

“Is cash flow growth helping stock performance during the COVID-19 outbreak? Evidence from Indonesia”

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IS CASH FLOW GROWTH HELPING STOCK PERFORMANCE DURING THE COVID-19 OUTBREAK? EVIDENCE FROM INDONESIA

Abstract

The COVID-19 pandemic is an unexpected event that causes stock market investors to panic so that their value drops drastically. Operating cash flow and free cash flow are indicators of a company's financial statements that are used as a reference for investors' decision making in the stock market. A firm's cash flows reflect real changes in the firm's value for money. Cash flow growth can provide information on how well the firm's performance is in generating incremental cash inflows that can increase firm value. This study aims to explore the relationship between cash flow growth before the COVID-19 pandemic and after the COVID-19 outbreak on stock price performance. This study uses the OLS regression method with a total sample of 426 companies in the Indonesian capital market in the period March 2, 2020 to March 2, 2021. The results show that cash flow growth from operations and free cash flow growth had no significant effect on stock return after COVID-19 outbreaks in years 2020 to 2021. Sales growth, market capitalization and stock return before the COVID-19 outbreak from 2019 to 2020 had a significant negative correlation with the post COVID-19 outbreak stock return. Then, sectors whose stock performance is positively correlated after the COVID-19 outbreak are basic industry, chemicals, miscellaneous industry and infrastructure. This shows that the economic crisis caused by COVID-19 is an anomaly in the stock market. Therefore, cash flow is not relevant information for investors in predicting a company's performance during the COVID-19 pandemic crisis.

Keywords

free cash flow, operating cash flow, stock return, Covid-19, financial crisis

JEL Classification

G01, G14, G41, G32

INTRODUCTION

The phenomenon of the COVID-19 outbreak in early 2020 caused an economic crisis in different countries. The economic crisis is very detrimental because it causes an increase in volatility in the capital market, which leads to a sharp decline in capital market performance. The case of the COVID-19 outbreak in 2020 causes contractions between sectors both in the long and short term and a decrease in economic output and reduced employment. This has a negative impact on a country's economic stability and has a negative impact on the 9 NYSE sectors in the US. The case of the COVID-19 outbreak in 2020 caused a global economic downturn and the worst stock market crash in the 21st century (Ashraf, 2020; Altig et al., 2020).

After the crisis, the capital market took a long and complex process to recover. Investors must be careful in making decisions. Because the ability of investors to analyze and select information will be the basis for investors in making decisions, which will then be reflected in the returns they receive (Harvey et al., 2016). The financial crisis affects companies' profit. A company's profit is widely used as a measure for the intrinsic value of the company. However, profit is only an account-

ing measure that does not fully reflect the additional value for shareholders and is vulnerable to manipulation by managers, which makes the profitability measure polluted and does not reflect the actual economic situation (Novy-Marx, 2013). Therefore, it is necessary to analyze the cash flow statement to be able to find out the nominal cash inflow that is actually received along with the increase in accruals. Well-known bankruptcy cases such as the Enron and WorldCom cases show that the presentation of a profitable income statement can go hand in hand with a negative operating or free cash flow report (Foerster et al., 2017).

A firm's cash flow (CF) reflects more on the long-term stock price. When compared to nominal cash flow, cash flow growth is more appropriate to compare with returns because CF growth provides information about the firm's ability to generate incremental cash inflows. High operating cash flow and free cash flow indicate a firm has good performance (Jansen, 2021).

A company's cash flow (CF) is more reflective of the long-term stock price. When compared to nominal cash flows, cash flow growth is more accurate than returns because CF growth provides information about a company's ability to generate additional cash inflows. High operating cash flow and free cash flow indicate the company has a good performance (Jansen, 2021). However, what is the impact of CF during the economic crisis? Research related to CF during the economic crisis due to the COVID-19 pandemic has not been widely explored. This study seeks to fill the research gap. During the financial crisis due to the COVID-19 pandemic, did cash flow growth 5 years before COVID-19 help stock performance during the COVID-19 pandemic? Companies that had persistent cash flow growth in previous years are expected to show faster stock price performance after the first cases of the COVID-19 crisis were announced. This study contributes to exploring the phenomenon of company stock performance during the COVID-19 pandemic.

1. LITERATURE REVIEW AND HYPOTHESES

1.1. Financial crisis and COVID-19

The financial system of a country is an integrated part of the interconnected world economic system. The capital market is part of a system that interacts in making decisions on supply and demand for capital needs. The gap between supply and demand can cause fluctuations in the value of the capital market that deviates from the actual value. Under certain extreme conditions, for example, a period of economic crisis, it can cause a shock in the capital market. This can make the capital market inefficient. The economic crisis has raised concerns among investors that led to the collapse of the capital market (Bartram & Bodnar, 2009; Tran, 2018).

The financial crisis is an unavoidable part of the business and economic cycle, where each crisis characteristic is different, depending on the cause of the occurrence. The impact of the financial cri-

sis can be divided into four categories of influence, namely, companies, share volume and price, investor behavior, and market regulation (Mitchell, 1941; Schwert, 1989). The crisis caused economic conditions to show a reversal trend. The crisis itself is defined as a deviation from economic activity and is the starting point of a "round down" or "round up" (Jansen & Stockman, 2004; Kaserer & Rosch, 2013). The financial crisis caused a stock market crash that was followed by a massive decline in the exchange rate as investors panicked. Crisis management is very important to do and must be handled properly because if it is not handled properly, then this can cause the value of a company to be destroyed (Fink, 1993; Lauterbach & Zion, 1993; Lim et al., 2007).

One effective way to reduce financial chaos is to provide facilities to increase equity capital in order to be able to maintain cash flow. In this case, a cut in dividends needs to be made to reduce the negative impact of this, which is actually not liked by shareholders. This was done to maintain a company's liquidity because after the financial crisis, many financial institutions were neither able nor

willing to take risks, which caused them to shrink loans to companies. This causes many companies that have financial difficulties to find it increasingly difficult to obtain funding to support their operations due to the increasing cost of borrowing (Campello et al., 2010).

The economic crisis can also cause panic among investors. This phenomenon is in line with the psychology of survival. Individuals can experience behavioral changes due to certain extreme events such as natural disasters or economic crises. Panic will worsen the economy causing investors to behave irrationally and tend to overreact (Easley & Kleinberg, 2010; Forbes, 2017). Herd mentality and panic selling/buying without rational investment decisions. This is influenced by the information cascade effect when investors make decisions influenced by the immediate environment. For example, "scarcity heuristics" can affect investor panic during an economic crisis so that investment decisions are taken irrationally (Cheung et al., 2015).

The COVID-19 pandemic resulted in a financial crisis and caused an economic slowdown that resulted in unprecedented global economic damage. The COVID-19 pandemic caused a significant temporary decrease in the top line and had an impact on the availability of a company's cash flow, which created uncertainty on the company's performance going forward. In this way, investors lose confidence in companies in the capital market (Goodell, 2020; Fahlenbrach et al., 2020; Narjoko et al., 2020).

The global financial crisis in 2008 had an impact on the determinants of a company's cash holdings, adjustments to the target cash level and cash flow (Song & Lee, 2012). The determinants of a firm's cash holdings differ significantly for the pre-crisis and post-crisis periods. The optimal speed of cash level adjustment is much lower in the post-crisis period so that the global financial crisis significantly resulted in limited liquidity and financial flexibility (Batuman et al., 2021). Did the cash flow phenomenon during the 2008 economic crisis due to banking failures also occur during the COVID-19 crisis? This is an interesting research gap because the causes of the economic crisis are different.

1.2. Agency theory and free cash flow

Agency theory proves that sales growth does not always increase shareholder returns. A company's sales growth prioritizes managers' wealth, has a strong correlation with executive compensation. Managers prioritize the profits they receive compared to the profits that shareholders receive (Murphy, 1985; Jensen, 1986). The Free Cash Flow Hypothesis (Jensen, 1986) states that without effective control managers have the potential to invest in projects that maximize their own interests at the expense of shareholders. They take projects that are not profitable as long as the project provides benefits to them, which incurs agency costs. The personal profit earned by a manager is proportional to the investment expenditure made by a company (Grossman & Hart, 1988).

The cash flow statement when compared to profit is a more direct measurement tool when compared to profit in that it makes the cash flow report more relevant in decision making (Bernstein, 1993). Capital markets have an excessive fixation on earnings and fail to digest the information reflected in the cash flow component because investors tend to over-react to the accrual income component, even though their influence is actually lower than actual earnings. The fixation on profits and profits has been used widely and for a long time by the investor community (Sloan, 1996; Block, 1999).

Barth et al. (2001) stated that accounting information is considered to have relevance for predicting equity market values. However, Foerster et al. (2017) highlight that investors have the potential to receive superior incremental risk-adjusted returns by replacing widely used profitability ratios with their cash flow equivalents because earnings targets create a strong incentive to create accrual bias. A cleaner prediction component (free from manipulation) can be obtained by utilizing the disclosure of cash flow statements, especially operating cash flows. Specifically, the core component of cash flow, namely operating cash flow, has a much stronger influence than cash flow from investing and financing activities (Cheng & Hollie, 2008; Ball et al., 2015).

1.3. Operating cash flow and free cash flow growth

Operating cash flow is said to have a much stronger influence than cash flow from investing and financing activities because the information provided by operating cash flow helps investors to understand more deeply about the main sources and uses of company funds (Verrecchia & Weber, 2006). Separate operating cash flow reports can make investors understand whether sales received by a company are paid directly or received with receivables (Foerster et al., 2017).

Free cash flow plays an important role for a company. The greater the free cash flow, the healthier the company is as it has more funds to encourage company growth (Jensen, 1986). Free cash flow also reflects the flexibility of a company in paying debts, increasing investment and increasing liquidity. Therefore, it can be concluded that the higher the size of the free cash flow of a company, the better the company's performance. Free cash flow is cash owned by the company after all operational needs are met by the company and payments for net fixed assets and net current assets have been met. This high free cash flow can create a high investment opportunity for the company because it reflects continuous growth momentum. Companies that have excess cash for shareholders have performance above the average performance of other companies or what is called abnormal return if cash flow is used as an investment activity (Vogt & Vu, 2000; Chang et al., 2007; Gregory & Wang, 2010).

However, Vogt and Vu (2000) found empirical evidence that not all investment activities reflected in a company's capital expenditure have a positive impact. Companies with high free cash flow but with a history of high capital expenditure are associated with low excess returns. This happens because managerial decisions in capital spending decisions do not necessarily refer to profitable investments. Thus, excessive free cash flow that cannot be managed properly by a company will actually lead to agency problems, which actually reduce the return of stock returns for shareholders (Jensen, 1986).

1.4. Cash flow growth and stock performance during the COVID-19 pandemic

The COVID-19 crisis caused a significant decrease in the top line and had an impact on the availability of a company's cash flow. One way to reduce financial chaos is when companies are able to maintain cash flow, because in a financial crisis, financial institutions tend to withhold lending to companies so that the cost of borrowing increases. Financial chaos can be overcome by maintaining cash flow because cash flow stands as an effective tool for companies, especially during crisis periods (Arslan et al., 2006). So, companies have cash flows that should be valued higher by investors in normal economic conditions.

Compared to investment and funding cash flows, operating cash flows have a stronger influence on stock returns because they contain information related to stock returns. Operating cash flow is cash inflow that comes from the main business activities of a company that has deducted the cash used to generate the cash inflow or called cash outflow. Disclosure of operating cash flow has proven useful for predicting future company performance because operating cash flow helps investors to understand more deeply about the main sources and uses of company funds. However, it is not enough based on one period, because it could be a one-time event. Therefore, it is necessary to look at operating cash flow growth (Verrecchia & Weber, 2006).

This study examined the relationship between operating cash flow (OCF) growth and post COVID-19 outbreak stock performance. If the OCF growth is high, then, of course, it means that a company's superior performance tends to be sustainable. The growth of operating cash flow has material information that affects stock returns because the growing operating cash flow reflects a company's ability to earn profit (Jansen, 2021). Therefore, companies with consistent OCF growth will recover faster in times of economic crisis. This faster recovery is measured by higher stock returns. So, companies that recovered more quickly during the COVID-19 period are rare companies, so it deserves to have a higher market value valuation.

Companies with high OCF growth will correlate with higher stock returns during the crisis and in the future.

Compared to operating cash flow (OCF), free cash flow has more information that reflects a firm's value. Free cash flow (FCF) itself is an operating cash flow that excludes capital expenditure. By excluding capital expenditure, free cash flow separates the operational and investment components. Free cash flow tries to describe the net cash that can be allocated for future growth opportunities. Companies that have excess cash for shareholders have performance above the average performance of other companies (abnormal returns). The increased free cash flow reflects continuous growth momentum (Vogt & Vu, 2000).

Growth momentum is based on the expectation for a company to expand. Therefore, companies with free cash flows and favorable investment opportunities are considered to have future growth opportunities (Vogt, 1997). However, when faced with a crisis, companies tend to reduce investment activity (Song & Lee, 2012). The decrease in capital expenditure, and the stagnant/increasing operating cash flow value, made the available free cash flow also increase to pay more attention to liquidity. Free cash flow can indeed maintain a company's position, but free cash flow growth can make an increase in stock prices.

Investors can generate large returns by focusing on investing in companies that have growing cash flows. Companies that have persistent free cash flow growth are companies that have effective capital expenditure decisions (Jansen, 2021). With the increasing availability of free cash flows, companies can use it for any purpose so that when facing a financial crisis, it can be used to normalize their activities. These companies tend to show stable performance and are more immune to the negative impacts of the economic crisis. Companies like this should be rated higher by investors because they can maintain the stability of a company's performance. Therefore, this study proposes the hypothesis that the existence of free cash flow growth has a positive effect on post COVID-19 outbreak stock performance. Companies with consistent FCF growth will recover faster in times of crisis.

Cash flow can be an effective tool for companies during crisis periods, and growth is an indicator that shows a company's parameters in maintaining the company's position in economic conditions (Florackis & Ozkan, 2006; Forester et al., 2017; Jansen, 2021). Therefore, this study aims to explore whether the indicators of free cash flow growth and operating cash flow growth affect short-term stock returns during the COVID-19 crisis. This study aims to explore the relationship between Operating Cash Flow Growth and Free Cash Flow Growth (Period 2015 to 2019) before

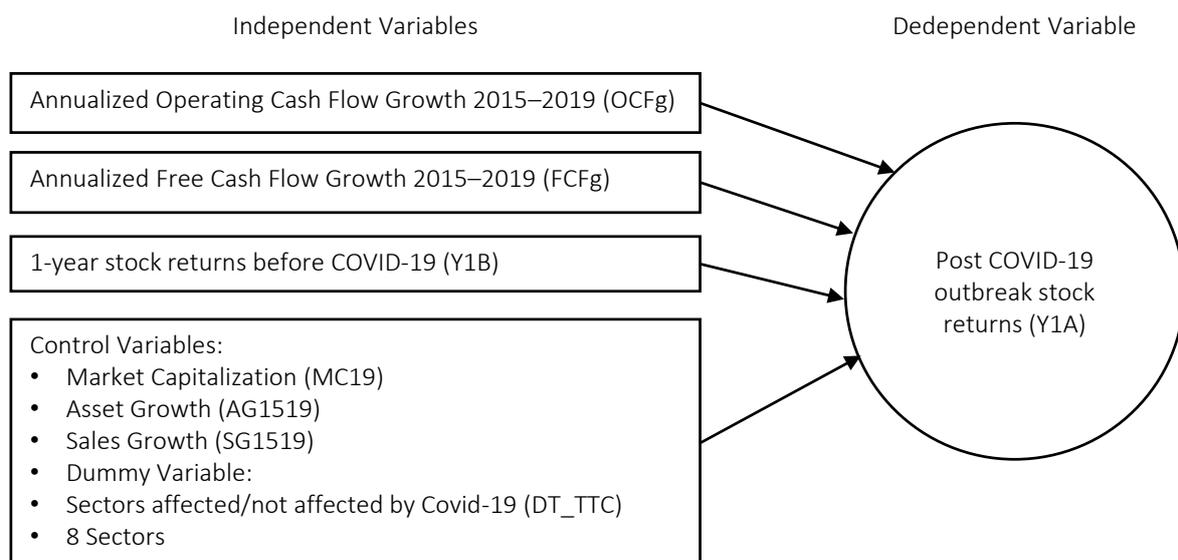


Figure 1. Research framework

the COVID-19 outbreak on Stock Performance after the COVID-19 outbreak (Period Q1 2020 – Q1 2021). Firms that recover faster during the post COVID-19 outbreak period are rare companies, so they deserve to have a higher market value valuation. Therefore, companies with high OCF growth will show higher stock returns. Companies with consistent FCF growth will recover faster in times of crisis. This faster recovery is measured by higher stock returns. This study proposes two hypotheses, namely:

H1: OCF growth has a significant positive relationship with post COVID-19 outbreak stock returns.

H2: FCF growth has a significant positive relationship with post COVID-19 outbreak stock returns.

To test the hypotheses of this study, which aims to analyze the relationship between Operating Cash Flow Growth and Free Cash Flow Growth with post-COVID-19 outbreak stock performance, this study proposes a research framework as shown in Figure 1.

Table 1. Sample selection criteria

Criteria	Agri	Basic	Consumer	Infra	Mining	Misc	Property	Trade	Total
Listed in 2015 (non-finance sectors)	17	59	46	70	48	42	69	126	478
De-listed Firm	0	-3	-2	-4	-6	-1	-4	-3	-24
Suspended Firm	0	-3	-2	-6	-3	-2	-3	-9	-28
Total Sample	17	53	42	60	39	39	62	114	426

Table 2. Variable operations

Variable	Type of a Variable	Definition	Indicator	Formula
Stock Performance	Dependent	Return within 1 year, after the Covid-19 outbreak (2 March 2020 to 2 March 2021)	Yearly Return	Yearly Return = (Ending Value/ Beginning Value) – 1
Operational Cash Flow (OCF) Growth Rate	Independent	OCF growth annually from 2015 to 2019	Annualized OCF growth	Annualized OCF growth = ($\sum(\text{Yearly OCF growth})/n$)
Free Cash Flow (FCF) Growth Rate	Independent	FCF growth annually from 2015 to 2019	Annualized FCF growth	Annualized FCF growth = ($\sum(\text{Yearly FCF growth})/n$)
Dummy Sector affected/ not affected by COVID-19	Dummy	A dummy variable that shows the sector affected or not affected by Covid-19	Value 1 for affected, others 0.	If the sector affected by COVID-19 = 1, others=0.
Dummy Sector (DAgri, DTrade, DProperty, DConsumer, DBasicInd, DMining, DMiscInd, DInfra)	Dummy	Sectoral dummy variables (8 sectors)	Value 1 for within sector, others 0.	If the company belongs to the sector, then the dummy value is 1, otherwise the value is 0.

2. METHODOLOGY

2.1. Population and sample

The population used in this study are companies in the Indonesian capital market that have published financial statements since 2015 and have complete data. The sampling method chosen is purposive sampling where the sampling has been determined at the beginning so that it can obtain data that is in accordance with the research objectives (Etikan, 2016). The sample data used in the study are 426 companies that have been listed since 2015, excluding the financial sector, 24 companies have been delisted, and 28 companies have been suspended from the stock exchange. All quantitative data is taken based on data from the Bloomberg terminal.

2.2. Variable operations

The dependent variable in this study is stock returns after COVID-19, namely stock returns for the first quarter of 2020 to the first quarter of 2021. The independent variables are cash flow

growth, free cash flow for the period 2015–2019 and 1-Year Return Before COVID-19 for the period March 1, 2019 – 2020. The control variables are Debt to Equity Ratio per year 2019, Asset Growth per period 2015 – 2019, Market Capitalization per year 2019 and Sales Growth per year 2015–2019. Then, the dummy variable for the affected sector is not taken from the data for the 2020–2021 period. Table 2 shows the operation of the variables from the study.

2.3. Research model

This study uses the Ordinary Least Square (OLS) regression model based on the research model on the impact of the economic crisis on cash flows conducted by Song and Lee (2012) and Bepari et al. (2013). This OLS model is suitable to accommodate the study of events before and after the economic crisis, since it can capture changes in cash holdings and cash flows more simply. Then, this study also uses several control variables from the study by Song and Lee (2012) such as sales growth. Then, asset growth was added as a proxy firm size and the return variable 1 year before the COVID-19 crisis as a research contribution.

This study uses two OLS models to determine the effect of OCF growth and FCF growth before COVID-19 on stock returns during the COVID-19 period. This study adds control variables, namely, Debt to Equity Ratio per year 2019, Asset Growth per period 2015–2019, Market Capitalization per year 2019 and Sales Growth per year 2015–2019. This study also adds 1-Year Return Before COVID-19 outbreaks for the period March 1, 2019 – 2020 as an independent variable related to the stock performance of the previous one year. Then, the second research model adds a dummy variable assuming the sector is affected, not affected by COVID-19 and a sectors dummy.

The regression equation of this study is a modification of the research model of Song and Lee (2012) and Bepari et al. (2013) for the first and second cross-sectional research models. The regression equation for the first and second cross-sectional model of the study are:

Model 1:

$$\begin{aligned}
 R1YAfter = & \beta_0 + \beta_1 OCFgrowt + \\
 & + \beta_2 FCFgrowt + \beta_3 DER + \\
 & + \beta_4 MarketCap + \beta_5 AssetGrowt + \\
 & + \beta_6 SalesGrowt + \beta_7 DSectorCovid + \\
 & + \beta_8 R1YBefore.
 \end{aligned} \tag{1}$$

Model 2:

$$\begin{aligned}
 R1YAfter = & \beta_0 + \beta_1 OCFgrowt + \\
 & + \beta_2 FCFgrowt + \beta_3 DER + \beta_4 MarketCap + \\
 & + \beta_5 AssetGrowt + \beta_6 SalesGrowt + \\
 & + \beta_7 R1YBefore + \beta_8 DAagri + \beta_9 DTrade + \\
 & + \beta_{10} DProperty + \beta_{11} DConsumer + \\
 & + \beta_{12} DBasicInd + \beta_{13} DMining + \\
 & + \beta_{14} DMiscInd + \beta_{15} DInfra + e.
 \end{aligned} \tag{2}$$

where *R1YAfter* – 1 Year After the COVID-19 outbreak stock return, *R1YBefore* – 1 Year Before the COVID-19 outbreak stock return, β_0 – constant, *OCFgrowt* – Annualized Operating Cash Flow Growth 2015–2019, *FCFgrowt* – Annualized Free Cash Flow Growth 2015–2019, *DER* – Debt to Equity Ratio per year 2019, *MarketCap* – Market Capitalization as of December 31, 2019, *AssetGrowt* – Asset Growth from year 2015 to 2019, *SalesGrowt* – Sales Growth form 2015 to 2019, *DSectorCovid* – Dummy – sectors affected/not affected by COVID-19, *DAagri* – Dummy – Agriculture sector, *DTrade* – Dummy – Trade, service & investment sector, *DProperty* – Dummy – Property, real estate & building construction sector, *DConsumer* – Dummy – Consumer goods industry sector, *DBasicInd* – Dummy – Basic industry & chemicals sector, *DMining* – Dummy – Mining sector, *DMiscInd* – Dummy – Miscellaneous Industry sector, *DInfra* – Dummy – Infrastructure, utilities & transportation sector, *e* – error term.

3. RESULTS

3.1. Descriptive statistics

This study uses 426 samples. Table 3 represents the dependent, independent and dummy vari-

Table 3. Descriptive statistics

	Mean	Min	Max	Median	Standard Deviation	Skewness	Kurtosis
R1YAfter	0.217	-0.867	3.360	0.080	0.592	1.643	4.518
R1YBefore	-0.206	-0.986	6.911	-0.250	0.514	6.938	88.157
OCFgrowth	-0.042	-22.248	14.480	0.058	2.936	-1.007	16.409
FCFgrowth	-0.692	-327.412	297.443	-0.144	26.586	-1.654	99.614
DER	1.207	-2.86	7.950	0.810	1.450	1.707	4.796
MarketCap	11.381	6.432	13.575	11.875	1.679	-1.244	0.499
AssetGrowth	0.634	-0.995	5.048	0.334	0.999	1.703	3.251
SalesGrowth	0.413	-0.443	75.699	0.075	3.803	18.557	364.401
DSectorCovid	0.909	0	1	1	0.289	-2.843	6.1094
DAgri	0.0399	0	1	0	0.196	4.718	20.3525
DTrade	0.265	0	1	0	0.442	1.067	-0.8651
DProperty	0.146	0	1	0	0.3531	2.017	2.079
DConsumer	0.099	0	1	0	0.299	2.703	5.329
DBasicInd	0.1244	0	1	0	0.3304	2.284	3.232
DMiscInd	0.094	0	1	0	0.292	2.794	5.836
DMining	0.092	0	1	0	0.289	2.843	6.109
DInfra	0.141	0	1	0	0.348	2.072	2.305

Note: DAgri = agriculture; DTrade = trade, service & investment; DProperty = property, real estate & building construction; DConsumer = consumer goods industry; DBasicInd = basic industry & chemicals; DMining = sectoral mining; DMiscInd = miscellaneous industry; DInfra = infrastructure, utilities & transportation.

ables used in the study. All variables, except the MarketCap variable, DsectorCovid, have a standard deviation that exceeds the mean, which indicates a wide distribution of data. Kurtosis values above 3 or Leptokurtic, for variables R1YAfter, R1YBefore, OCFgrowth, FCFgrowth, DER, AssetGrowth, SalesGrowth, DSectorCovid, DAgri, DConsumer, DBasicInd, DMiscInd, DMining indicate these variables have heavy tails on both sides indicating large outliers, while MarketCap, DTrade, DProperty, DInfra have kurtosis below 3 or platykurtic, which indicates both sides have small outliers. And most of the variables have a right/positively skewed distribution, except for variables OCFgrowth, FCFgrowth, MarketCap, DSectorCovid and DTrade which have a more left skewed distribution.

3.2. Regression results

When testing the hypotheses, the research model used has been tested to meet the multicollinearity and linearity tests, but does not meet the normality requirements due to the large outlier value. Based on the results of the research model regression in Table 4, it can be seen that through testing

the coefficient of determination reflected by the R-Square value which is 0.1132 (11.32%). This result shows that 11.32% of the variation in the dependent variable is stock returns for the period March 2, 2020 – March 2, 2021 can be explained by the variation of all the main independent variables in the research model, namely Operating Cash Flow growth 2015–2019, Free Cash Flow growth 2015–2019 and the independent control variable, namely Asset Growth 2015–2019, Debt to Equity Ratio 2019, Market Capitalization 2019, Sales Growth 2015–2019, 1 Year Before COVID-19 Stock returns, Dummy Affected and Unaffected Sector. In other words, 88.68% of the relationship is explained by other variables outside the model.

Operating Cash Flow Growth (OCFgrowth) and Free Cash Flow Growth (FCFgrowth) did not have a significant impact on returns one year after the COVID-19 outbreak with a significance level of 0.593 and 0.694, respectively. Similarly, the independent control variable DER, AssetGrowth, does not have a significant effect on the dependent variable. Meanwhile, the independent control variables, SalesGrowth, MarketCap, DSectorCovid and R1Ybefore, have a significant effect with an alpha lev-

Table 4. Regression model 1 results

Variable	Coefficient	t-statistic	P-value
C	0.637	3.188	0.0015**
DER	-0.272	0.007	0.995
AssetGrowth	0.025	0.887	0.374
OCFgrowth	-0.005	-0.535	0.593
FCFgrowth	0.0001	0.394	0.694
MarketCap	-0.047	-2.790	0.005***
SalesGrowth	-0.012	-1.649	0.100*
R1YBefore	-0.272	-5.043	0.000***
DSectorCovid	0.168	0.061	0.006*
R-Squared	0.1132	F statistic	6.656
Adj. R-squared	0.097	Prob (f-stat)	0.000

Note: Level of significance at *** 1%, ** 5%, * 10%.

el of 5%, and an alpha level of 10%. Researchers have the assumption that companies that have healthy operating cash flows and also have adequate free cash flows have a faster recovery rate (which is indicated by higher returns) when compared to companies with poor operating cash flows and free cash flows, which is not sufficient, but because OCFgrowth and FCFgrowth have an insignificant effect, so it will not have a significant effect on the research dependent variable, namely 1-Year COVID-19 Stock return. The results of this study are not in line with previous research, namely the research of Foerster et al. (2017) and Jansen (2021) who reveal that the operating cash flow report describes the operational state of a business and reflects more on the actual economic situation as reflected in stock returns.

The results of the significance test (F test) shows that the p-value is 0.0001, which is smaller than the significance of 0.05. So it can be concluded that in this study, the independent variables in the model affect the dependent variable together.

Based on the results of regression model 2 in Table 5, through testing the coefficient of determination (R^2) through the value of R Square is 0.127 (12.73%), this shows that 12.73% of the variation in the dependent variable, namely, stock returns for the period March 2, 2020 – March 2, 2021, can be explained with variations of all the main independent variables in the research model, namely Operating Cash Flow growth 2015–2019, Free Cash Flow growth 2015–2019, and the inde-

Table 5. Regression model 2 results

Variable	Coefficient	t-statistic	P-value
C	0.442	1.947	0.052*
DER	-0.002	-0.096	0.923
AssetGrowth	0.020	0.717	0.473
OCF 1519	-0.005	-0.5	0.618
FCF 1519	0.0004	0.448	0.655
MC 19	-0.035	-1.887	0.059*
SG 1519	-0.012	-1.602	0.109
R1YBefore	-0.265	-4.908	0.000***
DAgri	0.136	0.911	0.363
DProperty	0.050	0.562	0.574
DConsumer	0.148	1.443	0.149
DBasicInd	0.347	3.666	0.000***
DMining	0.203	1.808	0.071*
DMiscInd	0.047	0.439	0.661
DInfra	0.1689	11.812	0.071*
R-Squared	0.1273	F statistic	4.284
Adj. R-squared	0.0987	Prob (f-stat)	0.000

Note: Level of significance at *** 1%, ** 5%, * 10%. DAgri = agriculture; DTrade = trade, service & investment; DProperty = property, real estate & building construction; DConsumer = consumer goods industry; DBasicInd = basic industry & chemicals; DMining = sektoral mining; DMiscInd = miscellaneous industry; DInfra = infrastructure, utilities & transportation.

pendent control variable, namely, Asset Growth 2015–2019, Debt to Equity Ratio 2019, Market Capitalization 2019, Sales Growth 2015–2019, 1 Year Before COVID-19 Stock return, and Sectoral Dummy. In other words, 87.27% of the relationship is explained by other variables outside the model.

Table 5 shows the results of regression model 2, the estimated independent variables, namely, OCFgrowth 2015–2019 and FCFgrowth 2015–2019 partially have no significant effect on stock returns for the period March 2, 2020 – March 2, 2021 with significance levels of 0.617591 and 0.654678, respectively. Similarly, the independent control variables, DER, AssetGrowth, and SalesGrowth, did not have a significant effect on the dependent variable. Meanwhile, the independent control variable R1YBefore has a significant effect with an alpha level of 5%, and MarketCap has a significant effect with an alpha level of 10%. For sectoral dummy variables, the variables DAgri, DProperty, DConsumer, DMiscInd have no significant effect, but the db variable has a significant effect with an alpha level of 5%, and DMining, DInfra has a significant influence with an alpha level of 10%. The significance value of OCFgrowth and FCFgrowth on the 1 Year COVID-19 Stock return in the study was below the 5% and 10% alpha significance levels. Through the results of the significance test (F test) it can be seen that the p-value is 0.000, which is smaller than the significance of 0.05. So it can be concluded that in this study, the independent variables in the model affect the dependent variable together.

The results of this study indicate that there is a negative and significant relationship between market capitalization in 2019 and 1 year after COVID-19 returns or the period 2020–2021. These results show that the market share value reduces shareholder value in that period. This negative relationship can be caused by mispricing caused by overreaction from investors. These results are in line with the results of the study by Cooper et al. (2008) and Skinner and Sloan (2002) related to behavioral finance, which stated that stock prices experienced drastic changes due to excessive investor reactions. In this case, investors may overreact to the COVID-19 pandemic.

During the period of economic crisis, investors were surprised by the deteriorating operating performance. They realized that their expectations about these companies were not being met, leading to lower stock market returns. There is a negative and significant relationship between Sales Growth 2015–2019 and 1-year returns after the COVID-19 outbreak, which shows that sales growth actually reduces shareholder value. Companies that reported high operating performance and increased sales in the previous year were highly rated by investors, where investors had expectations that the company would generate higher sales in the following year. Investors overreacted to bad news about these companies because their initial expectations were not met.

The results of this study also found a negative and significant relationship between stock returns before (March 1, 2019–2020) and after the COVID-19 outbreak (March 2, 2020–2021). This finding is interesting because in general a company's stock price in the previous year will not differ much from the stock price of the previous year, the following year's share price, except for companies that face negative or positive events that have a very significant impact on the value of a company.

Table 6 shows a comparison of the mean, max, min, stdev returns before (March 1, 2019–2020) and after COVID-19 (March 2, 2020–2021), it was found that the post COVID-19 outbreaks mean or average returns were higher than pre COVID-19 stock returns. The data shows that on average all industries are improving, but if a test is carried out based on the regression method, only three sectors are significant, namely, DBasicInd, DMining, and Infra. This indicates a company that has a very high return value in the sector. Through the Two sample test, each sector has a p-value below 5% alpha and 10% alpha. If the p-value is below alpha, it can be concluded that there is a significant difference between sectoral returns before and after COVID-19.

A significant relationship was also found between the sectoral dummy variables DBasicInd (Basic industry), DMining (Mining) and DInfra (Infrastructure, Utilities & Transportation) with stock returns for the period March 2, 2020 – 2021. The significant value of the Basic industry sectoral

Table 6. Sectoral returns before and after the COVID-19 outbreak

Sector	Mean		Max		Min		Standard dev.		Pair test
	Before	After	Before	After	Before	After	Before	After	P-value
DAgri	-0.261	0.201	0.329	0.976	-0.844	-0.496	0.259	0.369	0.003
DBasicInd	-0.265	0.467	0.686	2.816	-0.869	-0.699	0.325	0.721	0.000
DConsumer	-0.243	0.223	0.939	1.139	-0.955	-0.867	0.378	0.447	0.000
DInfra	-0.229	0.298	0.570	2.503	-0.845	-0.867	0.297	0.658	0.000
DMining	-0.338	0.393	0.749	0.393	-0.984	-0.867	0.338	0.662	0.000
DMiscInd	-0.154	0.169	2.340	1.822	-0.785	-0.642	0.526	0.518	0.022
DProperty	-0.164	0.115	6.774	3.360	-0.935	-0.867	0.948	0.592	0.084
DTrade	-0.162	0.071	1.9687	2.500	-0.919	-0.759	0.407	0.511	0.001

Note: DAgri = agriculture; DTrade = trade, service & investment; DProperty = property, real estate & building construction; DConsumer = consumer goods industry; DBasicInd = basic industry & chemicals; DMining = sectoral mining; DMiscInd = miscellaneous industry; DInfra = infrastructure, utilities & transportation.

dummy variable on returns is supported by application of industry 4.0, cost policy and tax relaxation. In the mining sector, the government applies: Law (UU) No. 3 of 2020 concerning Mineral and Coal Mining to encourage the performance of the energy sector. Meanwhile, in the Infrastructure, Utilities & Transportation sector, the Indonesian government implements the following policies: Continue to boost infrastructure in the midst of the pandemic, which is more directed at providing basic services, increasing connectivity, supporting economic recovery, and food security. Development is also directed in the form of labor-intensive infrastructure that supports industrial and tourism areas.

4. DISCUSSION

The results showed a positive but not significant relationship between Operating Cash Flow (OCF) growth for the 2015–2019 period and Free Cash Flow (FCF) growth for the 2015–2019 period and the returns for the period March 2, 2020 – March 2, 2021 in companies listed on the Stock Exchange Indonesia since 2015. With these results, the research hypothesis is rejected because it is not in line with this study's initial assumption (H1) that OCF growth and FCF growth have a significant positive relationship to post COVID-19 outbreak stock returns. Khoshdel Nezamy (2006) also found that there is no significant relationship between operating cash flow, free cash flow to stock returns, ROA and ROE.

However, the results of this study showed they differ from those of Foerster et al. (2017) and Jansen

(2021) who reveal that operating cash flow statements can make investors understand whether sales received by a company are paid directly or received with receivables that are reflected in stock returns. Contrary to Jensen's (1976) study, which states that free cash flow reflects a company's flexibility in paying debt, increasing investment and increasing liquidity, so this high free cash flow can lead to a high investment opportunity for the company because it reflects continuous growth momentum (Chang et al., 2007).

The panic over the COVID-19 outbreak can cause investors to become irrational in making decisions. This is in accordance with the psychology of survival, which argues that individuals can experience behavioral changes due to certain events, including natural disasters, terrorist attacks and the occurrence of crises (Forbes, 2017). This change in behavior can be caused by fear of the COVID-19 pandemic, resulting in herd mentality, panic buying and a 180-degree change in habits from usual in making investment decisions. There is an information cascade effect where investors usually make decisions that are influenced by the surrounding environment or based on something they are familiar with. Furthermore, "scarcity heuristics" have a significant role in investors' fear/panic during periods of shock or crisis, thus making them act irrationally or not see cash flow as an indicator of company performance (Easley & Kleinberg, 2010; Cheung et al., 2015). Psychological factors of investors, such as herding behavior, anchoring and over/under reacting, create problems that make the price in the capital market not reflect the actual situation accompanied by increased volatility, which causes pricing

issues. Investors tend to experience overreaction during the global financial crisis (Shiller, 2003; Dang & Lin, 2016; Said et al., 2021).

During financial crises such as the crisis due to the COVID-19 pandemic, investor behavior leads to problems such as the wrong asset allocation and not seeing financial performance factors such as OCF and FCF. So the stock price does not reflect the actual situation of a company's performance fundamentally and volatility increases dramatically (Ghassabi & Zare-Farashbandi, 2015). Then, this panic was added by the media spreading information that could cause hysteria by exaggerating the headlines of the COVID-19 pandemic. This irrational action causes investors to value stocks that have negative growth in the form of sales, assets, cash flows but experience an increase in stock prices, and vice versa. Investors put their money in the stock market, even though he himself does not understand the risk, fundamental factors in investment, speculation and stock prices do not reflect the actual situation (Dang & Lin, 2016; Pieri, 2018; Ortmann et al., 2020).

Besides, stock market volatility caused by the COVID-19 pandemic caused a sudden cessation of capital flows to all developing countries, including Indonesia. Foreign portfolio investment shifted to a record net outflow of USD 5.8 billion in Q1 from the previous net inflow of USD 7.1 billion in Q4 2019. These foreign portfolio outflows were larger than the peak of the global and Asian financial crises in 1997 and 2008. Net foreign outflows also had an impact on the stock market, especially in mid-March, when the government was implementing social distancing. On March 16, 2020, the Composite Stock Price Index (JCI) fell 33% from

January 2020 to the level of 3,918, which was the lowest point in eight years. Instability in economic conditions makes the data have large deviations due to a significant decline in the JCI in March 2020, a sudden large outflow of funds can make company returns for the period March 2, 2020–2021 abnormal.

The results of this study can provide managerial implications that company managers do not only need to pay attention to accrual income statement measures. However, the measurement of cash flow measures is mainly by considering the potential for the COVID-19 pandemic crisis, which can erode a company's revenue. Then, for investors, in the investment decision-making process when an economic crisis or other similar event occurs, they can consider the company's fundamentals in generating cash flow in the future, not the past. In the COVID-19 pandemic, investors find it more difficult to select relevant information for decision making (Ghassabi & Zare-Farashbandi, 2015).

This study also has limitations because it uses a fairly short period of time after the COVID-19 crisis, only 1 year due to data and time limitations. So if the COVID-19 pandemic crisis continues and investors become accustomed to COVID-19, it is necessary to add a longer period of time. Research using multi-periods, namely weekly, monthly, or quarterly for the dependent variable, will also be able to sharpen research results during the COVID-19 pandemic. Then, similar research needs to be carried out with a wider area coverage in developing and developed countries in accordance with the increasing number of COVID-19 cases that occur.

CONCLUSION

This study aims to analyze the effect of annual Operating Cash Flow (OCF) growth and Free Cash Flow (FCF) growth on stock returns for the 2020–2021 period after the COVID-19 outbreak in March 2020. The results show that the annualized OCF growth and annualized FCF variables growth has no significant effect on stock returns after the COVID-19 outbreak in 2020. This is because the COVID-19 crisis has an impact on the economic system, especially the volatility of stock price movements in the capital market. The anomaly of stock price movements supports the irrational behavior of investors in a state of shock that causes panic and concern. This greatly affects investors' investment decision making so that investors overreacted to stock prices during the COVID-19 pandemic crisis.

During the economic crisis due to the COVID-19 pandemic, investors find it difficult to choose relevant information for rational investment decision making. Financial behavioral factors such as overreaction, herding, and anchoring make prices in the capital market not reflect the true value of a company. This financial behavior increases stock price volatility.

The results also show that there is a significant negative relationship between 2015–2019 Sales Growth, 2019 Market Capitalization and stock returns after the COVID-19 outbreak. Then, the stock performance of the basic industry, chemical, various industries and IT infrastructure sectors was positively correlated after stock returns from the COVID-19 outbreak. The negative and significant influence can be caused by excessive investor reactions. Investors' initial expectations before COVID-19 were for companies with large market capitalization and high sales increases. However, the COVID-19 pandemic caused economic conditions to worsen and reduced a company's operating income. This causes a company's performance to fall short of the initial expectations of investors, so investors overreact to the situation. When they realize that their expectations of these companies are at risk of being unfulfilled or leading to lower stock returns, investors panic. This situation makes investors to overreact during the financial crisis due to the 2020 COVID-19 pandemic.

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