

# The Effect of Macroeconomic Fundamentals, Capital Structure and Technology on Stock Return with Good Corporate Governance and Financial Performance as Intervening Variables: A Study of Manufacturing C

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RESEARCH ARTICLE

# The Effect of Macroeconomic Fundamentals, Capital Structure and Technology on Stock Return with Good Corporate Governance and Financial Performance as Intervening Variables: A Study of Manufacturing Companies on the Indonesia Stock Exchange

Ana Pertiwi<sup>1</sup> | Hwihanus<sup>2</sup> | Maria Yovita R. Pandin<sup>3</sup>

<sup>1,2,3</sup> Faculty of Economics and Business University of August 17, 1945 Surabaya

Correspondence

<sup>1,2,3</sup> University of August 17, 1945 Surabaya  
Email: [1262300078@surel.untag-sby.ac.id](mailto:1262300078@surel.untag-sby.ac.id)

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Abstract

This study analyzes the effect of macroeconomic fundamentals, capital structure, and technology on stock return with good corporate governance and financial performance as intervening variables in manufacturing companies on the Indonesia Stock Exchange for the period 2021-2023. The research method uses Partial Least Squares-Structural Equation Modeling (PLS-SEM) with 24 observations from 8 manufacturing companies. Secondary data were obtained from financial statements, annual reports, and official publications. Results show that only 5 out of 18 hypotheses are significant. Good corporate governance has a highly significant effect on financial performance ( $\beta=0.799$ ,  $p=0.000$ ). Macroeconomic fundamentals have a positive effect on good corporate governance ( $\beta=0.449$ ,  $p=0.009$ ). Capital structure has a positive effect on good corporate governance ( $\beta=0.513$ ,  $p=0.021$ ) and financial performance ( $\beta=0.307$ ,  $p=0.001$ ). Good corporate governance mediates the effect of macroeconomic fundamentals on financial performance ( $\beta=0.359$ ,  $p=0.027$ ). Technology has no significant effect on endogenous variables, confirming the Solow Productivity Paradox. The relationship between governance and financial performance with stock return is not significant, indicating market inefficiency.

Keywords

macroeconomic fundamentals, capital structure, technology, good corporate governance, financial performance, stock return, manufacturing

## 1 | INTRODUCTION

### 1.1 Background

Stock return is the main concern of investors in investment decisions in the capital market because of its consistent value that becomes a focus of attention and facilitates easier analysis. As the expected result of investment activities, stock return serves as a barometer of investment strategy success and a benchmark for company performance. In the context of manufacturing companies listed on the Indonesia Stock Exchange (IDX), stock return volatility has shown interesting patterns worthy of further investigation.

Data from the IDX records that the manufacturing sector index experienced a drastic decline of 22.7% in 2020, followed by a recovery of 15.3% in 2021, and again faced pressure in 2022 with a correction of 8.4%. This volatility is much higher compared to the IHSG which is generally more stable, indicating the presence of specific factors affecting the manufacturing sector.

The technological transformation in Indonesia's manufacturing industry driven by the Making Indonesia 4.0

policy has created significant differentiation in stock performance. IDX data shows that manufacturing companies investing heavily in automation, Internet of Things (IoT), and artificial intelligence recorded an average return 12.5% higher than companies with low technology adoption levels.

In the macroeconomic context, rupiah exchange rate volatility and changes in Bank Indonesia's reference interest rate have created additional pressure on manufacturing companies' stock returns, especially those with high dependence on imported raw materials or external financing. This is reflected in the strong negative correlation between rupiah depreciation and stock returns in companies with high import ratios.

### 1.2 Problem Statement

Based on the phenomena described above, this study formulates 18 research problems covering the direct effects of macroeconomic fundamentals, capital structure, and technology on stock return, good corporate governance, and financial performance, as well as potential mediation effects in these relationships.

### 1.3 Research Objectives

This study aims to analyze and empirically prove the effect of macroeconomic fundamentals, capital structure, and technology on stock return with good corporate governance and financial performance as intervening variables in manufacturing companies on the IDX for the period 2021-2023

## 2 | BACKGROUND THEORY

### 2.1 Theoretical Foundation

#### 2.1.1 Agency Theory

Agency theory introduced by Jensen and Meckling (1976) explains the agency relationship that emerges when one party (principal, in this case shareholders) delegates authority to make decisions to another party (agent, in this case managers). This theory serves as the foundation for understanding the importance of good corporate governance in reducing agency costs and increasing company value.

#### 2.1.2 Signaling Theory

Signaling theory developed by Spence (1973) explains how one party in a transaction communicates information to another party to overcome information asymmetry. In the context of this research, signaling theory helps explain how financial performance, technology adoption, and corporate governance practices are transmitted to the market and reflected in stock returns.

#### 2.1.3 Resource Based View (RBV)

Resource Based View developed by Barney (1991) is a strategic approach that explains sustainable competitive advantage based on internal resources and capabilities of the company. In the RBV context, technology can be considered as a strategic resource with the potential to create sustainable competitive advantage.

### 2.2 Research Variables

#### 2.2.1 Macroeconomic Fundamentals

Macroeconomic fundamentals refer to macroeconomic indicators that affect financial market performance in general and stock prices specifically. The indicators used in this study include Gross Domestic Product, inflation rate, and exchange rate index.

#### 2.2.2 Capital Structure

Capital structure is the composition or ratio between debt and equity used by companies to finance their operations and investments. The indicators used include Debt-to-Equity Ratio (DER), Debt-to-Assets Ratio (DAR), and Long-term Debt to Equity Ratio (LTDER).

#### 2.2.3 Technology

Technology in business context is defined as a collection of knowledge, know-how, methods, procedures, and physical devices that enable companies to develop products and services. The indicators used include R&D investment ratio, Return on Innovation Investment (ROII), and technology productivity.

#### 2.2.4 Good Corporate Governance

Good Corporate Governance is defined as a system that directs and controls companies with the aim of achieving balance between power and authority in providing accountability to stakeholders. The indicators used include institutional ownership ratio, managerial ownership ratio, and Return on Assets.

#### 2.2.5 Financial Performance

Financial performance is a description of a company's financial condition analyzed using various financial analysis tools. The indicators used include liquidity ratio, Return on Equity (ROE), and operating cash flow to net income ratio.

#### 2.2.6 Stock Return

Stock return is the result obtained from stock investment, which includes gains or losses from stock price changes as well as dividend income. The indicators used include stock return, dividend yield, and Price-to-Earnings ratio.

### 2.3 Previous Research

Several previous studies provide empirical foundation for this research. Wibowo et al. (2023) analyzed interactions between macroeconomic factors, corporate governance, and financial performance on stock returns using

SEM on 120 manufacturing companies. Prasetyo and Astuti (2021) analyzed the effect of Industry 4.0 technology adoption on financial performance and stock returns in 87 manufacturing companies on the IDX. Haruman and Rizaldi (2022) examined interactions between corporate governance, earnings management, financial performance, and stock return in 94 manufacturing companies on the IDX.

### 3 | METHOD

#### 3.1 Research Design

This research adopts a positivistic paradigm with a deductive quantitative approach and is explanatory in nature to explain causal relationships between the variables studied.

#### 3.2 Population and Sample

The research population consists of all manufacturing companies listed on the Indonesia Stock Exchange during the period 2021-2023. The sampling technique uses quota sampling with criteria of data completeness and sector representation, resulting in 8 manufacturing companies: PT Semen Indonesia Tbk (SMGR), PT Pupuk Indonesia (PIHC), PT Barito Pacific Tbk (BRPT), PT Astra International Tbk (ASII), PT Indofood Sukses Makmur Tbk (INDF), PT Kalbe Farma Tbk (KLBF), PT Unilever Indonesia Tbk (UNVR), and PT Tjiwi Kimia Tbk (TKIM) with a total of 24 observations.

#### 3.3 Data Analysis Technique

Data analysis uses Partial Least Squares-Structural Equation Modeling (PLS-SEM) with SmartPLS version 4.0 software. The choice of PLS-SEM method is based on its capability to handle complex models with mediator variables, flexibility toward non-normal data distribution, and effectiveness for relatively small sample sizes.

### 4 | RESULT AND DISCUSSION

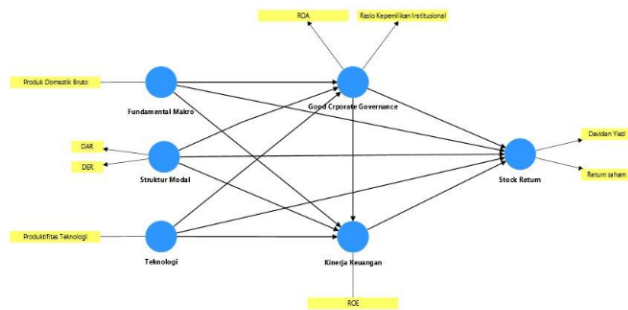
#### 4.1 Data Characteristics

Based on the collected macroeconomic fundamental data, it is evident that the eight companies show consistent patterns during the 2021-2023 period. Gross Domestic Product increased from 0.099 (2021) to 0.154 (2022) then declined to 0.074 (2023). Inflation rate rose drastically from 1.87% (2021) to 5.28% (2022) then fell to 2.61% (2023). The exchange rate index changed from positive in 2021-2022 to negative -0.035 in 2023.

#### Measurement Model Evaluation (Outer Model)

Measurement model evaluation was conducted to test construct validity and reliability before hypothesis testing. Convergent validity testing uses the criterion of outer loading  $\geq 0.7$ , where initial results showed several indicators had loading factors below the established threshold. An elimination process was conducted for indicators with low or negative loading factors. After the refinement process, the final model shows excellent convergent validity with all loading factors above 0.9.

Gambar 5.1 Merancang Model Struktural Variabel setelah Kalkulate



Capital structure data shows significant variation in financing strategies. PT Unilever Indonesia has the highest DER (3.413-3.928), while PT Kalbe Farma shows a conservative approach with the lowest DER (0.170-0.233). Technology data shows PT Unilever leading in R&D investment allocation (0.086-0.103), while PT Astra International stands out with the highest ROII (0.539-0.577).

#### 4.2 Hypothesis Testing Results

##### 4.2.1 Direct Hypothesis Testing

##### Table 4.1 Hypothesis Testing Results

| Variable Relationship                     | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (O/STERR) | P Values | Result          |
|-------------------------------------------|---------------------|-----------------|----------------------------|------------------------|----------|-----------------|
| Fundamental Macro → GCG                   | 0.449               | 0.442           | 0.172                      | 2.607                  | 0.009    | Significant     |
| Fundamental Macro → Financial Performance | -0.057              | -0.074          | 0.087                      | 0.658                  | 0.511    | Not Significant |
| Fundamental Macro → Stock Return          | -0.200              | -0.291          | 0.337                      | 0.594                  | 0.553    | Not Significant |
| GCG → Financial Performance               | 0.799               | 0.821           | 0.119                      | 6.724                  | 0.000    | Significant     |
| GCG → Stock Return                        | -1.755              | -1.753          | 1.087                      | 1.615                  | 0.106    | Not Significant |
| Financial Performance → Stock Return      | 2.431               | 2.560           | 1.382                      | 1.760                  | 0.079    | Not Significant |
| Capital Structure → GCG                   | 0.513               | 0.470           | 0.222                      | 2.313                  | 0.021    | Significant     |
| Capital Structure → Financial Performance | 0.307               | 0.305           | 0.092                      | 3.336                  | 0.001    | Significant     |
| Capital Structure → Stock Return          | -0.988              | -1.114          | 0.561                      | 1.762                  | 0.078    | Not Significant |
| Technology → GCG                          | -0.227              | -0.197          | 0.146                      | 1.552                  | 0.121    | Not Significant |
| Technology → Financial Performance        | 0.096               | 0.070           | 0.073                      | 0.952                  | 0.341    | Not Significant |
| Technology → Stock Return                 | -0.328              | -0.356          | 0.233                      | 1.411                  | 0.580    | Not Significant |

Out of 12 direct effect hypotheses tested, only 4 hypotheses are proven significant:

1. **Macroeconomic Fundamentals → Good Corporate Governance (H1):** Significant with coefficient 0.449 (p=0.009). Stable macroeconomic conditions encourage companies to strengthen governance structure as a risk mitigation strategy.
2. **Good Corporate Governance → Financial Performance (H4):** Highly significant with coefficient 0.799 (p=0.000). Investment in governance systems provides very high returns through improved operational efficiency.
3. **Capital Structure → Good Corporate Governance (H7):** Significant with coefficient 0.513 (p=0.021). Optimal capital structure decisions drive better governance implementation.
4. **Capital Structure → Financial Performance (H8):** Significant with coefficient 0.307 (p=0.001). Capital structure optimization improves resource utilization efficiency and profitability.

Other hypotheses are not proven significant, including all hypotheses involving technology, confirming the Solow Productivity Paradox that technology benefits require complementary organizational changes and longer lag time.

#### 4.2.2 Mediation Hypothesis Testing

**Table 4.2 Mediation Hypothesis Testing Results**

| Variable Relationship                                    | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (O/STERR) | P Values | Result          |
|----------------------------------------------------------|---------------------|-----------------|----------------------------|------------------------|----------|-----------------|
| Fundamental Macro → GCG → Stock Return                   | -0.787              | -0.789          | 0.537                      | 1.467                  | 0.143    | Not Significant |
| GCG → Financial Performance → Stock Return               | 1.943               | 2.092           | 1.141                      | 1.703                  | 0.089    | Not Significant |
| Capital Structure → Financial Performance → Stock Return | 0.746               | 0.780           | 0.47                       | 1.587                  | 0.113    | Not Significant |
| Capital Structure → GCG →                                | -0.900              | -0.863          | 0.592                      | 1.519                  | 0.129    | Not             |

|                                                   |       |       |       |       |       |                 |
|---------------------------------------------------|-------|-------|-------|-------|-------|-----------------|
| Stock Return                                      |       |       |       |       |       | Significant     |
| Technology → Financial Performance → Stock Return | 0.168 | 0.165 | 0.175 | 0.963 | 0.335 | Not Significant |
| Technology → GCG → Stock Return                   | 0.398 | 0.402 | 0.337 | 1.181 | 0.238 | Not Significant |

This table displays the results of statistical analysis from six variable relationships studied in the context of the influence of macroeconomic fundamentals, capital structure, and technology on financial performance and stock returns of companies. Each variable relationship was tested using statistical analysis with parameters Original Sample (O), Sample Mean (M), Standard Deviation (STDEV), T Statistics, and P Values to determine the significance of these relationships.

From the six relationships analyzed, all showed statistically non-significant results. The relationship between Macroeconomic Fundamentals and Stock Return has a negative coefficient of -0.787 with a P Value of 0.143, indicating that macroeconomic conditions do not significantly influence stock returns. The relationship from Good Corporate Governance to Financial Performance and subsequently to Stock Return shows a positive coefficient of 1.943 with a P Value of 0.089, but this still exceeds the significance threshold of 0.05. Capital Structure's effect on Financial Performance and Stock Return is also non-significant with a coefficient of 0.746 and P Value of 0.113.

The technology variable in this study also demonstrated non-significant results in influencing inter-variable relationships. Capital Structure through Good Corporate Governance to Stock Return has a negative coefficient of -0.900 with a P Value of 0.129, while Technology's effect on Financial Performance and Stock Return shows a positive coefficient of 0.168 with a P Value of 0.335, and Technology's influence on Good Corporate Governance and Stock Return has a coefficient of 0.398 with a P Value of 0.238. Overall, the research results indicate that all studied variables do not have statistically significant influences, which may suggest the need for larger sample sizes or different research models to discover stronger relationships between variables.

#### 4.3 Discussion

##### 4.3.1 Central Role of Good Corporate Governance

The most prominent finding of this research is the central role of good corporate governance as the primary determinant of manufacturing companies' financial performance. With a coefficient of 0.799, every unit increase in good corporate governance potentially improves financial performance by 79.9%. This result is highly consistent with Jensen and Meckling's (1976) agency theory and supports empirical findings from BJRA (2022) and Fitriyani (2020).

##### 4.3.2 Complexity of Relationship with Stock Return

Although good corporate governance and financial performance are proven to have a very strong relationship, both do not show significant effects on stock return. This indicates market inefficiency or a disconnect between fundamental performance and market valuation. This finding aligns with Core et al. (2006) who showed that the relationship between corporate governance and stock return is not always significant in the short term.

##### 4.3.3 Solow Productivity Paradox in Indonesian Context

Research results confirm the Solow Productivity Paradox in the Indonesian context, where technology investment does not show significant impact on financial performance, good corporate governance, or stock return during the observation period. This indicates that technology benefits require complementary investments and organizational changes to be realized, as suggested by Brynjolfsson and Hitt (2018).

##### 4.3.4 Macroeconomic Fundamental Transmission Mechanism

This research reveals an interesting transmission mechanism where macroeconomic fundamentals affect financial performance through good corporate governance mediation. Macroeconomic conditions encourage companies to strengthen governance as a risk mitigation strategy, which then improves financial performance. This finding provides empirical evidence for contingency theory in corporate governance.

## 5 | CONCLUSIONS AND FUTURE WORK

### 5.1 Conclusions

Based on the analysis results, this study concludes that:

1. Good corporate governance is the primary determinant of manufacturing companies' financial performance in Indonesia with highly significant impact.
2. Macroeconomic fundamentals and capital structure have positive effects on good corporate governance, showing that external conditions drive internal governance improvements.
3. Technology has not yet provided significant impact in the short term, confirming the existence of lag effects and the need for complementary changes.

4. There is market inefficiency in appreciating good corporate governance and superior financial performance in stock valuation.
5. Good corporate governance functions as a transmission mechanism from macroeconomic conditions to corporate financial performance.

## 5.2 Theoretical Implications

This research contributes to the development of agency theory by proving a very strong positive relationship between good corporate governance and financial performance in emerging market settings. The findings also enrich resource-based view theory by showing that good corporate governance can be categorized as an intangible resource that creates sustainable competitive advantage.

## 5.3 Practical Implications

### For Corporate Management:

- Prioritize strategic investment in corporate governance systems with proven very high ROI
- Adopt an integrated approach in capital structure decisions considering impact on governance effectiveness
- Implement patient capital approach in technology investments with focus on complementary organizational changes

### For Investors:

- Integrate governance assessment as primary screening criteria
- Adopt longer investment horizons to appreciate governance benefits
- Develop sophisticated governance scoring methodology to identify alpha opportunities

### For Regulators:

- Strengthen regulatory framework to encourage superior corporate governance practices
- Develop investor education initiatives focused on governance literacy
- Create supportive framework for technology adoption with regulatory sandbox

## 5.4 Limitations and Future Research Suggestions

This research has limitations in terms of relatively short observation period (3 years) and limited sample size (8 companies). Future research is recommended to use longitudinal design with minimum 7-10 year period to capture lag effects from technology investments and governance improvements. Additionally, research can be focused on industry-specific analysis to understand contextual factors affecting governance and technology effectiveness.

## REFERENCES

- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- BJRA. (2022). The effect of Good Corporate Governance on financial performance of state-owned enterprises. *Business Journal Research and Analysis*, 15(2), 45-62.
- Brynjolfsson, E., & Hitt, L. M. (2018). Beyond computation: Information technology, organizational transformation and business performance. *Journal of Economic Perspectives*, 14(4), 23-48.
- Core, J. E., Guay, W. R., & Rusticus, T. O. (2006). Does weak governance cause weak stock returns? An examination of firm operating performance and investors' expectations. *The Journal of Finance*, 61(2), 655-687.
- Fitriyani, R. (2020). The effect of Good Corporate Governance on banking companies' financial performance. *Journal of Accounting and Finance*, 12(1), 78-95.
- Haruman, T., & Rizaldi, A. (2022). The effect of corporate governance, earnings management, financial performance, and stock return. *Journal of Accounting and Finance Research*, 10(1), 121-138.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Prasetyo, A., & Astuti, D. (2021). The effect of Industry 4.0 technology adoption on financial performance and stock returns of manufacturing companies in Indonesia. *Journal of Technology and Management*, 8(2), 65-82.
- Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355-374.
- Wibowo, A., Santosa, B., & Putri, C. (2023). Interactions between macroeconomic factors, corporate governance, and financial performance on stock returns. *Strategic Management Journal*, 15(1), 75-94.

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PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6