



DETERMINATION OF INTRINSIC VALUE: DIVIDEND DISCOUNT MODEL AND DISCOUNTED CASH FLOW METHODS IN INDONESIA STOCK EXCHANGE

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ABSTRACT

The Covid-19 pandemic which began at the end of 2019, it turned out to be very influential in the significant decline in share prices. It can be seen from the Composite Stock Price Index (IHSG) until mid-March 2020, which has fallen by 37% and the average share price of 669 issuers has decreased by 38%. For investors who have been tested or successful, generally, market conditions like this will be used to buy up shares, but traders or speculators leave the market.

Thus, conducting stock valuation, especially determining the current fair value of shares, is very appropriate. Stock assessment in this study will use two Discounted Cash Flow (DCF) models and the Dividend Discount Model (DDM). Furthermore, the two models will analyze which model is the most accurate so that it can help investors choose the right stocks, and the future can be profitable.

Based on the results of the study, we can see that by using DDM there are 40 companies (93%) in undervalued positions or only three overvalued companies (7%) while using DCF there are 25 undervalued companies (58%) or 18 overvalued companies (42 %). Henceforth, let us examine the accuracy of the model. We can conclude that DDM is more accurate than DCF because the calculation of the mean absolute pricing error (MAPE) shows that the DDM value is smaller, which is only 46% and with DCF the value is 206%. It happens because with DCF, there is a fair value yield that is much greater than the current stock price, and we can see that condition from overvalued stocks with a large enough DCF value.

Key words: Share price, the fair value of shares, DCF. DDM and accurate.

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1. INTRODUCTION

The Corona-19 virus pandemic, which started in China at the end of December 2019, turned out to be very influential on capital markets around the world. Namely, there was panic among capital market players and the emergence of massive share sales (panic selling) so that stock prices fell quite profoundly. The negative sentiment of the global market has impacted the Indonesian capital market carried out by and unseparated from the Indonesia Stock Exchange (IDX). Moreover, added to the case of Jiwasraya insurance and several mutual funds that were allegedly involved and finally there were 800 accounts blocked by the stock exchange authorities, as a result from the beginning of the year to March 10th 2020 The Jakarta Composite Index (IHSG) has fallen 37%. The average share price of 669 issuers has decreased by 38%.

For investors who usually buy stocks for the long term, the current bearish condition is a golden opportunity to buy shares, because they usually take decisions that are against the market (Mitchell, 2020) and Warren, Geoff (2016). Besides that, until April is the moment the company releases its annual financial statements and gifts dividends, so now is the right time to make a stock fairness assessment.

In determining the fair value of shares, analysts can use various valuation models. Selection of a suitable valuation model using fundamental analysis needs to consider several parameters that are suitable for the model. Valuation using the Dividend Discount Model (DDM) requires several assumptions that reflect the value of the shares that already represent the number of dividend payments in the future because the fair value of shares is a reflection of future dividend payments with a specific rate of return. However, predicting dividend payments in the future often faces problems (Gottwald, 2012).

The DDM method has long been known and is widely used by analysts to conduct equity valuations. However, many analysts consider that this method is outdated and institutional investors prefer to use Discounted Cash Flow (DCF) in valuing shares (Damodaran, 2006).

The assessment model using DCF is more comprehensive than the DDM model, which is relatively simple. The DCF method uses the company's discounted future cash flow. This approach is beneficial because it can be used for all companies even though it does not pay dividends to its shareholders.

The valuation method using DDM is easier and faster to calculate than using DCF which requires more complete data related to the company's internal and external finances (macroeconomic data) and more complex assumptions (Stephen, 2020).

The results showed that the two models were still different. Some researchers concluded that the DCF model is more accurate in terms of determining the fair value of shares (Alfredsson & Lehmann, 2016), but (Ivanovski, Narasanov, & Ivanovska, 2015) concluded that the DDM method is more accurate than DCF. Meanwhile, (Wafi, Hassan, & Mabrouk, 2015), (Stephen, 2020) the results of their research show that DDM and DCF are inaccurate for valuing stocks.

2. THEORETICAL REVIEW

2.1. Discounted Cash Flow Model (DCF)

This discounted cash flow approach is the foundation of all company valuation calculations. This approach tries to estimate the fair value of an asset based on its fundamentals. Damodaran used discounted cash flow to assess equity in the business and assess the company as a whole (Damodaran, 2006). Most people use this method worldwide because it represents added value in the short term rather than dividends (Alfredsson & Lehmann, 2016) and (Penman & Sougiannis, 1998).

The DCF approach is the most frequently used model because it forms the basis of other valuation models. This model states that the value of an asset is the present value of the expected cash flow generated in the future at a specific discount rate.

Stock valuation with DCF has strengths and weaknesses. The advantages of this model are that it already considers everything that underlies a business, such as cost of equity, the weighted average cost of capital, growth rate, reinvestment rate, many more (Stephen, 2020). We can also use the model to assess the shares of companies that do not pay dividends. While the weaknesses are susceptible to assumptions related to cash flow growth rates and discount rates, and it is not easy to predict these changes (Stephen, 2020)

This method would be suitable if the prediction rate of future cash flows is convincing, i.e. the prediction of sales, operating costs, and capital investment is very accurate, but it is not easy.

3.2. Dividend Discount Model (DDM)

The Discount Dividend Model (DDM) is one of the simplest and most popular classical methods for determining the fair price of shares (Gacus & Hinlo, 2018). On the other hand, Many analysts consider DDM as obsolete, so they suggest using the DCF method (Ivanovski, Narasanov, & Ivanovska, 2015). The dividend discount model (DDM) is a valuation model based on the assumption that the share value is the discounted amount of all future dividend payments or the fair value of a share is the present value of future dividends discounted by the required rate of return (Gottwald, 2012).

The idea is simple; the fair price of a share is the present value of all dividends obtained in the future. The thinking is quite logical because if an investor buys a stock and holds it forever, then the investment return will only be the dividend given by the company (Damodaran, 2006). Company value is the present value of the overall potential dividends it will receive.

The use of the DDM method uses the following assumptions (Wafi, Hassan, & Mabrouk, 2015):

- a. The company continues to infinity.
- b. Continuation of dividends at a fixed interest rate means that the distribution policy is set for the company at a certain amount so that we can predict correctly.
- c. The required rate of return on stocks or the discount rate "K" in the model remains constant because the discount rate is market dependent for the execution of the investment, and is likely to change dramatically over time.
- d. Model This model requires the availability of financial market efficiency

The DDM model can be said to be simpler than the DCF method. However, this method has its advantages and disadvantages. The goodness of this model is that it is easy and fast to

use in calculating it and assessing a mature business because it can pay dividends regularly. Based on the results of research conducted by researchers, the DDM method provides reliable intrinsic value results (Gacus & Hinlo, 2018), (Olweny, 2011) and (Iyer & Paul, 2019). Meanwhile, the weakness is that it is only suitable for issuers that always pay dividends regularly. We cannot use it against issuers with very high dividend growth that exceeds the expected rate of return and ignores related non-dividend factors that can improve performance. Companies, as well as there is a large amount of uncertainty associated with forecasting the growth rates of corporate dividends and future dividends.

4. RESEARCH METHODS

This type of research is a descriptive study with quantitative methods. According to (Nassaji, 2015), descriptive research is research that attempts to describe a phenomenon and its characteristics. This study uses secondary data. Secondary data used is in the form of data collected during a specific period or period and in the form of numerical data contained in the annual financial statements of companies that distribute cash dividends for the 2014-2018 period and obtained from the official website of the Indonesia Stock Exchange. In this study, the researcher describes the condition of the fairness (value) of the stock price which is analyzed using the DDM method of the constant growth model and DCF which refers to the Operating Cash Flow (OCF).

The population used in this study are companies listed on the Indonesia Stock Exchange (BEI). Based on data from 2014-2019, the number of companies that distributed dividends on average was 236 companies or 41% of the total companies listed on the IDX. While the research sample used is companies listed on the Indonesia Stock Exchange (BEI) for the 2014-2019 period, with the following criteria:

1. The company distributed dividends consistently during the 2014-2019 period.
2. The company during the 2014-2019 period never suffered a loss

The type of data in this study is secondary data in the form of financial reports published by companies listed on the Indonesia Stock Exchange (BEI) for the 2014-2019 period. We obtained the data source from the Indonesia Stock Exchange website, namely www.idx.co.id In conducting share valuation using the DCF and DDM methods are as follows :

DCF

In calculating the intrinsic value of shares, the DCF method uses the (Khoo & Lim , 2009) reference as follows

1. Determine the average Operating Cash Flow (OCF) growth for five years from 2013-2018 using the Compounded Annual Growth Rate (CAGR).
2. Adjusting the growth of OCF to avoid inaccuracy in determining the fair value that is too high or too low.
3. Projection of OCF growth for the next ten years based on adjusted OCF growth.
4. Determine the discount factor using Bank Indonesia 7-day Repo Rate as the risk-free rate.
5. Determine the discounted value (DV) or present value by multiplying the projected OCF by the discount factor.
6. Determine the fair value by adding up all the discounted value (DV) which is then divided by the number of shares outstanding

DDM uses the formula (Alfredsson & Lehmann, 2016)

The steps for calculating fair value using the DDM method are

1. Calculate the average Return on Equity (ROE) for five years

2. Calculating the average Dividend Payout Ratio (DPR) for five years
3. Calculating Rate of Return (RR) = 1 - Average DPR
4. Calculate the growth (g) = Average ROE x RR
5. Determine the dividend projection for five years
Projected dividend (Dt) = Dividend year 0 x (1 + g)
6. Calculating the amount of Return (k) = (D0 / P0) + g
7. Calculating fair value = Dt / (kg)

In this study, we evaluate to determine the accuracy of the method. The accuracy of this method is measured by how close or small the difference between the fair value and the observed share price is. We use accurate measurements mean V / P and MAPE (Alfredsson & Lehmann, 2016). a. $V / P = V_{0,j} / P_{0,j}$, Where V is the fair value, and P is the observed share price b. MAPE or mean absolute pricing error, to measure how far from zero if the MAPE value is small, it means accurate.

5. RESULT AND DISCUSSION

5.1. Sample Profile

The sample used is companies that pay dividends regularly for six years or the 2014-2019 period and have never suffered losses. The number is 43 companies or 6.41% of the total companies listed on the IDX in 2018. The number cannot reach 10% of the total population. Because until July 31st 2020 many companies have not distributed cash dividends for the 2019 financial year due to the influence of covid19 so that companies in general experience liquidity problems.

The Indonesia Stock Exchange (IDX) has classified the listed companies into nine sectors, as shown in the table below. While the business sector includes the following subsectors:

Table 1 List of Samples of Companies that pay dividends 2014-2019

No	Sector	Total	Sample	%
1	Consumer Goods	56	8	14.29%
2	Finance	90	11	12.22%
3	Mining	50	6	12.00%
4	Agriculture	20	2	10.00%
5	Basic Industry	77	4	5.19%
6	Property, Real Estate and Building	83	4	4.82%
7	Misc. Industry	51	2	3.92%
8	Infrastructure, Utilities and Transport	76	2	2.63%
9	Trade, Service & Investment	168	4	2.38%
TOTAL		671	43	6.41%

Source : *Idx.co.id*

Companies that can pay dividends for six consecutive years means that there is a tendency that the company is well-managed so that the company can make a profit without being affected by uncertain economic conditions. Based on these data, we can see that the number of samples of companies that pay the most dividends is from the Consumer Goods, Finance, Mining and Agriculture sectors which account for more than 10% of the population in that sector. It indicates that the company has performed relatively better for six years than in other sectors. The sector with the number of companies that pay a small dividend, namely Trade, Service and Investment, is only 2.38% of the population in that sector. It indicates that companies in this sector are underperforming so that many companies cannot pay dividends regularly within six years.

5.2. Results of the calculation of the fair value of shares

We use the calculation of the fair value of the shares to determine which shares are still undervalued and overvalued. Undervalued shares are if the fair value of the shares is still more significant than the current share price and vice versa if overvalued if the current share price is greater than the calculation of the fair value.

Based on the calculation of fair value using the DDM method from a sample of 43, we can see that there are 40 undervalued companies (93%) and three overvalued companies (7%). Meanwhile, using the DCF method, there are 25 companies (58%) still undervalued and 18 overvalued companies (42%). More complete details we can see in table 4.2 below.

Table 2 Recapitulation of the Calculation Result of Fair Value of Shares

No	Code	DDM		DCF	
		Under/Over	MOS	Under/Over	MOS
1	ADHI	Undervalue	55%	Undervalue	46%
2	BFIN	Undervalue	50%	Undervalue	72%
3	PGAS	Undervalue	48%	Undervalue	80%
4	PTPP	Undervalue	46%	Overvalue	-49%
5	BBNI	Undervalue	46%	Undervalue	62%
6	WIKA	Undervalue	46%	Undervalue	6%
7	BBTN	Undervalue	45%	Undervalue	95%
8	WTON	Undervalue	44%	Undervalue	88%
9	TCID	Undervalue	43%	Undervalue	21%
10	AALI	Undervalue	40%	Overvalue	-120%
11	ASGR	Undervalue	39%	Undervalue	87%
12	LSIP	Undervalue	38%	Undervalue	77%
13	ITMG	Undervalue	36%	Undervalue	91%
14	INTP	Undervalue	34%	Overvalue	-166%
15	BBRI	Undervalue	34%	Overvalue	-8%
16	BDMN	Undervalue	34%	Undervalue	63%
17	AUTO	Undervalue	33%	Undervalue	78%
18	ADRO	Undervalue	33%	Overvalue	-178%
19	ELSA	Undervalue	32%	Undervalue	79%
20	PTBA	Undervalue	31%	Undervalue	69%
21	AKRA	Undervalue	31%	Overvalue	-110%
22	BMRI	Undervalue	30%	Overvalue	-314%
23	ASII	Undervalue	29%	Undervalue	20%
24	SMGR	Undervalue	29%	Undervalue	28%
25	JSMR	Undervalue	29%	Undervalue	38%
26	BSSR	Undervalue	28%	Undervalue	60%
27	NRCA	Undervalue	27%	Overvalue	-42%
28	BJBR	Undervalue	25%	Undervalue	83%
29	BJTM	Undervalue	24%	Undervalue	74%
30	ICBP	Undervalue	23%	Overvalue	-7%
31	INDF	Undervalue	22%	Undervalue	69%
32	UNVR	Undervalue	20%	Overvalue	-175%
33	HMSP	Undervalue	20%	Undervalue	15%
34	CINT	Undervalue	19%	Overvalue	-856%
35	KLBF	Undervalue	12%	Overvalue	-116%
36	FASW	Undervalue	12%	Overvalue	-94%
37	BBCA	Undervalue	10%	Overvalue	-8%
38	UNTR	Undervalue	6%	Undervalue	38%
39	ABDA	Undervalue	4%	Overvalue	-453%
40	SIDO	Undervalue	1%	Overvalue	-31%
41	MEGA	Overvalue	-2%	Overvalue	-58%
42	MYOH	Overvalue	-9%	Undervalue	23%
43	TURI	Overvalue	-46%	Overvalue	-103%
Average			27%		-33%

Source: Secondary data processed for the period 2014-2019

Based on the results of the fair value calculation, we can see that the average MOS with the DDM method is 27%, and the DCF is -33%. It means that the average share price in the DDM method is still under-valued while using the DCF method; the stock price tends to be over-valued. For investors (buying stocks for the long term), according to Warren Buffet, you should buy stocks with a MOS of at least 30% to be safer. With a MOS of 30%, it means that the fair value of the share price is above the current price. If we buy shares with a MOS below 30%, if there is a price correction, the investor can suffer losses. The number of companies with a minimum MOS of 30% with both methods is relatively the same, namely, with the DDM method there are 22 companies, and with the DCF method, there are 19 companies.

Meanwhile, the value of MOS calculations using the DCF method turns out to be a number that shows irrationality. Eighteen companies are over-valued with their MOS value (42%). With a negative MOS, it means that the current stock price is already expensive compared to its fair value. It could be because the results of the calculation of the fair value of the shares have errors due to the fluctuation of the CFO data each year or the assumption that the use of CFO growth figures is incorrect. Meanwhile, the current stock price seems relatively reasonable because the current share price compared to the stock price at the end of December 2019 still decreased an average of 22%.

5.3. Determination of the Most Accurate Model

The calculation of the fair value of shares using two or more methods will produce different fair values. This difference is due to the different variables used, and the most important thing is that the data used has a large enough variable or not, and the assumptions used are still following current conditions or not. With changes in global economic conditions, changes in trade and political policies will be able to affect company performance. Finally, the data used to calculate the fair value can go up/positive or down/negative, and as a result, it will produce a fair value that is less rational.

In this study, we used the DDM and DCF methods, so that it would produce different fair values, because the variables used are different. In the DDM method, the primary data used are dividends, ROE and DPR or data derived from historical company performance. Meanwhile, the DDM data method used is Operating Cash Flow, Discount Rate and the number of shares outstanding. In this case, there is data that comes from external companies in the form of a discount rate which dramatically influences the calculation of the fair value of shares.

Determination of the accuracy of the fair value of shares using a measure of how close or small the difference between the fair value of shares and the current stock price is. The smaller the difference, the more accurate the method is, because if the difference is enormous, it is likely that it will take a long time to achieve this and can occur. After all, there is the use of inappropriate assumptions. The measurement used is the mean absolute pricing error (MAPE) method. More detailed calculations we can see in table 4.3 below.

Based on the results of these calculations, we can see that the DDM method produces 46% MAPE and 206% DCF method, so we can conclude that the DDM method is more accurate than the DCF method. It is because the difference between the fair value and the stock price using the DCF method is more than 120%, or there are 16 companies (37% of the sample), while with the DDM method, which is more than 120%, there is only one company.

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Table 3 Determination of the Accuracy of the Fair Value Model DDM and DCF methods

No	Code	MAPE=Avg [Intrinsic Value - Price]/ Price)	
		DDM	DCF
1	CINT	23%	90%
2	ABDA	4%	82%
3	BMRI	43%	76%
4	ADRO	49%	64%
5	UNVR	24%	64%
6	INTP	52%	62%
7	AALI	68%	55%
8	KLBF	14%	54%
9	AKRA	44%	52%
10	TURI	31%	51%
11	FASW	13%	49%
12	MEGA	1%	37%
13	PTPP	87%	33%
14	NRCA	36%	30%
15	SIDO	1%	23%
16	BBRI	52%	7%
17	BBCA	11%	7%
18	ICBP	30%	6%
19	WIKA	84%	6%
20	HMSP	24%	17%
21	ASII	42%	24%
22	TCID	74%	27%
23	MYOH	8%	30%
24	SMGR	41%	39%
25	UNTR	6%	61%
26	JSMR	41%	62%
27	ADHI	120%	86%
28	BSSR	38%	153%
29	BBNI	85%	163%
30	BDMN	51%	172%
31	INDF	29%	220%
32	PTBA	46%	228%
33	BFIN	98%	252%
34	BJTM	32%	289%
35	LSIP	60%	333%
36	AUTO	49%	354%
37	ELSA	47%	371%
38	PGAS	92%	398%
39	BJBR	34%	478%
40	ASGR	65%	652%
41	WTON	77%	739%
42	ITMG	57%	985%
43	BBTN	82%	1868%
MAPE (Average)		46%	206%

Source: Secondary data processed for the period 2014-2019

6. DISCUSSION

Based on the results of the calculation of the accuracy of using the DDM and DCF methods to determine the fair value of shares. Based on the mean absolute pricing error (MAPE) method, we can conclude that determining the fair value of shares using the DCF method is considered inaccurate. In other words, the results of the calculation of the fair value of shares using the DDM method are more accurate. We can see from the ratio of the difference in the fair value of the shares minus the stock price which is generally more than 100%, so the fair value of shares tends to be much greater than the current stock price.

The use of the inaccurate DCF method may occur because it is influenced, among others, by the following factors:

- a. Many CFO data for five years are fluctuating, for example, BBTN shares in 2019 -Rp 14,628 and in 2015 amounted to Rp.1,708.
- b. The CFO data used are generally above the average for five years. For example, BBTN shares, the average CFO for five years is - IDR 2,954.00, but the real data is -Rp 14,628.00 and IDR 1,708
- c. The possibility of using the OCF growth rate is not quite right. Namely, we use 15% figure to represent the growth of OCF > 15% and 10% figure to represent less than 15%. The actual data are mostly above 20%, and if we use this data to calculate fair value, the results obtained will be much more excellent than what we have presented. On the other hand, there are some companies whose OCF growth is negative or less than 15% so that the results will be harmful or more irrational.
- d. The use of a discount rate that refers to BI 7-day repo data of 4.25% is not quite right. If we use a higher interest rate, the fair value yield will be smaller.

While people consider that the use of the DDM method more accurate, it may occur because it is influenced, among others, by the following factors:

- a. Data on cash dividends for five years are generally relatively stable.

Defensive companies such as PT Unilever Indonesia (UNVR) and PT HM Sampoerna (HMSP) can usually get relatively stable profits each year. So that these companies are known as companies that are generous in paying dividends, and in the end, the company's share price tends to increase every year. Likewise, commodity stocks such as Mining and Agricultural stocks are generally known to be generous in giving dividends. For example, PTBA and ITMG shares can regularly pay large amounts of cash dividends. In general, the distribution of dividends per year fluctuates slightly following the size of the net profit earned each year.

- b. Dividend Payout Ratio (DPR)

Dividend Payout Ratio (DPR) is a comparison between dividends paid to shareholders and earnings per share (EPS). If the value of the DPR increases to one, it means that all shareholders gain company profits. It is very appealing for investors to buy their shares for the long term or several months before the distribution of dividends and these shares are commonly known as generous dividend shares. On the other hand, shares with a small DPR mean that the company only gives a portion of its profits to shareholders.

7. CONCLUSION

Based on the calculation of intrinsic value using the P / E ratio approach and discussion in the previous section, we can conclude as follows:

Calculation of fair value using DDM which is still under-valued, there are 40 companies (93%) and three overvalued companies (7%) . Meanwhile, with the DCF method, there are undervalued 25 companies (58%), and the remaining 18 companies (42%) are already overvalued. Thus, there is an impression that the DDM method gives investors hope that there are still quite a several companies that are ready to buy for the long term. However, with the DCF method, the options for buying the stocks analyzed are relatively small, and the MOS is also relatively small.

There are 18 companies in the undervalued category with MOS > 30%, and we recommend that at least four companies be purchased. The results of performance evaluation with purchase and sales data in December 2019 from 18 companies can produce a return of

6% and a yield of 7%. Investors in buying shares should refer to the fair value calculation of shares using the DDM method.

While the limitations of this study are the relatively simple use of the DCF method, namely only using cash flow data for Operating Activities. In the future, we recommend using more complicated methods such as free cash flow to equity - DCFE or free cash flow to the firm - DCFE.

REFERENCES

- [1] Alfredsson, A., & Lehmann, C. Intrinsic Equity Valuation: An Empirical Assessment of Model Accuracy. *Bachelor thesis, 15 ECTS, Södertörn University, Business Administration*, 30.2016. Retrieved from <https://www.diva-portal.org/smash/get/diva2:939272/FULLTEXT01.pdf>
- [2] Damodaran, A. *Damodaran on valuation: Security analysis for investment and corporate finance* (6 ed.). Hoboken: N.J: John Wiley & Sons.2006.
- [3] Francis, J., Olsson, P., & Oswald, D. Comparing the Accuracy and Explainability of Dividend, Free Cash Flow, and Abnormal Earnings Equity Value Estimates. *Journal of Accounting Research*, 38(1),2000 , 45-57. Retrieved from <http://www.jstor.org/stable/2672922>
- [4] Gacus, R. B., & Hinlo, J. The Reliability of Constant Growth Dividend Discount Model (DDM) in Valuation of Philippine Common Stocks. *International Journal of Economics & Management Sciences*, 7(1), 2018 ,2-9. doi:10.4172/2162-6359.1000487
- [5] Gottwald, R. The Use of The Dividend Discount Model to Measure Stock Price Volatility. *Journal of Interdisciplinary Research*, 2012, 23-26. Retrieved from http://www.magnanimitas.cz/ADALTA/0202/papers/A_gottwald.pdf
- [6] Hess, D., Homburg, C., Lorenz, M., & Sievers, S. Extended Dividend, Cash Flow and Residual Income Valuation Models - Accounting for Deviations from Ideal Conditions. *Contemporary Accounting Research* , 30(1), 2011, doi:<https://doi.org/10.1111/j.1911-3846.2011.01148.x>
- [7] Ivanovski, Z., Narasanov, Z., & Ivanovska, N. Accuracy Of Dividend Discount Model Valuation At Macedonian Stock- Exchange. *Economy and Business Journal of International Scientific Publications*, 9(1),2015, 73-83. Retrieved from <https://ideas.repec.org/a/isp/journal/v9y2015i1p73-83.html>
- [8] Iyer, S., & Paul, B. Dividend Discount Model (DDM) : A study based on select companies from India. Part of My PHD, Christ Institute of Management, Christ Trust, Lavasa, India.2019. Retrieved from https://www.researchgate.net/publication/331648174_Dividend_Discount_Model_DDM_A_study_based_on_select_companies_from_India
- [9] Khoo, A., & Lim, C. A. *Secrets of Millionaire Investors* (Second Edition ed.). Singapore: Adam Khoo Learning Technologies Group.2009.
- [10] Mafata, V. Company Discounted Cash Flow and Accounting Based Valuation Models on JSE Listed Firms in South Africa. Thesis (M.M. (Finance & Investment))--University of the Witwatersrand, Faculty of Commerce, Law and Management, Graduate School of Business Administration, 52.2015. Retrieved from <http://hdl.handle.net/10539/18645>
- [11] Mitchell, C. Pros and Cons of Day Trading Versus Long-Term Investing. (M. J. Boyle, Editor) 2020. Retrieved from The Balance: <https://www.thebalance.com/day-trading-versus-long-term-investing-4139868>
- [12] Nassaji, H. Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, 19(2),2015, 129–132. doi:<https://doi.org/10.1177/1362168815572747>

- [13] Olweny, T. The Reliability of Dividend Discount Model in Valuation of Common Stock at the Nairobi Stock Exchange. *International Journal of Business and Social Science*, 2(6), 2011, 127-141. doi:DOI: 10.30845/ijbss
- [14] Penman, S., & Sougiannis, T. A Comparison of Dividend, Cash Flow, and Earnings Approaches to Equity Valuation. *Contemporary Accounting Research*, 15(3),1998, 343-383. doi:<https://doi.org/10.1111/j.1911-3846.1998.tb00564.x>
- [15] Stephen, E. Discounted Cash Flow Business Valuation: Advantages and Pitfalls. 2020 .Retrieved from Firmex: <https://www.firmex.com/resources/blog/discounted-cash-flow-valuation-advantages-pitfalls/>
- [16] Wafi, A. S., Hassan, H., & Mabrouk, A. Fundamental Analysis Models in Financial Markets – Review Study. *Procedia Economics and Finance*, 30, 2015, 939 – 947. doi:[https://doi.org/10.1016/S2212-5671\(15\)01344-1](https://doi.org/10.1016/S2212-5671(15)01344-1)
- [17] Warren, G. What Does it Mean to Be a Long-Term Investor? 2016. Retrieved from The Brandes Institute: <https://www.brandes.com/docs/default-source/brandes-institute/2016/what-does-it-mean-to-be-a-long-term-investor>