



THE ABILITY OF ACCOUNTING DATA TO PREDICT STOCK RETURNS OF NON-FINANCIAL INSTITUTIONS IN TURKEY

KEMAMPUAN DATA AKUNTANSI UNTUK MEMPREDIKSI RETURN SAHAM LEMBAGA NON KEUANGAN DI TURKI

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ABSTRACT

This study uses panel data of the top 10 non-financial companies in Turkey to analyze the impact of accounting information in predicting stock returns for period 1998 to 2019. The rationale behind choosing non-financial firms is based on the believed that financial firms have their own ways of financing and examining together with financial firms may reveal biased result. The panel least square is employed, the analysis revealed that only financial leverage, earning per share and growth opportunities have the capability of predicting stock returns in Turkey. Moreover, the outcome also revealed that a 1% increase in leverage will decline stock returns by 1.07%. On the other hand, earning per share and growth opportunity have positive effects on stock returns at 1% and 5% levels of significance, respectively. This implies that a 1% increase in earnings per share and growth opportunity will lead to an increase in stock returns by 1.8% and 2.1% respectively. However, capital expenditure and firm size are unable to predict stock return

ABSTRAK


Studi ini menggunakan data panel dari 10 perusahaan non-keuangan teratas di Turki untuk menganalisis dampak informasi akuntansi dalam memprediksi pengembalian saham untuk periode 1998 hingga 2019. Alasan pemilihan perusahaan non-keuangan didasarkan pada

keyakinan bahwa perusahaan keuangan memiliki cara pembiayaan sendiri dan memeriksa bersama dengan perusahaan keuangan dapat mengungkapkan hasil yang bias. Panel kuadrat terkecil digunakan, analisis mengungkapkan bahwa hanya manfaat keuangan, laba per saham, dan peluang pertumbuhan yang memiliki kemampuan untuk memprediksi pengembalian saham di Turki. Selain itu, hasilnya juga mengungkapkan bahwa kenaikan leverage 1% akan menurunkan pengembalian saham sebesar 1,07%. Sebaliknya, earning per share dan growth opportunity berpengaruh positif terhadap return saham pada tingkat signifikansi 1% dan 5%. Ini menyiratkan bahwa peningkatan laba per saham 1% dan peluang pertumbuhan akan menyebabkan peningkatan pengembalian saham masing-masing sebesar 1,8% dan 2,1%. Namun, belanja modal dan ukuran perusahaan tidak dapat memprediksi return saham

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1. Introduction

In Turkey, non-financial institutions issues stock and other debt instruments through the capital market system in raising fund for the company to undertake/finance certain projects. The financial markets play virtually the same functions today just like centuries ago. The only significant difference, the speed of the processes, the globalization of investment enterprises, the complexity of the agreements to satisfy the standards of the users' criteria, and the size of the market (Yilmaz & Agirman, 2018). Another notable development over time is the notion of attempting to estimate stock returns in order to obtain the maximum expected return with a reasonable degree of risk. Predicting stock returns has therefore always been an emerging strategic field in the sciences of financial asset pricing or valuation (Yilmaz & Agirman, 2018). After the 2007-2009 recession, many economies suffer economic contraction which eventually hits the stock exchange markets leading to drastic fall in the prices of securities (stock) as well as reduction in return on investment (Almakrami, 2013). This has significantly reduce the demand for securities due to low return on investment, consequently the securities prices fall to the lowest in decades (Barth & Landsman, 2010).

In exploring vital information regarding this modernity of investment, accounting variables are key ingredients in security valuation and forecasting for investment decision making. Especially, the reaction of the market when earning figures are dispatch. The earnings announcements explain how stock returns of companies are affected by abnormal security prices. Any stock market located in a developing nation is referred to as an "emerging market" by the World Bank definition from 1995, regardless of how established the stock exchange itself may be. This explains the crucial part that stock exchanges play in the overall growing nature of developing countries. Changes in stock prices are a sign of either good or bad events occurring

in the economy as a whole. Stock exchanges also offer platforms for screening and monitoring, which helps investors uncover successful investment opportunities

Since information has significant relevance on the prediction of future returns. Economist and financial experts have work tirelessly to identify the most important variables in predicting stock returns. According to information and conditions, the market price of a share also has a significant impact on how investors choose whether to invest or not. The share return is one of the most important aspects that investors can use to determine whether to invest in a particular stock or not (Panda et al., 2021). In the capital market, share prices are constantly changing (dynamic) depending on the economic situation. Generally, demand and supply are the key determinants that influences returns on shares. Government policies, inflation, political situations are other macro-economic factors that affects the pricing decision of investors. The other related activities of the company such as ownership structure, quality of labour force, quality of management, dividend per share and book value are also great determinants that influences investors pricing decision (Yilmaz & Agirman, 2018).

Many research have stated that the distribution of returns can be skewed. In some instances, the returns are hinged to the left for some stock market indices, indicating that there are more negative than positive background observations. A trading technique based on the sign of unexpected annual earnings-per-share (EPS), where unexpected EPS is estimated from the assumption that, yearly EPS follow a random walk sequence, can generate significant abnormal returns, as alluded to by Holthausen & Larcker, (1992). The financial statement and ratios are the most important sources that may give investors first-hand knowledge about the company since they have a substantial impact on the capital market over a period of five years or more (Wijesundera et al., 2016). The subject of whether stock returns can be forecasted using financial parameters, such as dividend-price ratios, earning-price ratios, and other interest rate indicators, has been studied in the previous few decades. It was discussed by Campbell & Yogo, (2006) who used the ordinary least squares (OLS) regression of stock return onto the lag of financial variables. A key finding stated that there is strong evidence for the predictability of stock returns.

It is important to note that, lot of variations are observed in the previous studies highlighted with regards to how the financial models are employed in the prediction process. This paper aim at amplifying those analysis by evaluating financial data and make predictions regarding the changes in returns on stocks of non-financial institutions in Turkey using regression model. These models are all significant tools for testing the correlation between the percentage change in financial ratios and percentage change in the stock returns for all listed companies in Turkish stock market. However, this study will not examine the behaviour of stock but rather evaluate how financial data helps in the prediction of its return.

Security returns are very important indicators of the performance of economies globally. However, some considerable gaps were identified in the previous research conducted on this subject. There was a suggestion of temporary risk shift which was not captured in the model adopted in a study by Holthausen & Larcker, (1992) because, it was marked inappropriate and therefore suggested a further research using a different model. This is consistence with a research conducted by Yilmaz & Agirman, (2018), who also recommended a more probe into the predictability of stock return using accounting variables with different sample sizes and methods. A study conducted by Ahmad & Ahmad, (2013) found out that financial leverage has no great effect on information content use by decision makers but affects the stockholders' wealth, profitability and firm performance. He recommended further study to establish the effect of financial leverage on firm's value using income statement variables as the most important elements in determining these effects. A study carried-out on Kuwait stock exchange, shows unavoidable errors due to the small sample size and the interruption of its economic dealings due to stoppage of operation. It was suggested that a future research to convene on the same market using its current trajectory with a larger sample size (Al-Qenae et al., 2002)

It is against this backdrop this study is inspired as a mechanism in evaluating and predicting future returns of securities using a standard accounting information dataset. Globally, the financial crisis of 2007–2009 had devastating impacts. Many financial and non-financial institutions as well as government officials failed to recognize the escalation of issues that would lead to the crisis and, as a result, did not act to prevent the crisis from arising. This study will immensely contribute to providing a comprehensive yardstick using ideal model that can avail investors/creditors the opportunity to make sound decision as contrary to the gap highlighted by (Holthausen & Larcker, 1992). Furthermore, the study shows that leverage has significant effect on stock return such that investors relies on it as a great information tool to guide decision making. This dispute the finding of Ahmad & Ahmad, (2013) which stated that financial leverage has no great effect on the information use by investors for decision making. A study conducted by Almakrami, (2013) use large data variables of financial institutions' financial reports to develop model in gauging damages financial crisis had on financial institutions. However, in this study, we used accounting information of non-financial institutions to assess its effect on stock returns.

The study further contributes by examining the extent to which accounting information could be used to identify the emerging trends in the returns on stocks. This research strategy is implemented by analysing what kind of economic variables did the best job of explaining return on shares. Other parts of this paper looks at the theoretical review, the adopted research method, discussion on the finding as well as recommendations and finally the conclusion.

2. Literature Review

2.1 Theoretical Review

2.1.1 Signalling Theory

This theory explains the information effect of the company's activities to the potential investors. This was developed by Michael Spence in 1976 and stresses the process of using insider information to bargain for a trade deal. It happens when an insider divulges significant information about a firm, causing those who would not typically have access to insider information to purchase or sell that company's stock. Outsiders interpret the insider's activities as a market signal. In this regards, EPS and growth opportunities will provide a positive signalling effect which triggered many potential investors to invest in this company, hence pushes share prices up. However, the reverse is experience in the case of leverage, size and capital expenditure.

2.1.2 Life Cycle Theory

According to this theory, household members choose their current expenditures as efficiently as possible while taking into account their future income needs and spending requirements. This theory was coined by economists Franco Modigliani & Richard Brumberg in the 1950s. It is strongly believed that as people naturally age, life humbles them. This results to a significant reduction in their expenditure due to diminishing in their demand. It help them reduce their borrowings thereby cutting it to the lowest or at some extent flatten the curve hence, becomes much leveraged. The more leverage individuals are the better their credit rating so they can also be in better position to invest or borrow to invest. In this research, as leverage level increase stock return will fall because institution may be encourage to issue more debt instruments. This may send negative signal to the investing populace hence many may be sceptical to invest.

The ability of the financial information in the financial statements to explain stock exchange measures is implied by the concept of value relevance (BASHEIKH, 2005). The key component of this concept is that a value-relevant accounting amount is one that has a meaningful relationship to security market value. Mirza et al., (2019) developed four approaches for evaluating the value significance of accounting information. These include; (i) the information view of value relevance (ii) the prediction view of value relevance (iii) the implication of information view of value relevance and (iv) the measurement view of value relevance. According to the first strategy, accounting information influences share return trends through its inherent value in a manner similar to and in the same direction as market pricing (F Malherbe, 2014).

Financial accounting information capabilities control the records of those events that influenced the firm within a period for the second strategy (Easton et al., 2002). According to Hall, (1992), extensive research and discussion have occurred over the last two decades

relating to the significance of accounting differences in the valuation process of securities in global capital markets. It is well obvious that financial returns are often characterized by a number of typical "stylized facts" such as time differences, volatility clustering and persistence. Volatility has emerged as a crucial term in financial theory and practice, with applications in risk management, portfolio construction, and derivative pricing. In the stock market, volatility was described by Arowolo, (2013) as the main systematic risk that holders of market portfolios experience. Investors anticipate premiums for investing in these risky assets.

Many emerging markets offer yields above those of developed markets. Al-Qenae et al., (2002) noted that, there may be potential untapped profit opportunities to be held by investing in these countries. However, emerging markets exhibit significant price fluctuations due to their small size, poor level of integration into the global economy, and limited access to information. This is corroborated by Maia, (2010), who suggested that if profits provide relevant information to investors, then they should have a strong explanatory power with regard to price revisions both cross-sectional and over time. By reinterpreting the price-earnings relation, Al-Qenae et al., (2002) were able to achieved a significant breakthrough. They establish a connection between changes in share prices and changes in earnings by broadening the data used to condition results to include factors other than historical earnings data.

In provided evidence to support their thesis contention, Landsman & Magliolo, (1988) showcased that, there is no agreement on the "optimal" model specification. However, they made the assumption that choosing a given price level or return specification depends on both the economic model of equilibrium that is assumed and the econometric qualities of the data that lead to the violation of the ordinary least squares (OLS) assumption (Tetlock, 2014). This study also adheres to the research model adopted by BASHEIKH, (2005) and incorporates both functional forms since it tends to evaluate accounting information in tangent to stock returns and equally displays changes in value during the research period.

Furthermore, in an effort to monitor and control risk related to changes in the many components of stock valuation. Recent literature have shown a variety of models to evaluate the predicted change in stock returns, ranging from single-factor to multiple factor models (Almakrami, 2013). The Capital Asset Pricing Model (CAPM), also known as the market model and first presented by Jack Treynor in 1962, is one of the single-factor models (Wijesundera et al., 2016). This model assumes that all the variation in stock returns are fully explained by a single factor, the systematic risk that shows the sensitivity of each stock price to the market index, and eliminates other factors such as inflation or interest rates, which might have their own impacts on asset returns. However, Gray et al., (2007) have a different version to the market model, which takes into account only systematic risk, that has shown an incomplete explanation of risks.

Many other researchers including Yilmaz & Agirman, (2018) are all in agreement that, the size of the business, book to market ratio, and earnings to price ratio are all indicators of the integration of the capital markets. When transaction costs are higher and investors are less sophisticated, they will be able to capture the cross-sectional variability of stock returns and idiosyncratic return volatility (Ali et al., 2003). Weinstein, (1993) has also proposed earnings per share as a factor in share prices. He gathered data from the Indian stock exchange where price-earnings ratio and dividend per share ratio were identified as the two most important factors influencing share prices. This is further elaborated by Finishtya, (2019) that, long-term difference in stock price is found to be mostly explained by the earnings-to-price ratio. The same concept is supported by Tetlock, (2014) in his explanation of the dividend concept, where he accurately predicts stock returns due to policy pay outs associated with dividend payments, regular repurchases, and sporadic repurchases.

Another crucial element of predicting stock returns is dividend yield as highlighted in the work of Yilmaz & Agirman, (2018). Similarly, book to market ratio and earning price ratio are predictors for short sample stocks (Campbell & Yogo, 2006). Since there is a positive correlation between corporate dividend and stock returns (Tetlock, 2014; Yilmaz & Agirman, 2018). Arowolo, (2013) also conducted research of a similar nature and showed that anticipated stock return and return volatility are entirely explained by the price ratio and dividend ratio. Earnings to price ratio and dividend ratio have a shared dynamic stochastic pattern that correlates with predicted stock return (Easton et al., 2002). It has been established that dividend yield is an accurate stock return forecast since it has the capacity to limit projected return and expectation about dividend yield increase (Campbell & Yogo, 2006)

H1: Growth is a key determinant of future stock return

H2: EPS is a crucial tool for stock return forecast

Moreover, findings showed that basic factors such the size of a company, dividend yield, price-to-earnings ratio, and book-to-market ratio had a significant impact on the predicted earnings and returns of stocks, as in the case of the Japanese market (Wijesundera et al., 2016). The same scenario was observed by Lewellen, (2004), where he discovered that the projected real return over a 65-year period is correlated with the dividend yield and the ratio of book value to market value (B/M) for the US market (1926-1991).

H3: Firm size has significant effect in predicting return on stock

H4: Price to earnings ratio has impact in stock return prediction

However, in another studies it was established that, the financial statement information aids in anticipating stock returns through the investigation of the relationship between financial ratios and stock returns in French stock market (Holthausen & Larcker, 1992). Rigid proof is provided by the accounting ratios' usefulness in anticipating future streams of anomalous

earnings (Wijesundera et al., 2016). About 20,000 monthly observations from forty worldwide stock exchanges were analysed in a study by Hjalmarsson (2004) that focused on anticipating global market returns. It was claimed that the capacity to predict dividend yield and price to earnings ratio was low. This was demonstrated by looking at the predictability of stock returns using financial data.

The equilibrium returns on any hazardous security, according to the capital asset pricing model (CAPM), is equal to the sum of the risk-free rate of return plus a risk premium calculated as the product of the market price of risk and the systematic risk of the security. The single security-specific factor influencing the equilibrium return on a hazardous security in the capital asset pricing model is beta, which is used as a measure of systematic risk. According to Mandelker & Rhee, (1984), financial leverage accounts for around 25% of systematic risk, while Lev [16] stressed that, operating leverage as measured by variable costs is one of the most important indicators of systematic risk. To determine the combined impact of operating risk and financial structure on systematic risk, Hill and Stone developed an accounting model based on the Hamada and Rubinstein formula. By maintaining the premise of a homogenous risk class and holding operating risk constant, chance performs verification of the Hamada and Rubinstein formula. Their findings provide strong scientific backing for Hamada and Rubinstein's equation (Mandelker & Rhee, 1984).

H5: Financial Leverage is another key factor in determining stock return

H6: CAPEX is a tool for predicting stock returns

The market value, debt ratio, operating cash flows, return on equity, and earnings per share are all positively and significantly correlated according to (Wijesundera et al., 2016). This comes after research on how EPS is impacted by ratios, company size, and cash flow from operating activities. Investors rely on measures that suggest a firm can give them future returns because there is no correlation between firm size and EPS. The dividend pay-out ratio and earnings per share have historically been the most significant variables. Lewellan (2004) stated that, aside from other drivers, traditional financial criteria like integrity and ethical value also have an impact on stock price. This study demonstrates that financial ratios are still effective predictors of a company's future stock price even in an economy ravaged by scandal.

3. Research Methodology

3.1 Data

A list of panel data of top 10 non-financial institutions in Turkey is used in the analysis of accounting information impact in forecasting future stock return of firms from the year 1998-2019. The selected duration is based on the availability of data and this data was obtained from the Eikon Database found by Thompson Reuters. The motive behind choosing non-financial institutions was premised on the fact that financial institutions have their own ways of sourcing

finance and simultaneously evaluating together which financial firms may revealed bias outcomes. These firms were selected base on market capitalization.

3.2 Measurement of Variables

In assessing the impact of accounting information in predicting stock returns of non-financial institutions in Turkey, a panel Ordinary Least Square is used. On the basis of the data sample, the dependent and independent variables were valued as showed in Table 1. In which the dependent variable is stock return, while the independent variables are financial leverage, earning per share, institution's size, growth and capital expenditure and growth opportunities. This model is express as below:

$$SR_t = \beta_0 + \beta_1 SIZE + \beta_2 DE + \beta_3 EPS + \beta_4 CAPEX + \beta_5 MVB + \epsilon_{it}; \quad (1)$$

3.3 Stock return: This is used as the dependent variable, measured as the premium/appreciation in the price plus any dividends paid divided by the real/original price of the stock.

3.4 Control Variables

In this study, it has taken note of some firm specific indicator control variables of stock returns, these include:

- ❖ **SIZE:** The size of a firm is measured as the natural of company's aggregate asset. The literature discussed, provided a mixed result on the association between size and stock return. It has been found that in Japanese market fundamental variables like dividend yield, price to earnings ratio, book to market ratio and firm's size have significant impact on expected earning/returns of stocks (Chan et al., 1991).
- ❖ **LEVERAGE:** This is measured as total debt to total equity. Mandelker & Rhee, (1984) estimated that financial leverage amounts for about 25% of systematic risk just as Hamada (2013) reports that approximately one quarter of systematic risk is explained by financial leverage while Arowolo, (2013) provides empirical evidence that operating leverage, as measured by variable cost, is one of the real determinants of systematic risk which has a direct bearing on the stock returns
- ❖ **EPS:** This is defined as earnings per share. Theoretical analysis has shown that there is a link between share price and EPS that is positive. Investigation of a sample of 19 firms in Kuwait by Weinstein, (1993) found out that earning per share as an optimal share price indicator.
- ❖ **CAPEX:** This is measured as the capital expenditures ratio to total assets. However, the theoretical review has stated an inconclusive outcome of this model. This model assumes that all of the variation in stock prices are fully explained by a single factor. The systematic

risk that shows the sensitivity of each stock price to the market index, eliminates other factors such as inflation or interest rates, which might have their own impacts on asset returns. However, the market model, which takes into account only systematic risk, has shown an incomplete explanation of risks (Gray et al., 2007)

- ❖ GROWTH: Market value per share divided by book value per share is how this is calculated. Expected returns and earnings of stocks are significantly impacted by this ratio and the firm's size (Wijesundera et al., 2016). In a research by Campbell & Yogo, (2006) discovered that for the US market, dividend yield and the ratio of book value to market value [B/M] have a correlation with the predicted real return for a period of over a 65 years (1926-1991).

Table 1: variables explanation

Symbol	Variables	Definition
SR	Stock Returns	Appreciation in the price plus any dividends paid, divided by the original price of the stock.
TA	Firm Size	Natural log of firm's total assets
DE	Leverage	Total debt to total equity ratio
EPS	Earnings Per Share	Net income-dividend to preferred shareholders/average outstanding shares
CAPEX	Capital Expenditure	The ratio of capital expenditures to total assets
GO	Growth opportunity	Market value per share/ book value per share

Source: This part is created from the literature review by the author

4. Results and Discussion

4.1 Data Presentation

4.1.1 Correlation Matrix

Table 2 revealed that the series are not affected with multicollinearity hence, the correlation coefficients are less the 80% thumbs-up rule.

Table 2: Correlation Matrix

Correlation Probability	SR	CAPEX	DE	MV	GO
SR	1.000000				
CAPEX	0.130086	1.000000			
DE	0.0000	-----	1.000000		
EPS	-0.014844	0.029780	0.3716	1.000000	
GO	0.200636	0.697439	0.0730	0.028984	1.000000
	0.0000	0.0000	0.0810	-----	
	0.015038	-0.014705	-0.006286	-0.014909	1.000000
	0.3654	0.3761	0.7052	0.3695	-----

TA	0.085624	0.350418	0.045613	0.590314	-0.008936
	0.0000	0.0000	0.0060	0.0000	0.5907

Note: SR is stock returns, capex is capital expenditure, DE is leverage, EPS is earning per share, GO is growth opportunity and TA is firm size, *****,***,* signifies 1%, 5% and 10% level of significance.

4.1.2 Unit Root Test

We applied the Breitung (2000) panel unit root test to assess the stationarity between the variables. The results showed that all the variables are stationary at first difference. This is justified by the fact the all the variables are not significant at level I (0) but are stationary at first difference I (1), the null hypothesis of unit root is rejected at 1% significance level for all the variables.

Table 3: Breitung Unit Root test

Variables	Level	First difference
	t-statistics	t-statistics
CAPEX	-1.0363	-6.7830***
DE	-2.3838	-7.7373***
EPS	-1.3873	-5.3839***
GO	-1.8639	-4.6839***
TA	-0.8909	3.89080***

Note: SR is stock returns, capex is capital expenditure, DE is leverage, EPS is earning per share, GO is growth opportunity and TA is firm size, *****,***,* signifies 1%, 5% and 10% level of significance.

4.1.3 Cointegration

Table 4 represents the kao co-integration method, it suggested that there is a long-run cointegration between stock returns, capital expenditure, leverage, earning per share, growth opportunity and firm size. This is because the p-value is less than the 5% significance level. Thus rejecting the null hypothesis of no cointegration at 1% significance level.

Table 4: Kao Cointegration Test

	t-Statistics	Probability
ADF	14.88121	0.0000***
Residual variance	0.628865	
HAC variance	0.460537	

4.1.4 Panel Least Square

The analysis in table 4 revealed that capital expenditure, firm size and capital expenditure have negative relationship with stock returns in Turkey. However, only financial leverage has the ability to predict the stock returns, hence its p-value has 10% significance level. This implies that 1% increase in leverage will decline stock returns by 1.07%. This can be attributed to asymmetric

information, because the more a corporate issue debt instruments, the more likely that investors will receive a negative signaling effect highlighting that the company's stocks are undervalued in the market. Thus, resulting to a decline in stock returns.

On the other hand, earning per share and growth opportunity have positive effects on stock returns at 1% and 5% levels of significance, respectively. This implies that a 1% increase in earnings per share and growth opportunity will lead to an increase in stock returns by 1.8% and 2.1% respectively. This is due to investor expectation such that as growth opportunities becomes visible on the side of companies, many will want to invest in their stock in order to reap the benefits that align with future growth. Equally for EPS, as the earning per share increases many potential investors will be attracted to invest more shares in order to benefit from the mark-up per share. Moreover, this also revealed that both earning per share and growth opportunity are able to predict stock returns in Turkey.

Table 5: Lease Squared Panel

Variable	Co-efficient	Stand. Error	t-Statistics	Probability
SR(-1)	0.922064	0.012930	71.31136	0.0000
CAPEX	-6.52E-08	6.70E-08	-0.971971	0.3311
DE	-1.07E-05	2.43E-05	-0.439667	0.0602*
EPS	1.83E-05	5.80E-06	3.148659	0.0017***
GO	2.15E-06	4.12E-06	0.521669	0.0192**
TA	-4.49E-10	5.67E-10	-0.792884	0.4279
C	0.064778	0.013957	4.641069	0.0000
R-squared	0.610053			
Adjusted R-squared	0.609383			
Durbin-Watson stat	2.488653			

Note: SR is stock returns, capex is capital expenditure, DE is leverage, EPS is earning per share, GO is growth opportunity and TA is firm size, *****,**,* signifies 1%, 5% and 10% level of significance.

5. Conclusion

This study findings concluded that, there is a positive and strong correlation between the dependents (returns on stock) and control variables (firm size, growth, financial leverage and other growth opportunities). This is collaborated by Taani & Banykhaled, (2011) that, the market value, debt ratio, operating cash flows, and return on equity all positively and significantly correlate with earnings per share. This comes after research on how EPS is impacted by ratios,

company size, and cash flow from operating activities. However, findings revealed that capital expenditure, firm size and capital expenditure have negative relationship with stock returns in Turkey except financial leverage which has the only ability to forecast the return on stock. Hence its p-value has 10% significance level. Moreover, it is also stated that both earning per share and growth opportunity are able to predict stock returns of non-financial institutions in Turkey. This is an indication of an expected economic booming that will emanate from high investors expectations signaled by the increase in EPS and growth opportunities. It is a cerium call for policy makers to redirect their efforts in consolidating these signaled economic gains by strengthening and promoting non-financial institutions as this will create more employment opportunities, tax revenue for the government and contributes immensely to the GDP growth of Turkish economy.

The study, however, was unable to examine the effects of independent variables (firm size, growth, financial leverage and other growth opportunities) on stock price. The scope of the study was limited to only non-financial institutions in Turkey. The research does not include the behavioral trend of stocks in Turkey. Therefore, we recommend similar study to be carried on financial institutions in Turkey or other countries. Which may involve using variables like dividend yield, price to earnings ratio and government policy to investigate their impact in predicting return on stock of non-financial institutions. A study may also be conducted on the behavioral pattern on stocks using similar variables

Bibliography

- Ahmad, N., & Ahmad, N. (2013). Evaluating Effects of Financial Leverage on Future Stock Value at Stock Exchange Related papers. *Research Journal of Recent Sciences, Vol. 2(2)*.
- Al-Qenae, R., Li, C., & Wearing, B. (2002). The Information Content of Earnings on Stock Prices: The Kuwait Stock Exchange. *Multinational Finance Journal, 6(3/4)*, 197–221. <https://doi.org/10.17578/6-3/4-3>
- Ali, A., Hwang, L. S., & Trombley, M. A. (2003). Residual-income-based valuation predicts future stock returns: Evidence on mispricing vs. Risk explanations. *Accounting Review, 78(2)*, 377–396. <https://doi.org/10.2308/accr.2003.78.2.377>
- Almakrami, M. (2013). The use of financial statements to predict the stock market effects of systemic crises. *ProQuest Dissertations and Theses*, 140. <https://doi.org/10.5642/cguetd/85>
- Arowolo, W. B. (2013). Predicting Stock Prices Returns Using Garch Model. *The International Journal Of Engineering And Science, 2(5)*, 32–37.
- Barth, M. E., & Landsman, W. R. (2010). How did financial reporting contribute to the financial crisis? *European Accounting Review, 19(3)*, 399–423. <https://doi.org/10.1080/09638180.2010.498619>
- BASHEIKH, A. (2005). The Relationship between Accounting Variables and Stock Prices العلاقة بين المتغيرات المحاسبية وأسعار الأسهم. *Journal of King Abdulaziz University-Economics and Administration, 19(2)*, 171–185.
- Campbell, J. Y., & Yogo, M. (2006). Efficient tests of stock return predictability. *Journal of Financial Economics, 81(1)*, 27–60. <https://doi.org/10.1016/j.jfineco.2005.05.008>
- Central Bureau of Statistics. (2020). Indonesia's Economy in 2019 Grows 5.02%. Retrieved from <https://www.bps.go.id/pressrelease/2020/02/05/1755/ekonomi-indonesia-2019-tumbuh-5-02-persen.html>

- Chan, L. K. C., Hamao, Y., & Lakonishok, J. (1991). *American Finance Association Fundamentals and Stock Returns in Japan* Author (s): Louis K. C. Chan, Yasushi Hamao and Josef Lakonishok Source: *The Journal of Finance*, Vol. 46, No. 5 (Dec., 1991), pp. 1739-1764 Published by: Wiley for the Ame. 46(5), 1739–1764.
- Easton, P., Taylor, G., Shroff, P., & Sougiannis, T. (2002). Using forecasts of earnings to simultaneously estimate growth and the rate of return on equity investment. *Journal of Accounting Research*, 40(3), 657–676. <https://doi.org/10.1111/1475-679X.00066>
- F Malherbe. (2014). Self-Fulfilling Liquidity Dry-Ups Published by: Wiley for the American Finance. *Finance*, 69(2), 947–970. <https://doi.org/10.1111/jofi.12063>
- Finishtya, F. C. (2019). Cite this article as: Finishtya, Florentina Cindy. 2019. The Role of Cash Flow of Operational, Profitability, and Financial Leverage in Predicting Financial Distress on Manufacturing. *Jurnal Aplikasi Manajemen*, 17(1), 110–117. <http://dx.doi.org/10.21776/ub.jam.2019.017.01.12>
- Gray, D. F., Gray, D. F., Merton, R. C., Bodie, Z., & Gray, D. F. (2007). *Contingent claims approach to measuring and managing sovereign credit risk* *Contingent Claims Approach to Measuring and Managing Sovereign Credit Risk* By John and Natty McArthur University Professor Zvi Bodie Norman and Adele Barron Professor of Management. August.
- Hall, C. (1992). *Working Paper Series Center on Japanese Economy and Business Graduate School of Business Columbia University October 1992. October.*
- Holthausen, R. W., & Larcker, D. F. (1992). The prediction of stock returns using financial statement information. *Journal of Accounting and Economics*, 15(2–3), 373–411. [https://doi.org/10.1016/0165-4101\(92\)90025-W](https://doi.org/10.1016/0165-4101(92)90025-W)
- Landsman, W. R., & Magliolo, J. (1988). Cross-Sectional Capital Market Research and Model Specification. *Accounting Review*, 63(4), 586. <http://www.lib.lsu.edu/apps/onoffcampus.php?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=4482568&site=ehost-live&scope=site>
- Lewellen, J. (2004). Predicting returns with financial ratios. *Journal of Financial Economics*, 74(2), 209–235. <https://doi.org/10.1016/j.jfineco.2002.11.002>
- Maia, M. V. (2010). *Cash-Flow Risks, Financial Leverage and the Cross Section of Equity Returns Part of the Finance and Financial Management Commons.* <http://repository.upenn.edu/edissertationshttp://repository.upenn.edu/edissertations/161>
- Mandelker, G. N., & Rhee, S. G. (1984). The Impact of the Degrees of Operating and Financial Leverage on Systematic Risk of Common Stock. *The Journal of Financial and Quantitative Analysis*, 19(1), 45. <https://doi.org/10.2307/2331000>
- Mirza, A., Malek, M., & Abdul-Hamid, M. A. (2019). Value relevance of financial reporting: Evidence from Malaysia. *Cogent Economics and Finance*, 7(1). <https://doi.org/10.1080/23322039.2019.1651623>
- Panda, A. K., Nanda, S., & Panda, P. (2021). Working Capital Management, Macroeconomic Impacts, and Firm Profitability: Evidence from Indian SMEs. *Business Perspectives and Research*, 9(1), 144–158. <https://doi.org/10.1177/2278533720923513>
- Tetlock, P. C. (2014). Information transmission in finance. *Annual Review of Financial Economics*, 6, 365–384. <https://doi.org/10.1146/annurev-financial-110613-034449>
- Weinstein, M. (1993). An empirical investigation of IPO. *Science*, 34(6), 1723–1736.
- Wijesundera, A. A. V. I., Weerasinghe, D. A. S., Krishna, T. P. C. R., Gunawardena, M. M. D., & Peiris, H. R. I. (2016). Predictability of stock returns using financial ratios: empirical evidence from Colombo stock exchange. *Kelaniya Journal of Management*, 4(2), 44. <https://doi.org/10.4038/kjm.v4i2.7500>
- Yilmaz, O., & Agirman, E. (2018). Value of financial ratios in predicting stock returns: a study on Borsa Istanbul (BIST). *Pressacademia*, 7(2), 191–199. <https://doi.org/10.17261/pressacademia.2018.847>