant proportion of the company's debt to its total assets, implying elevated risk.

The observed fluctuations in the average DAR, involving increases and decreases, suggest ongoing instability post-debt restructuring. Therefore, an extended research period is imperative to ascertain significant differences. In contrast to the DAR, the average DER experienced an increase in one and two years before and after debt restructuring. In the t-1 to t+1 period (Pair 4), the average DER increased by 0.12. Furthermore, the average DER demonstrated another increment in the t-2 to t+2 period (Pair 3). The average DER at t+2 reached 1.0300, reflecting an increase of 0.113 from the average at t-2.

Based on the findings presented in Table 6, it is evident that most of the average profitability ratios for the sampled companies witnessed a decline in both one and two years before and after debt restructuring. The average profit margin experienced a reduction in the first year, followed by a further decrease in the second year post-debt restructuring. Specifically, the average profit margin in the time range t-1 and t+1 (Pair 2) decreased by 0.0007. In the subsequent time range of t-2 and t+2 (Pair 1), the average profit margin exhibited another decrease, reaching 0.3189, down by 0.0041 from the average at t-2. Pontoh et al. (2016) clarify that a lower profit margin indicates poorer operational performance. The observed decline suggests that the intended goal of debt restructuring, which is to enhance the profit margin, has not been achieved. Consequently, a more extended timeframe is imperative to observe the positive impact of debt restructuring on profit margin.

Similarly, the average ROA declined in one and two years before and after debt restructuring. In the time range t-1 and t+1 (Pair 4), the average ROA decreased by 0.0016. Furthermore, in the time range t-2 and t+2 (Pair 3), the average ROA witnessed another decrease, with the average ROA at t+2 reaching 0.1107, down by 0.01 from the average at t-2. In contrast to profit margin and ROA, the average ROE increased in the first year following debt restructuring. In the time range t-1 and t+1 (Pair 6), there was an uptick in the average ROE by 0.0057. However, this increase was transient, as in the subsequent time range of t-2 and t+2 (Pair 5), the average ROE decreased by 0.0313. The fluctuation in ROE values after debt restructuring illustrates its instability. The decline in the average Profitability Ratio is attributed to the fact that significant changes in financial ratios necessitate a considerable amount of time. Nonetheless, it is crucial to acknowledge the study's limitation, as it spans only two years post-restructuring.

Table 8 exhibits a significant decrease in both inventory and asset turnover. Specifically, the inventory turnover value one year before (t-1) and after (t+1) debt restructuring decreased by 5.4766, declining from 29.4834 to 24.0068. Similarly, in the two years before (t-2) and after (t+2) debt restructuring, the inventory turnover value experienced a decrease of 2.21, reducing from 23.9284 to 21.7184. Kasmir (2018) illuminates that a low inventory turnover suggests inefficient inventory management, which leads to inventory accumulation. Moreover, asset turnover

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significantly decreased by 0.1438 in the t-1 and t+1 periods, declining from 0.8961 to 0.7523. This decrease persisted in the t-2 and t+2 periods by 0.1282, reducing from 0.8955 to 0.7673. According to Murhadi (2013), a low total assets turnover indicates the company's inefficiency in utilizing its assets to generate income. Based on these findings, it becomes apparent that the impact of debt restructuring to enhance asset turnover has not manifested in the one to two years following the debt restructuring.

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In contrast to inventory and asset turnover, which both experienced a decrease, account receivable turnover exhibited a notable increase in both periods. The increase in account receivable turnover in the year before (t-1) and after (t+1) debt restructuring was 0.1991, rising from 11.8152 to 12.0143. Similarly, in the second year before (t-2) and after (t+2) debt restructuring, accounts receivable increased by 0.4177, escalating from 11.8505 to 12.2682. From these findings, it can be inferred that inventory and account receivable turnover require a more extended period to exhibit a significant difference after debt restructuring compared to asset turnover. This prolonged adjustment period is attributed to including inventory and account receivable turnover in working capital. Considering that alterations in a company's working capital necessitate more time to adapt to changes in the capital structure. It can be concluded that our findings support partially the application of pecking order and trade-off theory. Gupta (2017), Riani & Nugraha (2020), and Sibarani & Yuningsih (2023) also confirm our findings that debt restructuring is not mainly the cause of financial performance improvement as not every financial ratio is experiencing enhancement.

**5. CONCLUSIONS AND SUGGESTIONS**

This study aims to determine whether there are significant differences in the financial performance of companies before and after debt restructuring. The analysis, using paired sample t-test, was conducted on 44 Indonesian companies that underwent debt restructuring between 2003 and 2022. The results indicate significant differences in various financial ratios of companies before (t-1 and t-2) and after (t+1 and t+2) debt restructuring, including cash ratio, profit margin, ROA, and asset turnover. The study anticipates that its findings will contribute valuable insights into the extent to which debt restructuring can impact the financial performance of companies. The results of the paired sample t-test suggest a new theory, implying that debt restructuring has the potential to enhance the financial performance of companies. However, not all aspects of a company's financial performance may exhibit significant differences within two years, with certain financial ratios showing distinctions only after this timeframe.

Theoretical implications highlight the need for future research to explore significant differences over an extended period, aiming to comprehend improvements in specific ratios. The study highlights the importance of companies opting for debt restructuring to conduct a meticulous analysis. This diligence

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is crucial to ensure that changes in the capital structure yield a significant and positive difference in improving the company's financial performance. Investors can assess the prospects for companies that have carried out debt restructuring, whether there is improvement or not. If not, investors can decide to sell the shares they own in the company. Creditors can also determine whether, after carrying out debt restructuring, the company is trying to improve its performance to make a profit or is carrying out a moral hazard. Creditors can decide whether or not to provide further liability contract relief.

Study limitations include the restricted analysis period of two years before and after debt restructuring and the limited sample size. To address these limitations, research development is recommended by expanding the analysis period to three to five years before and after debt restructuring. Encompassing a broader timeframe is expected to provide more detailed and focused contributions. Suggestions for future research involve proactive data search and management efforts to optimize the utilization of data and samples. Additionally, extending the research period is crucial to observe the long-term impact of debt restructuring, considering that significant results take time to manifest. This comprehensive approach is expected to enhance understanding of the impact of debt restructuring.

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**\*Coressponding Authors:**

Author can be contacted on E-mail: [nanik@petra.ac.id](mailto:nanik@petra.ac.id)