## RESEARCH ARTICLE

# Dividend Policy Function of Cash Flow Based Corporate Finance (CFCF) Model 

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#### Abstract

Dividend policy function of CFCF model is fulfilled via nine ratios. They are keys for the explanation of the function. The ratios are ACFRDP1. Dividend Payout, ACFRDP2. Cash Flow Per Share, ACFRDP3. Cash Flow Per Share II, ACFRDP4.Cash Dividend Coverage, ACFRDP5. Capital Acquisition, ACFRDP6. Free Cash Flow, BCFRDP1. Cash Debt Coverage, BCFRDP2. Current Maturities of Long-Term Debt Coverage, and BCFRDP3. Cash Current Debt Coverage. The Group A ratios are calculated using the numbers from only Cash Flow Statement. The Group B ratios are calculated using the numbers from the Cash Flow Statement and Balance Sheet. Then, the ratios are used to solve the dividend policy issues.


## 1.Introduction

Cash flow based corporate finance (CFCF) model was built by Yilmaz (2022) and improved by Yilmaz (2023a). Six functions were determined for cash flow based corporate finance by the CFCF model. They are working capital management (Yilmaz, 2023b,) capital structure (Yilmaz, 2024), dividend policy, capital budgeting, merger acquisition, and valuation. After this article (dividend policy), the other three functions of the CFCF model will be prepared in one article and the model will be completed.

Dividend policy function of the model uses nine cash flow ratios in two groups. The Group A ratios used in this article are dividend payout, cash flow per share, cash flow Per Share II, cash dividend coverage, capital acquisition, and free cash flo w. The Group $B$ ratios used in this article are cash debt coverage, current maturities of long-term debt coverage, and cash current debt coverage. After the explanation of the dividend policy function via nine cash flow ratios in the section 2, the Apple Corporation's nine cash flow ratios will be calculated and commented in the section 3.

## 2. Explanation of the Dividend Policy Function of the Model

### 2.1. Explanation of the Function Through Group A Cash Flow Ratios

This ratio group is calculated by using cash flow statement only. They need no other financial statement to be calculated. This group of the cash flow ratios is the most important ratio group because of the CFCF model's subject. The model studies cash flow based corporate finance and this group of ratios is calculated by using only cash flow statement. It is very suitable for matching because all the numerators and denominators of these group ratios cover the items from cash flow statement. For this reason, these ratios were grouped as Group A. The writer thinks that the Group A cash flow ratios is a starting point to his cash flow based corporate finance model and the most important ratio group for the model.
The Group A cash flow ratios used for the dividend policy function are shown at the Table 1 below:

[^0]Table 1. Group A Cash Flow Ratios Used for Dividend Policy Function of CFCF Model

| Ratio no. | Name of Ratio | Calculation of the Ratio |
| :---: | :---: | :---: |
| ACFRDP1 | Dividend Payout ACFRDP2 | $\frac{\text { Dividend Paid }}{\text { CFFO }}$ |
| ACFRDP2 | Cash Flow Per Share | $\frac{\text { Net Cash Flow }}{\text { Number of Shares }}$ |
| ACFRDP3 | Cash Flow per Share II ACFRDP4 | $\frac{\text { Net Cash Flow from Operations : }}{\text { The Number of Shares Outstanding }}$ |
| ACFRDP4 | Cash Dividend Coverage | $\frac{\text { CFFO }}{\text { Dividends }}$ |
| ACFRDP5 | Capital Acquisition | $\frac{\text { CFFO - Dividend }}{\text { Cash Paid for Acquisition }}$ |
| ACFRDP6 | Free Cash Flow | $\frac{\text { Free Cash Flow }}{\text { CFFO }}$ |

As it could be seen from the Table 1, the cash flow ratio group covers six ratios. The ratios cover dividend paid, CFFO, net cash flow, number of shares, net cash flow from operations, the number of shares outstanding, dividends, dividend, cash paid for acquisition, and free cash flow. The dividend paid, dividends, and dividend have same meaning.
The CFFO is used in four ratios. These are ACFRD1, ACFRDP4, ACFRDP5, and ACFRDP6. In these ratios, CFFO is compared with dividend paid (in ACFRDP1 and ACFRDP4), free cash flow, and cash paid for acquisition.
ACFRDP2 and ACFRDP3 fulfill "cash flow per share" style calculations. This concept is similar to "earnings per share" in traditional (accrual) finance. When the two ratios are calculating their outputs, they use different concepts. ACFRDP2 uses the concepts "net
cash flow" and "number of shares". It divides the first item to the second item. There is no different detail to find the two concepts from cash flow statement. The two concepts or items could be found from the cash flow statement. However, during ACFRDP3 calculation, there needs some specific information and carefulness. ACFRDP3 needs the concepts "net cash flow from operations" and "the number of shares outstanding". The first concept covers only a section of the cash flow statement. It's the first section of cash flow statement. The total of cash flow from operations is used to show the "net cash flow from operations". This item is already the net of cash inflows and cash outflows of operations. That is, there is no need calculating "net" of operating cash flow. The cash flow statement already shows it as the total number of the section of operating cash flow.

Table 2. Number of Usage of Items in the Group A Ratios

| Names of Items | Number of Usage | \% usage in the Ratios | \% usage in Total Items |
| :--- | :---: | :---: | :---: |
| CFFO | 4 | 66.67 | 30.77 |
| Dividend paid, dividends, dividend | 3 | 50.00 | 23.09 |
| Net cash flow | 1 | 16.66 | 7.69 |
| Number of shares | 1 | 16.66 | 7.69 |
| Net Cash Flow from Operations | 1 | 16.66 | 7.69 |
| The Number of Shares Outstanding | 1 | 16.66 | 7.69 |
| Cash Paid for Acquisition | 1 | 16.66 | 7.69 |
| Free Cash Flow | 13 | 16.66 | 7.69 |
|  |  |  | 100 |

As it could be seen from the Table 2, the most used item in the Group A ratios is cash flow from operations (CFFO). It has been used in 4 ratios of the six ratios. The CFFO has been used in the ratios ACFRDP1.Dividend Payout, ACFRDP4. Cash Dividend Coverage, ACFRDP5.Capital Acquisition and ACFRDP6. Free Cash Flow. The item CFFO is very important because it represents the cash a business produces itself.
The second item used in the Group A ratios is cash dividends. It is shown in different terms dividend paid, dividends and dividend in the ACFRDP1. Dividend payout, ACFRDP4. Cash Dividend Coverage, and ACFRDP5.Capital Acquisition, respectively. All of them means cash dividends.

### 2.1.1 ACFRDP1. Dividend Payout

ACFRDP 1 calculates dividend paid to the stockholders to cash flows from operations. As it is known, the CFFO is produced by the business. It is not produced by cash flow from financing (CFFF) activities or cash flow from investment (CFFI) activities. So, it is very important for the owners. Let's assume that, the CFFO is less than the dividend paid, or vice versa, dividend paid is more than the CFFO, it could be explained that the business has provided financial source from the banks or other financial institutions bearing the financial cost which will be paid by the business to the creditors in the future. It may be even in the near future. It measures how much cash is distributed to the owners created by the business. Is it enough for the owners, or not? This requires comparison the ratio with the ratios of other businesses operating in the same industry.

### 2.1.2 ACFRDP2. Cash Flow Per Share

ACFRDP2 measures how much dollars a stock earns. Cash flow per share is different from the earning per share (EPS). This is a cash-based ratio. The investor learns how much money an investor earned via the cash flow per share ratio. It is not an accrual-based measure. This ratio could be used by investors. Potential investors could wander how much money a business produces. This ratio determines how much money the business produces per a share.

### 2.1.3 ACFRDP3. Cash Flow per Share II

ACFRDP3 measures net cash flow from operations per shares outstanding. Its numerator covers "net cash flow from operations" and the denominator covers "number of shares outstanding". Its output
is different than that of the ACFRDP2. Especially, the denominator of the ACFRDP3 does not cover treasury stock. It means how much money a company produced via its operations to distribute to the capital market, that is, to its outside investors.

### 2.1.4 ACFRDP4. Cash Dividend Coverage

ACFRDP4 measures CFFO to dividends. It means how many folds CFFO of dividend a business produces. If it is 0.80 , it means that the business has produced itself $80 \%$ of dividend it paid. It means the cash flow for dividend payment from only operating activities. It does not contain the cash flow from financing and investing activities. It could be said that this ratio measures cash producing capability of a business for dividend payment to its stockholders. For instance, if the ratio is 1 or above, it means that "A company produced CFFO itself and distributed the cash produced to its owners". An under 1 ratio means that to be paid this amount of dividend payment, a company needs another financing sources such as selling some of its capital assets to which the business does not need or finding some bank credit or issuing debt, if a business is a pretty big business. It could be seen the importance of this ratio from the decision of financing source to pay all the dividend to be though or decided. Maybe, as a company policy, it could be decided using budgeted financial statements that this ratio should not be less than 1 not to need another financing source other than CFFO.

### 2.1.5 ACFRDP5. Capital Acquisition

ACFRDP5 explains how much cash payment has been fulfilled for acquisition by "CFFO after dividend" which was produced by the business. If it is more than 1 , it means that the company has produced more CFFO after dividend than that of payment for the acquisition. Let's assume that the ratio is only $10 \%$. So, 10 folds of "CFFO after dividend" has been spent for capital acquisition. The nine folds has been paid by other financing sources such as bank credit, debt issue, or asset sale. The capital acquisition means capital investment so, by a degree, outsource of financing could be accepted if a good investment project is prepared by a business and discussed and accepted by the company management. The positive NPV is very important for this kind of projects.
This ratio could sign if it is calculated a budgeted cash flow statement that some dividend policy should change or delay for a capital acquisition or investment.

### 2.1.6 ACFRDP6. Free Cash Flow

ACFRDP6 shows the proportion of free cash flow in CFFO. It means a business produces how percentage of its operating cash flow as a free cash flow. To compare with other companies, this ratio is more useful than the amount of free cash flow.
Before calculation of free cash flow ratio, the free cash flow calculation in the numerator should be fulfilled. There is no consensus about the free cash flow calculation method in the finance literature.
Different methods about free cash flow calculation have been developed from the year 1986 to the year 2023. These methods are not homogeneous. The methods for calculation of "free cash flow "were produced by Jensen (1986), Moyer et.al. (1995), Ross et. al. (2003), Keown et.al. (2005), Verminnen et.al. (2005), Richardson (2006), Vishwanath (2007), Brigham and Houston (2009), Brealey et.al. (2011), Cornett et.al. (2012), Bekaert and Hodrick (2012), Damadoran (2012), Palpeu and Healy (2013), Ivanovska et.al (2014), Kieso et. al. (2016), Ketz (2016), Lewellen and Levellen (2016), Stice et.al. (2017), Bhandari and

Adams (2017), Rupic et.al. (2017), Khatik and Patil (2018), Yilmaz (2021), and Adame et.al. (2023).

In this ratio, this writer will calculate "free cash flow" in the numerator like that:
FCF $=$ Cash Flow from operations - Capital expenditure - Property, Plant and Equipment Purchased via a M\&A

It is not the same as the calculation of Yilmaz (2021) because this writer changed his opinion about his free cash flow calculation method given in Yilmaz (2021). Its reason is not this article's subject. It will be explained in another article by this writer in the near future.

### 2.2. Explanation of the Function Through Group B Cash Flow Ratios

This group of the cash flow ratios uses the numbers from cash flow statement and balance sheet. These ratios connect with the cash flow basis and accrual basis.
The Group B cash flow ratios used for cash flow-based dividend policy is shown at the Table 3 below:

Table 3. Group B Cash Flow Ratios Used for Dividend Policy Function of CFCF Model

| Ratio no. | Name of the ratio | Calculation of the ratio |
| :--- | :---: | :---: |
| BCFRDP1 | Cash Debt Coverage | CFFO-Dividends |
| BCFRDP2 | Current Debt |  |
| BCFRDP3 | Maturities of Long-Term Debt <br> Coverage | CFFO-Dividends <br> Current Maturities of Long-Term Debt |

As it could be seen from the Table 3, the cash flow ratio group covers three ratios. The ratios cover CFFO, dividends, total debt, current maturities of long-term debt, cash dividend, current debt. The dividends and cash dividend mean same meaning. It means cash dividend.

It is interesting that the numerators of all of the three ratios cover same thing "CFFO-cash dividend". There seems an initiative to dividend payment in the ratios. The "CFFO after dividend" is divided by a balance sheet item in the ratios. They are total debt, current
Table 4. Numbers of Usage of Items in the Group B Ratios
debt, and current maturities of long-term debt. The three balance sheet items represent the different levels of liabilities in maturity. They are short term and total debt which covers short- and long-term liabilities.
The common property of the three ratios or in the Group B ratios is being divided of the" CFFO after cash dividend" to a debt item. Creating cash after paying cash dividend for a level of debt is measured via these three ratios.

The level of using the items in these ratios is shown at the Table 4 below.

| Names of Items | Number of Usage | \% usage in the ratios | \% usage in total items |
| :--- | :---: | :---: | :---: |
| Dividends, Cash Dividend | 3 | 100 | 33.34 |
| CFFO | 3 | 100 | 33.33 |
| Current maturities of Long-Term Debt | 1 | 33.33 | 11.11 |

[^1]| Current debt | 1 | 33.33 | 11.11 |
| :--- | :---: | :---: | :---: |
| Total debt | 1 | 33.33 | 11.11 |
| Total | 9 |  | 100 |

As it could be seen from the Table 4, CFFO and dividends or cash dividend are used in all of the three ratios. The coverages of debt items are interesting in these ratios. The payment capability of a business is measured comparing "CFFO after dividend payment" with the current maturities of long-term debt, current debt, and total debt, from the tighter coverage of the debt to the broader coverage of the debt.

### 2.2.1 BCFRDP1.Cash Debt Coverage

BCFRDP1 measures how many folds or what per cent CFFO a business produces after "dividend payment to the owners" to total debt. How financing with debt is productive or not is determined via this cash flow ratio. Produced "CFFO mines dividend payment" via debt is shown with this ratio. It means the productivity of debt. The higher the ratio the better the use of debt. That is, the debt has been used effectively and efficiently.

### 2.2.2. BCFRDP2. Current Maturities of Long-Term Debt Coverage

BCFRDP2 measures "CFFO after dividend paid" to current maturities of long-term debt. If it is more than 1 , it means that the business could produce more CFFO after dividend paid than the current maturities of long-term debt. If the ratio increases, it means that, the business could pay its current maturities of longterm debt more easily with the CFFO after dividend paid. If it decreases, it means that the business could produce less CFFO after dividend to pay the current maturities of long-term debt. This ratio decreases with
the increase of dividend paid. Of course, the increase of current maturities of long-term debt decreases the ratio, too. Let's think about a business has regular current debt to be paid. In this situation, the payment ability could be not enough to pay all current debt. For this reason, this ratio should be watched carefully. Let us not forget that cash flow-based dividend policy insight and application requires cash flow to pay dividend. According to cash flow-based dividend policy of CFCF model, there is no obligation to pay dividend if a business does not have enough cash flow.

### 2.2.3 BCFRDP3. Cash Current Debt Coverage

BCFRDP3 measures the ability of payment current debt with "CFFO after dividend". The reason to subtract dividend payment from the CFFO is it's not being a CFFO item. It is a cash flow from financing activities. The balance of dividend payment with current debt could be fixed with this ratio. It should not be forgotten that debt is a risk source for the business.

## 3. An Application on the Financial

## Statements of the Apple Corporation

### 3.1 Group A Cash Flow Ratios of the Apple Corp.

### 3.1.1 The Calculation of the Ratios

The Group A ratios of the Apple Corp. are calculated as below like that:

Table 5. The Calculation of the Group A Cash Flow Ratios of the Apple Corp.

| Code, Name, and the Ratio | The Calculation of the Ratio |
| :--- | :---: |
| ACFRDP1. | $2021: 14,467,000: 104,038,000=0.1391$ |
| Dividend Payout= Dividend Paid: CFFO | $2022: 14,841,000: 122,151,000=0.1215$ |
|  | $2023: 15,025,000: 110,543,000=0.1359$ |
|  |  |
| ACFRDP2. | $2021:(104,038,000-14,545,000-93,353,000): 16,426,786=-0.2350$ |
| Cash Flow Per Share=Net Cash Flow: Number of Shares | $2022:(122,151,000-22,354,000-110,749,000): 15,943,425=-0.6870$ |
|  | $2023:(110,543,000+3,705,000-110,749,000): 15,550,061=0.2250$ |
| ACFRDP3. | $2021: 104,038,000: 16,426,786=6.3334$ |
| Cash Flow Per Share II= Net Cash Flow from | $2022: 122,151,000: 15,943,425=7.6615$ |
| Operations: The Number of Shares Outstanding | $2023: 110,543,000: 15,550,061=7.1088$ |
|  |  |
| ACFRDP4. | $2021: 104,038,000: 14,467,000=7.1914$ |
| Cash Dividend Coverage $=$ CFFO: Dividends | $2022: 122,151,000: 14,841,000=8.2306$ |
|  | $2023: 110,543,000: 15,025,000=7.3573$ |


| ACFRDP5. | $2021:(104,038,000-14,467,000): 11,118,000^{2}=8.0564$ |
| :--- | :---: |
| Capital Acquisition =(CFFO-Dividend): Cash Paid for | $2022:(122,151,000-14,841,000): 11,014,000^{3}=9.7431$ |
| Acquisition | $2023:(110,543,000-15,025,000)$ |
|  | $: 10,959,000=8.7159$ |
| ACFRDP6. | $2021:(104,038,000-11,085,000-33,000): 104,038,000=0.8931$ |
| Free Cash Flow= Free Cash Flow ${ }^{4}:$ CFFO | $2022:(122,151,000-10,708,000-306,000): 122,151,000=0.9098$ |
|  | $2023:(110,543,000-10,959,000)$ |
| $: 110,543,000=0.9009$ |  |

The Group A cash flow ratios of the Apple Corp. are shown at the Table 6 below:
Table 6. Group A Summary Cash Flow Ratios of the Apple Corp.

| Code of the ratio | $\mathbf{2 0 2 1}$ | $\mathbf{2 0 2 2}$ | $\mathbf{2 0 2 3}$ | Average |
| :--- | :---: | :---: | :---: | :---: |
| ACFRDP1 | 0.1391 | 0.1215 | 0.1359 | 0.1322 |
| ACFRDP2 | -0.2350 | -0.6870 | 0.2250 | -0.2323 |
| ACFRDP3 | 6.3334 | 7.6615 | 7.1088 | 7.0346 |
| ACFRDP4 | 7.1914 | 8.2306 | 7.3573 | 7.5931 |
| ACFRDP5 | 8.0564 | 9.7431 | 8.7159 | 8.8385 |
| ACFRDP6 | 0.8931 | 0.9098 | 0.9009 | 0.9013 |

### 3.1.2 Analysis of the Ratios

### 3.1.2.1 ACFRDP1. Dividend Payout

ACFRDP1 ratios of the Apple corp. were 0.1391, 0.1215 , and 0.1359 in the years 2021-2023, respectively. The average was 0.1322 . It means that dividend paid by the Apple Corp.is about $13 \%$ of CFFO. It seems pretty low. The other CFFO is used for other payment of the corporation. Apple Corp. seems good in producing "CFFO" to pay dividends to the owners. In addition to this opinion, it could be thought that the owners do not demand extreme dividend for their the stocks.

### 3.1.2.2 ACFRDP2. Cash Flow Per Share

ACFRDP2 ratios of the Apple corp. were -0.2350 , -0.6870 , and 0.2250 in the years 2021-2023, respectively. The average was -0.2323 . It means that the Apple Corp. produces negative net cash flow and the negative net cash flow is -0.2323 per share. The Apple Corp. seems bad in producing "cash flow per share". However, the ratio's numerator covers "net cash flow", not Cash Flow From Operations. The net cash flow includes all of the three sections of cash flow statement. In 2021, the CFFO was $\$ 104.038$. However, cash flow from investing activities was $\$-14,545$ and cash flow from financing activities was -93,353.Total of the two items were $\$-107,898$. After considering the negative items, the net cash
${ }^{2}$ This number has been calculated like that:
Payments for acquisition of property, plant and equipment: $11,085,000,000$ Payments made in connection with business acquisition, net: $3 \underline{33,000,000}$ Total 11,118,000,000
${ }^{3}$ This number has been calculated like that: Payments for acquisition of property, plant and equipment: $10,708,000,000$
flow is $\$-3,860$. When it is divided to the number of shares, $16,426,786$, the ratio is calculated as $\$-0.2350$. It means -23.5 cents. The ratio of the year 2022 was also negative because of the same reason. This means that in 2021 and 2022, the Apple has more investing and financing cash out than CFFO. It is growing.

### 3.1.2.3 ACFRDP3. Cash Flow per Share II

ACFRDP3 ratios of the Apple corp. were 6.3334, 7.6615, and 7.1088 in the years 2021-2023, respectively. The average was 7.0346 . The Apple has $\$ 7.0346$ net operating cash flow per share. It could produce CFFO to pay dividend without additional financing need.

### 3.1.2.4 ACFRDP4. Cash Dividend Coverage

ACFRDP4 ratios of the Apple corp. were 7.1914, 8.2306, and 7.3573 in the years 2021-2023, respectively. The average was 7.5931 . It could produce CFFO as 7.5931 folds of its dividends paid. There seems no additional financing needs to pay its dividend. It produces CFFO and distributes a part of its CFFO to its shareholders without external financing needs.

### 3.1.2.5 ACFRDP5. Capital Acquisition

ACFRDP5 ratios of the Apple corp. were 8.0564, 9.7431, and 8.7159 in the years 2021-2023, respectively. The average was 8.8385 . It shows that the Apple has 8.8385 folds "CFFO after paying its Payments made in connection with business acquisition, net: $306,000,000$ Total $11,014,000,000$
${ }^{4}$ Let's remember from 2.1.6 that Free Cash Flow calculation method of this writer is like that: $\mathrm{FCF}=$ Cash Flow from operations - Capital expenditure - Property, Plant and Equipment Purchased via a M\&A
dividends" of capital acquisition. After payment of dividend the company still has 8.8385 folds CFFO of its cash paid for acquisition. It can pay its dividend and its capital acquisition and it still has CFFO about 9 folds of its "cash paid for acquisition". Its cash flow based corporate finance seems good because there seems no cash flow problem. This means a saving from potential financing cost and efforts about that.

### 3.1.2.6 ACFRDP6. Free Cash Flow

ACFRDP6 ratios of the Apple corp. were 0.8931,
0.9098 , and 0.9009 in the years 2021-2023, respectively. The average was 0.9013 . This seems good because the Apple's 0.9013 of CFFO is free cash flow. It could be distributed to the shareholders and bondholders. It includes dividend payments to the shareholders.

### 3.2 Group B Cash Flow Ratios of the Apple Corp

### 3.2.1 The Calculation of the Ratios

The Group B ratios are calculated as below like that:

Table 7. The Calculation of the Group B Cash Flow Ratios of the Apple Corp.

| Code, Name, and the Ratio | The Calculation of the Ratio |
| :--- | :---: |
| BCFRDP1. | $2021:(104,038,00014,467,000): 287,912,000=0.3111$ |
| Cash Debt Coverage =(CFFO-Dividends): Total debt | $2022:(122,151,000-14,841,000): 302,083,000=0.3552$ |
|  | $2023:(110,543,000-15,025,000): 290,437,000=0.3289$ |
| BCFRDP2. | $2021:(104,038,000-14,467,000): 9,613,000=9.3177$ |
| Current Maturities of Long-Term Debt Coverage = (CFFO | $2022:(122,151,000-14,841,000): 11,128,000=9.6432$ |
| -Dividends): Current Maturities of Long-Term Debt | $2023:(110,543,000-15,025,000): 9,822,000=9.7249$ |
|  |  |
| BCFRDP3 | $2021:(104,038,000-14,467,000): 125,481,000=0.7138$ |
| Cash Current Debt Coverage = (CFFO - Cash Dividend): | $2022:(122,151,000-14,841,000): 153,982,000=0.6969$ |
| Current Debt | $2023:(110,543,000-15,025,000): 145,308,000=0.6573$ |

The Group B cash flow ratios of the Apple Corp. are shown at the Table 8 below:
Table 8. Group B Summary Cash Flow Ratios of the Apple Corp.

| Code of the ratio | $\mathbf{2 0 2 1}$ | $\mathbf{2 0 2 2}$ | $\mathbf{2 0 2 3}$ | Average |
| :---: | :---: | :---: | :---: | :---: |
| BCFRDP1 | 0.3111 | 0.3552 | 0.3289 | 0.3317 |
| BCFRDP2 | 9.3177 | 9.6432 | 9.7249 | 9.5619 |
| BCFRDP3 | 0.7138 | 0.6969 | 0.6573 | 0.6893 |

### 3.2.2 Analysis of the Group B Ratios

### 3.2.2.1 BCFRDP1. Cash Debt Coverage

BCFRDP1 ratios of the Apple were 0.3111, 0.3552, and 0.3289 in the years 2021-2023, respectively. The company produces "after dividend CFFO" by 31.11 $\%, 35.52 \%$, and $32.89 \%$ of its total debt in the years, respectively. The average was $33.17 \%$. If the level of current liabilities is considered ${ }^{1}$ this ratio could be thought as better.

### 3.2.2.2 BCFRDP2. Current Maturities of Long-Term Debt Coverage

BCFRDP2 ratios of the Apple were 9.3177, 9.6432, and 9.7249 in the years 2021-2023, respectively. The

[^2]ratios mean that "CFFO after dividend payment" were $9.3177,9.6432$, and 9.7249 folds of the "current maturities of the long-term debt" in the years, respectively. The average was 9.5619 . The subsection "current maturities of long-term debt account" is a short-term debt account group so it should have been paid in the current year. The "CFFO after dividend payment" is about 10 folds of the current debt subsection in average. This ratio says that the Apple corp. has a capability to pay its debt instalments because the subsection means instalment from bond issue.

### 3.2.2.3 BCFRDP3. Cash Current Debt Coverage

BCFRDP3 ratios of the Apple corp. were 0.7138, 0.6969 , and 0.6573 in the years 2021-2023, respectively. The average was 0.6893 . It means that more than two thirds "CFFO after dividend payment" has been produced to be paid the current debt by the

Apple corp. The Apple Corp. seems good in producing "CFFO after paying dividend".

## 4.Conclusion

Dividend policy function of the CFCF model is a very important function because of dividend is paid with cash. It pays its dividend to its shareholders with its homemade cash if it could be paid its cash it needs. Otherwise, it will need bank credit, debt issue etc. to do its function about dividend payment. Of course, the sources will have cost, financing cost, to be fulfilled. However, CFFO has already been produced by the corporation itself.
The cash flow ratios ACFRDP1.Dividend Payout, ACFRDP2. Cash Flow Per Share, ACFRDP3. Cash Flow Per Share II, ACFRDP4.Cash Dividend Coverage,ACFRDP5.CapitalAcquisition,ACFRDP6. Free Cash Flow, BCFRDP1.Cash Debt Coverage, BCFRDP2.Current Maturities of Long-Term Debt Coverage, and BCFRDP3. show that if a company has an issue about the payment of dividend to its owners, that is, to its stockholders.

TheratiosACFRDP1.DividendPayout andACFRDP4. Cash Dividend Coverage measures the dividend payment capability of a business via the CFFO which a business produces or creates itself. The two ratios are vice versa of the each other. They measure per cent of dividend produced by the CFFO and the folds of CFFO of dividend payment, respectively.
The ACFRDP2. Cash Flow Per Share and ACFRDP3. Cash Flow Per Share II measures net cash flow per share and CFFO per share outstanding per share, respectively. The ACFRDP2. uses the net cash of the

CFFO, Cash Flow from Investment, and Cash Flow from Financing from the statement of cash flow in its numerator. The denominator covers all shares including treasury stocks. However, the ACFRDP3 uses CFFO in its numerator and only outstanding shares in its denominator. It does not cover the treasury stocks.
The ACFRDP5 measures remaining CFFO after dividend payment to capital investment. The owners have been paid their dividend and the remaining CFFO is thought to be financed the capital investment. If it is enough or not is important to fix if the business needs a new financing source or not. İt the ratio is 1 or more, the business does not need any financing need. The CFFO remaining after dividend payment is enough to finance the capital investment of the company.
The ACFRDP 6 measures the free cash flow to the CFFO. It shows the percentage of free cash flow of CFFO.
The BCFRDP1. BCFRDP2, and BCFRDP3 measure after dividend CFFO to total debt, current debt and current maturities of long-term debt. The payment capability of debt could be studied and controlled through these ratios.
After studying the cash flow ratios about the dividend policy function of the CFCF model, the ratios have been calculated on the Apple Corporation financial statements.

Dividend policy function of the CFCF model was explained in this model. The CFCF model will be completed in another article covering the model's remaining three functions.

Appendix: Codes Used in Dividend Policy Function of the CFCF Model and Their Meaning

| Code | Full Name of the Code | Code | Full Name of the Code |
| :---: | :---: | :---: | :---: |
| ACFRDP1 | Group A cash flow ratio 1 for dividend policy | BCFRDP1 | Group B cash flow ratio 1 for dividend policy |
| ACFRDP2 | Group A cash flow ratio 2 for dividend policy | BCFRDP2 | Group B cash flow ratio 2 for dividend policy |
| ACFRDP3 | Group A cash flow ratio 3 for dividend policy | BCFRDP3 | Group B cash flow ratio 3 for dividend policy |
| ACFRDP4 | Group A cash flow ratio 4 for dividend policy | CFFO | Cash flow from operations |
| ACFRDP5 | Group A cash flow ratio 5 for dividend policy <br> capital structure | CFCF | Cash flow based corporate finance |
| ACFRDP6 | Group A cash flow ratio 6 for dividend policy |  |  |

## 5. References

1. Adame, K.W., J.L. Koski, K.W. Lem, and S.E. McVay, "Free Cash Flow Disclosure in Earnings Announcements", Journal of Financial Reporting, Vol. 8, No. 2 Fall 2023 pp. 1-23
2. Bekaert G.and R. Hodrick, International Financial

Management, Pearson Education, 2012, Second Edition, New Jersey
3. Bhandari S.B. and M. T. Adams, 2017, "On the Definition, Measurement, and Use of the Free Cash Flow Concept in Financial Reporting and Analysis: A Review and Recommendations", Journal of Accounting and Finance, 17,11-19.
4. Brealey, R.A., S. C. Myers, and F. Allen, Principles of Corporate Finance, Mc Graw Hill-Irwin, 2011, Tenth Edition, New York.
5. Brigham E.F. and J.F. Houston, Fundamentals of Financial Management, South-Western Cengage Learning, 12 th Edition, 2009.
6. Cornett, M., T. A. Adair, and J. Notsinger, (2012). Finance: Application and Theory, New York, N.Y.: McGraw Hill.
7. Damadoran A., Investment Valuation, John Wiley\&Sons, Third Edition, 2012, www.damodaran.com.
8. Giacomino D.E. and D.E. Mielke, 1993, "Cash Flows: Another Approach to Ratio Analysis", Journal of Accountancy, Vol. 175, No.3, 55-58.
9. Institute of Management Accountants, 1994, Management Accounting Glossary, Prentice Hall, New Jersey.
10. Ivanovska N., Z. Ivanovski, and Z.Narasanov, "Fundamental Analysis and Discounted Free Cash Flow Valuation of Stocks at Macedonian Stock Exchange", UTMS Journal of Economics 5 (1),2014, pp.11-24.
11. Jensen M.C., "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers", The American Economic Review, Vol.76, No. 2 (May 1986), s.323-329.
12. Khatik S.K. and M. Patil, "Company Valuation using free cash flow technique: A case study of National Thermal Power Corporation Limited", Journal of Advance Management Research, Vol. 6 Issue.3, (March 2018), pp. 110-122.
13. Keown, A.J., J.D. Martin, J.W. Petty, and D.F. Scott Jr., 2005, Financial Management Principles and Applications, Pierson Prentice Hall, New Jersey.
14. Ketz, J. Edward, "Free Cash Flow and Business Combinations", The CPA Journal, November 2016, pp.48-53.
15. Kieso D. E, J.J. Weygandt, and T.D. Warfield, Intermediate Accounting, John Wiley\&Sons, New Jersey, 2016
16. Lewellen, J.and K. Lewellen, 2016, Investment and Cash Flow: New Evidence, Journal of Financial and Quantitative Analysis, 51,1135-1164.
17. Mills J. R. and J.H. Yamamura, 1998, "The Power of Cash Flow Ratios", Journal of Accountancy, Vol.186, No.4, 53-61.
18. Moyer R.C., J.R. McGuigan and W.J. Kretlow, Contemporary Financial Management, West Publishing Company, Sixth Edition, Minneapolis, 1995.
19. Palpeu K.G.and P. M. Healy, Business Analysis and Valuation Using Financial Statements, South Western Cengage Learning, Ohio, 2013
20. Richardson S., "Over-inverstment of Free Cash Flow", Review of Accounting Studies (2006)11 (2-3), pp. 159189.
21. Ross, S.A., R.W. Westerfield, and B.D. Jordan, 2003, Fundamentals of Corporate Finance, McGraw Hill, New York.
22. Rupic, I.B., D.B. Obradovic, and B. Rupic, 2017, Free Cash Flow Valuation Model in Capital Budgeting, European Project Management Journal, 7, 75-84.
23. Shim J. K. and J.G. Siegel, 1992, The Vest-Pocket $C F O$, Prentice Hall, New Jersey.
24. Stice D., E. K. Stice, and J.D. Stice, 2017, Cash Flow Problems Can Kill Profitable Companies, International Journal of Business Administration, 8, 46-54.
25. US Security and Exchange Commission, Form 10-K, September 25, 2021, Apple Inc., Commission File Number:001-36743.
26. US Security and Exchange Commission, Form 10-K, September 24, 2022, Apple Inc., Commission File Number:001-36743.
27. US Security and Exchange Commission, Form 10-K, September 30, 2023, Apple Inc., Commission File Number:001-36743.
28. Verminnen P., P. Quiry, M. Dallocchio, Y. Le Fur, and A. Salvi, Corporate Finance, 2005, John Wiley\&Sons Ltd., West Sussex, England.
29. Vishwanath S.R., Corporate Finance: Theory and Practice, Response Books, Second Edition,2007, New Delhi, India.
30. Yilmaz H., 2021, "Free Cash Flow Based Corporate Finance", British Journal of Economics, Finance and Management Sciences, Vol.18. No. 1, (December 2021), pp.82-91
31. Yilmaz H, (2022) "Cash Flow Based Corporate Finance (CFCF) Model", American Journal of Financial Management, Vol.5, No.9, pp. 1-18.
32. Yilmaz H., (2023a), "Some Improvements in Cash Flow Based Corporate Finance (CFCF) Model", American Journal of Financial Management, Vol.6, No.10, pp. 1-24.
33. Yilmaz H., (2023b), "Working Capital Management Function of Cash Flow Based Corporate Finance (CFCF) Model", American Journal of Finance, Vol.8, Issue.1, pp.31-49.
34. Yilmaz H., (2024), "Capital Structure Function of Cash Flow Based Corporate Finance (CFCF) Model", American Journal of Finance, Vol.9, Issue.1, pp.1-14.


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[^1]:    ${ }^{1}$ This ratio was cited from Mills and Yamamura (1998:55-58)

[^2]:    ${ }^{1}$ In the three years 2021, 2022, and 2023 current liabilities were $43.58 \%, 50.97 \%$, and $50.03 \%$ of total debt. The average was $48.19 \%$. That is, the debt or liabilities which will be paid in the current years were about half of the total debt.

