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Abstract

Purpose: The purpose of this article is to explain the capital structure function of CFCF model explaining by Yilmaz (2022) and Yilmaz (2023).

Materials and Methods: First, the 11 cash flow ratios were selected from CFCF model (Yilmaz, 2023). (Look at Yilmaz 2003 for all 30 ratios and their groups). Then, these ratios were explained from the point of view of capital structure function of the FCFC model. Then, they were applied on the Apple Corp. financial statements. Their calculations and comments were fulfilled by the writer.

Findings: This is a theoretical model. As a finding, the 11 ratios could be calculated by

the writer. Accordingly, the cash flow ratios of the Apple Corp. shows that its capital structure is managed well and the company does not have any cash flow based capital structure management issue.

Implications to Theory, Practice and Policy: All companies could use this tool, capital structure function of cash flow based corporate finance (CFCF) model to learn capital structure issues and to solve them.

Keywords: *Capital Structure Function Of The CFCF Model (G30), Cash Flow (G30), Cash Flow Ratios(G30), The Apple Corp (G30).*

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1.0 INTRODUCTION

Management of capital structure is one of the functions of CFCF model. This function is not an alternative to the traditional or accrual-based capital structure. This function could be thought as a complementary function for traditional or accrual capital structure function. Yilmaz brought cash flow-based ratios to the theory of corporate finance with Yilmaz (2022) and Yilmaz (2023) while building a model called CFCF model. In this article, capital structure function of the model will be explained.

Actually, the model covers 30 cash flow ratios². However, 11 ratios were selected for the capital structure function of the CFCF model. The reason to select these 11 ratios is that their coverages are about either capital structure- cash flow from operation (CFFO) relationship or interest payment- cash flow from operation (CFFO) relationship. For this function, 3 cash flow ratios from the Group A which cover interest payment- cash flow from operating (CFFO) relationship and 8 cash flow ratios from the Group B which cover capital structure-cash flow from operations (CFFO) relationship were selected. There was no need for the Group C ratios to explain this function of the CFCF model.

In this article, it will be explained how the 11 cash flow ratios selected could be used to manage capital structure function of CFCF model. For this purpose, the procedure will be like that:- First, the dimension of capital structure of the CFCF model will be explained through the 11 ratios, from the Group A and the Group B. Then, the Apple Corp. application of these ratios will be fulfilled through the Company's financial statements and be tried to be explore how the corporation is being managed from the point of view of capital structure function of CFCF model.

2.0 MATERIALS AND METHODS

Capital Structure Function of CFCF model

Summary of CFCF Model

The Cash Flow Based Corporate Finance (CFCF) model created by Yilmaz (2022) and improved by Yilmaz (2023) aims to build an additional point of view to corporate finance in addition of traditional corporate finance insight which uses accrual measures in its financial ratios, cash flows, valuations, corporate control, corporate planning, capital structure etc. The CFCF model bases cash flows to manage corporate finance. The most important component of CFCF is 30 cash flow ratios that are calculated using cash flow statement, balance sheet, and income statement. The 16 cash flow ratios are calculated using only cash flow statement. For this reason, they are called as the Group A ratios. Calculating using only cash flow statement represents becoming pure cash flow based. The group B ratios uses cash flow statement and balance sheet. The Group C ratios uses cash flow statement and income statement. The most important property of the cash flow ratios is that the all 30 ratios use at least one item from cash flow ratios. Detailed information about other explanations of FCFC model is given in Yilmaz (2022) and Yilmaz 2023). The information about the two publications is given at the reference list of this article.

Explanation of Capital Structure Function of the Model

Explanation of the Function Using Group A Cash Flow Ratios

The Group A cash flow ratios are calculated using data from cash flow statement only. The Group A ratios used in cash flow-based capital structure function of CFCF is ACFRCS1,

²For 30 cash flow ratios, look at Yilmaz (2023).

ACFRCS2, and ACFRCS3. The items covered by the Group A ratios are cash flow from operations (CFFO), annual interest payments, interest payment, interest paid, and taxes paid. The items annual interest payments, interest payment, and interest paid have same meaning³. It is interest paid by a corporation. There are cash out in all of the three concepts. The numerators of the three Group A ratios cover CFFO and the denominators of the three ratios cover an item about interest payment. The reason to use CFFO in the numerators of all three ratios is its importance because of being created by corporate's operations. That is, the corporate produces its cash flow by itself to pay its interest payments, not finding debt. The numerator of ACFRCS2 adds "interest payment" to the CFFO and the numerator of ACFRCS3 adds "interest paid" and "taxes paid" to the CFFO. The formulas to calculate ACFRCS1, ACFRCS2, and ACFRCS3 are given after the Table 1 during the explanation of the three ratios.

Numbers of items used to calculate the the Group A ratios is shown at the Table 1 below.

Table 1: Numbers of Usage of Items in the Group A Ratios

Names of Items	Number of Usage	% usage in the ratios	% Usage in Total Items
Annual Interest Payments, Interest Payment, Interest Paid	5 ⁴	100	55.56
Cash flow from operations (CFFO)	3	100	33.33
Taxes Paid	1	33.33	11.11
Total	9	---	100

As it could be seen from the the Table 1 below, the three Group A ratios show the relationship among interest payment, tax payment and CFFO. The capital structure function of the CFCF model could be explained through the Group A cash flow ratios like that:

$$\text{ACFRCS1 CFFO to Annual Interest Payments}^5 = \frac{\text{CFFO}}{\text{Annual interest payments}} \quad (1)$$

ACFRCS1 measures how many fold or what percentage CFFO of annual interest payment is produced. A business pays interest for the usage of debt. That's, for instance, if a business or a company is financed by only the owner's equity, there is no annual interest payment at all. For this reason, it could be thought that this ratio calculates productivity of annual interest payment from the point of view of cash creating. From the cash point of view, CFFO in the numerator of the ratio from the cash flow statement is thought as better than profit because it is already cash and could be used immediately without any financing effort to pay for wages, taxes, raw material etc. for production or service. Through production and sales, the business produces the CFFO again. The CFFO does not include the cash flow gained by financing and investing. This is very important because CFFO's not including financing and investment cash flow groups in the cash flow statement shows that the cash flow including to the CFFO shows only produced or created cash flow by a business by itself. This ratio could be used as a tool in capital structure function of the CFCF model because interest payments affects capital structure decisions. Higher interest payment causes less debt in capital structure decisions in th next years.

³They were used separately for the same meaning for the sake of their cited writers.

⁴The concept "annual interest payment" is used at the ratio ACFRCS1 (Ferris and Others (1992:219), the concept "interest payment" is used at the ratio ACFRCS2 (Shimand Siegel, 1992: 624), and the concept "interest paid" is used at the ratio ACFRCS3 (Mills and Yamamura, 1998:55-58). The reason they are seen at the same square is that their meanings are same.

⁵This ratio was cited from Ferris and Others (1992:219).

$$\text{ACFRCS2 Interest Payment Coverage}^6 = \frac{\text{CFFO} + \text{interest payment}}{\text{Interest payment}} \quad (2)$$

ACFRCS2 determines how much cash a business's interest payment produces. The numerator covers CFFO + interest payment, not only CFFO. The importance of financing cost to produce CFFO is determined by this ratio. CFFO and interest payment means "CFFO before interest payment". If interest payment is relatively high, CFFO before interest payment will be higher because the denominator will be higher. Its meaning is that, via this ratio the business's financial manager will consider the interest payment in the numerator in addition to the denominator. In so doing, interest payment⁷ will be added to the CFFO created by the business's operations. This ratio could be thought as a different version of ACFRCS1.

About same comments and capital structure considerations is valid for this ratio. This ratio is valid for only the companies covering debt or liabilities in its capital structure in especially "term debt" form. During capital structure decisions, this ratio could be used in addition to the previous ratio in capital structure decisions.

$$\text{ACFRCS3 Cash Interest Coverage}^8 = \frac{\text{CFFO} + \text{Interest paid} + \text{Taxes paid}}{\text{Interest paid}} \quad (3)$$

ACFRCS3 measures how many fold CFFO before interest and tax payment is produced to pay interest payment. This means that how much CFFO before interest and tax payment the interest payment produces. This ratio also measures the capability of paying taxes in addition to "CFFO+Interest paid". ACFRCS2 does not measure this because it does not cover the "taxes paid"⁹. Taxes paid is not included to the CFFO in the cash flow statement like "interest paid".

Taxes paid is very important cash outflow for companies in some countries. Tax rates differ from country to country¹⁰. Paying the taxes could require a new financing source to fulfill it. It has cost, too. Tax payment decreases via interest cost depending on the capital structure of business. If the capital structure covers only equity, there will not be any decrease in taxes through debt cost. At the same time, in such a situation, this ratio could not be calculated.

Group A cash flow ratios of capital structure function of CFCF model measures the power of cash flow creating of interest payment. The co-denominator of the ratios is interest payment. The co-denominator's power about cash creating in different levels is investigated via the Group A ratios. These different levels are CFFO, "CFFO+Interest payment", and "CFFO+interest payment+ tax payment".

⁶ This ratio was cited from Shim and Siegel (1992:624).

⁷In the American accounting system, interest payment, as "cash paid for interest" in the 10-K cash flow statement format, is considered as a part of "supplemental cash flow disclosure" at the end of the cash flow statement after the three parts of cash flow groups Cash Flow From Operations, Cash Flow From Investment, and Cash Flow From Financing. For his reason, the interest payment is added to CFFO in the numerator of this rate. In my opinion, it is thought by the writers (Shim and Siegel) that all interest payment is for operations.

⁸This ratio was cited from Mills and Yamamura (1998:55-58).

⁹In the American accounting system, taxes paid, "cash paid for income taxes, net" in 10-K cash flow statement format is considered as a part of "supplemental cash flow disclosure" at the end of the cash flow statement after the three parts of cash flow groups such as CFFO, CFFI, and CFFF.

¹⁰Corporate tax rates of some countries are like that: Argentina and Chad :35%, Brazil:34%, France: 25%, Denmark:22%, Paraguay:10%, and Hungary: 9% etc. (Source: <https://taxsummaries.pwc.com/quick-charts/corporate-income-tax-cit-rates>, 25.9.2023).

Explanation of the Function Using Group B Cash Flow Ratios

The Group B cash flow ratios are calculated by using data from cash flow statement and balance sheet. The Group B ratios use the items total debt, current maturities of long-term debt, stockholder's equity, long term debt, current liabilities, and current debt from the balance sheet and cash flow from operations (CFFO), dividends and cash dividend¹¹ from the cash flow statement. The concepts current liabilities and current debt mean same thing which is short term liabilities. The CFFO is the most used item in calculating the Group B ratios. All of the ratios cover CFFO. This item is compared to total debt, current liabilities of long-term debt, current debt, stockholder's equity, and long-term debt.¹² The numbers of items used to calculate the Group B ratios are shown at the Table 2 below:

Table 2: Numbers of Usage of Items in the Group B Ratios

Names of Items	Number of Usage	% Usage in the Ratios	% Usage in Total Items
CFFO	8	100	40.0
Total debt	3	37.5	15.0
Dividends, Cash Dividend	313	37.5	15.0
Stockholders' Equity	2	25.0	10.0
Current Liabilities, Current Debt	214	25.0	10.0
Current Maturities of Long-Term Debt	1	12.5	5.0
Long Term Debt	1	12.5	5.0
Total	20	---	100

As it could be seen from the Table 2, the CFFO is used in all of the Group B ratios used in the capital structure function of the CFCF model. This could be thought as an important indicator from the point of view of CFCF model. The reason for that is being of the CFFO an item which shows cash produced by a business itself. The second important item is "total debt". This covers all the debt including long term and short term. This is important because all debt should be paid in time, in the current year and the next years. This is a strategic point of view. The other items show a level of passive account compared to the CFFO.

$$\text{BCFRCS1 Cash Debt Coverage}^{15} = \frac{\text{CFFO} - \text{dividends}}{\text{Total debt}} \quad (4)$$

¹¹The concepts "dividends" and "cash dividend" are used for the same meaning the dividend payment.

¹²In BCFRCS6 and BCFRCS7, the terms "current liabilities" and "current debt" have been used in same meaning by the same writers (Mills and Yamamura, 1998:55-58). This article's writer did not change their words "liabilities" and "debt" for the sake of the source writers.

¹³ The concept "cash dividend" is used at the ratio BCFRCS7 (Mills and Yamamura, 1998:55-58), and the concept "dividends" is used at the ratios BCFRCS1 and BCFRCS2 (Shim and Siegel, 1992: 97). The reason they are seen at the same square is that their meaning is same.

¹⁴ The concept "Current debt" is used at the ratio BCFRCS7 and "current liabilities" is used at the ratio BCFRCS6. The two ratios were cited from Mills and Yamamura (1998:55-58).

¹⁵ The ratios BCFRCS1 and -BCFRCS2 were cited from Shim and Siegel (1992:97).

BCFRCS1 measures how many folds or what percent CFFO a business produces after dividend paid to the owners. The ratio shows the cash could be paid debtholders. For instance, if the ratio is under 1, it shows that the company will need to provide bank credit or issue debt or equity to pay its debt. The financial cost should be added to the amount to be paid to the financiers. If a company does not have any debt, this ratio could not be calculated. Already, in this situation, there is not any financial risk, too. However, if a company has some debt in its capital structure, there is a probability for bankruptcy more or less. Bankruptcy probability could be estimated via this ratio. For instance, if this ratio is % 10 and the business can not provide credit to pay debt, the business could not probably pay its debt and bankruptcy could happen. This shows that the ratio is very important for capital structure function of CFCF model.

BCFRCS2. Current Maturities of Long Term Debt Coverage

$$= \frac{\text{CFFO} - \text{dividends}}{\text{Current Maturities of LTD}} \quad (5)$$

BCFRCS2 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 can pay its current maturities of long-term debt more easily than before with the CFFO after dividend paid. If it decreases, it means that the business could produce less CFFO after dividend more hardly than before to pay the current maturities of long-term debt. This ratio could decrease with the increase of dividend paid. Of course, the increase of current maturities of long-term debt decreases the ratio, too. It could be remembered that the account “Current Maturities of Long-Term Debt” comes from long term liabilities. This means it is the installment paid in the current year.

The installments are prepared and agreed for investing capital investments. If the ratio is more than 1, it means that the company could produce more “CFFO – Dividend” than the need to pay the installment for investment. The debtholders could see from this ratio how many fold or percent cash after dividend payment the company produced for themselves. A decision about financing of capital investment could be made via this ratio. If this ratio is not enough relatively to the industry, it means that the company could not producing enough “CFFO after dividend” to pay the installment. For this reason, it could provide a new financing source to be paid its installment. Installment occurs because of long term liabilities. If the company has issues about the payment of installments permanently, it could be thought about changing its capital structure. Of course, it should increase its owner’s equity and decrease its long-term debt. This shows that this ratio is a powerful measure for the decision of financing of capital investment. For this reason, this ratio is interested in the cash flow-based capital structure function of the CFCF model.

BCFRCS3 Internal Generation of Cash Available to Creditors and Investors¹⁶

$$= \frac{\text{CFFO}}{\text{Total debt} + \text{stockholders' equity}} \quad (6)$$

BCFRCS3 measures how much CFFO was produced by using all financing sources because passive side of balance sheet covers short term liabilities, long term liabilities, and owner’s equity. Total debt at the ratio covers short term debt and long-term debt. For this reason, it covers all passive side of the balance sheet. If a business produces more CFFO, the ratio will approach to 1. Of course, it is impossible to be 1 for this ratio because financial sources are used for long term investment, too.

¹⁶The ratios BCFRCS3 and BCFRCS4 were cited from Shim and Siegel (1992:98).

$$\text{BCFRCS4. Return to Stockholders} = \frac{\text{CFFO}}{\text{Stockholders' Equity}} \quad (7)$$

BCFRCS4 measures how much CFFO the business produces with its stockholder's equity. If the ratio is high enough, it means that the company produces enough cash. The owners could be glad if this ratio increases. At the same time, potential investors could have a positive opinion about the business if the ratio increases. If the ratio decreases, the owners will not be glad, so do potential investors. This ratio shows the power of cash creating of equity capital. However, if debt capital is more than equity, this ratio increases because of the equity decrease. The decrease in denominator increases in the ratio because of not changing in numerator, CFFO in this case. For this reason, it should be careful during decision about capital structure via this ratio.

$$\text{BCFRCS5. Long Term Debt Coverage}^{17} = \frac{\text{CFFO}}{\text{Long term debt}} \quad (8)$$

BCFRCS5 helps to determine how many folds or percent CFFO is created with the long-term liabilities of the business. Actually, the long-term debt except "current maturities of long-term debt" will not be paid in the current year. However, it will continue financing the productive operations. If the ratio is more than 1, it means that the business could produce CFFO more than long term debt. If it is considered that long term debt is used to finance long term capital investments, it means that capital investments could be financed by the business's own homemade financial source, CFFO. That is, if a business could not find any financial sources from out of business, it could create its own financial sources via the CFFO. This ratio could be less than 1 if long term debt is very high. This means also that the company has very high capital investment some of which is financed by external financial sources. Of course, this external financial source means issuing bond for which interest payment will be carried out in the periods such as at the end of the months, quarters, and years etc. This is a subject of capital structure function of cash flow based corporate finance (CFCF) model.

$$\text{BCFRCS6. Operating Cash Flow}^{18} = \frac{\text{CFFO}}{\text{Current liabilities}} \quad (9)$$

BCFRCS6 measures CFFO to current liabilities. Current liabilities will be paid in current year. Current liabilities cover accounts payables, sales taxes payable, payroll taxes payable, income taxes payable, interest payable etc. If the ratio is over 1, it means that the business produces more CFFO than the current liabilities. This ratio could be thought as very important because it measures payment ability of current liabilities via business's own homemade cash. There will not be any other need to pay current liabilities if this ratio is over 1. Almost every day, a business pays some current liabilities such as accounts payable. If this ratio is good enough, debt cost could be affected positively because of investor confidence.

$$\text{BCFRCS7. Cash Current Debt Coverage} = \frac{\text{CFFO} - \text{cash dividend}}{\text{Current debt}} \quad (10)$$

BCFRCS7 measures the ability of payment of current debt with "CFFO after dividend payment". The reason to subtract dividend payment is it's not being included to CFFO. It is a "cash flow from financing activities" item. As a result, the ratio shows "after dividend CFFO" to current debt. A ratio over 1 means that after paying cash dividends to the owners, the business still has enough cash flow to paid the current debt. It is more sensitive than the BFRCS6 because it considers cash dividends before paying current debt. Paying current debt is very important because the business operates with current debt. This ratio assures the stockholders because the

¹⁷The ratio BCFRCS5 was cited from Shim and Siegel (1992: 624).

¹⁸The ratios BCFRCS6-BCFRCS8 were cited from Mills and Yamamura (1998:55-58).

ratio calculates “CFFO after paying cash dividend”. Their dividends are guaranteed with this ratio even the ratio is low.

$$\text{BCFRCS8.Total Debt} = \frac{\text{CFFO}}{\text{Total debt}} \quad (11)$$

BCFRCS8 measures how much CFFO of total debt a business produces to pay its total debt. The total debt covers current liabilities and long-term liabilities. Decreasing of total debt in the denominator increases the ratio. Increasing the total debt decreases the ratio. If the CFFO increases when the total debt is fixed the ratio increases, too. CFFO- total debt comparison is useful to fix the limits of debt in financing the business because all debt will need to be paid with its CFFO. This ratio defines how much of the debt could be paid with the business’s own homemade cash flow. The ratio is expected to be under 1 because long term debt is paid in the long term.

A comparison of capital level covered by the Group B cash flow ratios used by the capital structure function of the CFCF model is shown at the Table 3 below:

Table 3: Comparison of Capital Structure Coverage Levels of Group B Ratios

Cash Flow Ratio	Capital Level Covered by the Denominator	Section Numbers of the Denominators from the Passive Side of the Balance Sheet	Cash Flow Level Compared with the Passive Balance Sheet Items
BCFRCS3	Total Debt +Stockholders' Equity	319	CFFO
BCFRCS1	Total Debt	2	CFFO- Dividends
BCFRCS8	Total Debt	2	CFFO
BCFRCS4	Stockholders' Equity	1	CFFO
BCFRCS5	Long Term Debt	1	CFFO
BCFRCS6	Current Liabilities	1	CFFO
BCFRCS7	Current Debt	1	CFFO – Cash Dividend
BCFRCS2	Current Maturities of Long-Term Debt	Only a part of 1 section ²⁰	CFFO- Dividends

As it could be seen from the Table 3, the BCFRCS3 covers all passive of the balance sheet. The denominators of BCFRCS1 and BCFRCS8 cover only all of debt, short and long term. But they do not cover stockholders’ equity. Their numerators are different. The numerator of BCFRCS1 is “CFFO-dividends” while the numerator of BCFRCS8 is CFFO. This means that the output of BCFRCS1 will be less than that of BCFRCS8. These ratios cover all debt including short and long term. For this reason, BCFRCS1 and BCFRCS8 are the second degree covered group of all cash flow ratios of capital structure function of the CFCF model. The third degree covered group covers, BCFRCS4, BCFRCS5, BCFRCS6, and BCFRCS7. Their coverages are only one group from the passive side of balance sheet. The denominator of the BCFRCS4 is stockholder’s equity. The denominator of the BCFRCS5 is long term debt. The denominators of the BCFRCS6 and BCFRCS7 are current liabilities. The numerators of BCFRCS4, BCFRCS5, and BCFRCS6 are CFFO. That is CFFO is divided by only one section

¹⁹This is 3 because the “total debt” covers the total of short term debt and long term debt sections, the two sections, of the passive side of the balance sheet.

²⁰The “Current Maturities of Long-Term Debt” is a subsection of short term debt section of the passive side of the balance sheet.

of the passive side of balance sheet. That is, the three ratios measure the power of creating CFFO by owner's equity via BCFRCS4, long term debt via BCFRCS5 and current liabilities via BCFRCS6, respectively. The numerator of BCFRCS7 is "CFFO- cash dividend". Its denominator is current liabilities. This ratio will be less than BCFRCS6 because it uses "after dividend CFFO" in its numerator. The least covered ratio is BCFRCS2. Its denominator is only "Current Maturities of Long-Term Debt" subsection of current liabilities section of the passive side of balance sheet.

An Application on the Apple Corp. Financial Statements

An Application Via the Group A Ratios of the Apple Corp.

The Group A ratios of the Apple Corp.in the years 2020-2022 are given at the Table 4 below:

Table 4: The Group a Cash Flow Ratios of the Apple Corp.

Code of the Ratios	Title of the Ratio	Calculation of the Ratio	2020	2021	2022	Average
ACFRCS1	CFFO to Annual Interest Payments	CFFO: Annual Interest Payments	26.87	38.72	42.64	36.08
ACFRCS2	Interest Payment Coverage	(CFFO +Interest Payment): Interest Payment	27.87	39.72	43.64	37.08
ACFRCS3	Cash Interest Coverage	(CFFO + Interest Paid +Taxes Paid): Interest Paid	31.04	49.17	50.47	43.56

ACFRCS1 ratio of the Apple was 36.08 in average. The Apple's CFFO to annual interest payments were 26.87, 38.72, and 42.64 in the years 2020-2022, respectively. It means that the company has created 26.87, 38.72, and 42.64 folds CFFO of the annual interest payment. Its CFFO meets its annual interest payment requirements easily because it has produced 36.08 folds average CFFO to pay its interest payment. This decreases financial risk of the company. The company could pay its interest payments easily with its homemade cash flow, the CFFO. According to this ratio, it does not seem any problem about capital structure function of CFCF model of the Apple.

ACFRCS2 ratios of the Apple were 27.87, 39.72 and 43.64 in the years 2020-2022, respectively. The average is 37.08. This means that the company produces average 37.08 folds "CFFO before interest payment" of interest payment. That is, the interest payment could be fulfilled with the cash the company created itself and interest payment which the company created but showed independently from the CFFO section of the cash flow statement. The Apple has no problem about the interest payment for debt covered in its capital structure. According to this ratio, the capital structure function of the CFCF model is being managed well, too.

ACFRCS3 ratios of the Apple were 31.04, 49.17, and 50.47 in the years 2020-2022, respectively. It means that the company produced 31.04, 49.17, and 50.47 folds "CFFO before interest and tax payment" of interest payment in the years, respectively. The average was 43.56. It produces 43.56 folds "CFFO before interest and tax payment" of interest payment. The reason to add tax payment to CFFO is the same as adding interest payment to the CFFO. Tax payment also is different item than CFFO like interest payment. The cash used for tax payment is produced by the Apple corp. by itself such as CFFO and interest payment. It could be said that,

from the point of view of ACFRCS3, there does not seem any problem about its capital structure function of CFCF model.

The Group A cash flow ratios of the Apple corp. shows that the company produces enough cash to pay its interest payment through its cash flow which is produced by the Apple corp. itself.

An Application Via the Group B Ratios of the Apple Corp.

The Group B cash flow ratios of the Apple corp. in the 2020-2022 are given at the Table 5 below:

Table 5: The Group B Cash Flow Ratios of the Apple Corp

Code of the Ratio	Title of the Ratio	Calculation of the Ratio	2020	2021	2022	Average
BCFRCS1	Cash Debt Coverage	(CFFO-Dividends): Total Debt	0.26	0.31	0.36	0.31
BCFRCS2	Current Maturities of Long-Term Debt	(CFFO -Dividends): Current Maturities of Long-Term Debt	7.57	9.32	9.64	8.84
BCFRCS3	Internal Generation of Cash Available to Creditors and Investors	CFFO: (Total Debt +Stockholders' Equity)	0.25	0.30	0.35	0.30
BCFRCS4	Return to Stockholders	CFFO: Stockholders' Equity	1.23	1.65	2.41	1.76
BCFRCS5	Long Term Debt Coverage	CFFO: Long Term Debt	0.53	0.64	0.82	0.66
BCFRCS6	Operating Cash Flow	CFFO: Current Liabilities	0.77	0.83	0.79	0.80
BCFRCS7	Cash Current Debt Coverage	(CFFO - Cash Dividend): Current Debt	0.63	0.71	0.70	0.68
BCFRCS8	Total Debt	CFFO: Total Debt	0.31	0.36	0.40	0.36

BCFRCS1 ratios of the Apple were 0.26, 0.31, and 0.36 in the years 2020-2022, respectively. The company produces “after dividend CFFO” by 26%, 31%, and 36% percent of its total debt in the years, respectively. The BCFRCS1 shows that the Apple is improving itself about financial risk decreasing because the amount is increasing every year from the 2020 to the year 2022 to pay its debt. According to this ratio, the company is becoming more and more reliable for investors from year to year.

BCFRCS2 ratios of the Apple were 7.57, 9.32, and 9.64 in the years 2020-2022, respectively. The ratios mean that “CFFO after dividend payment” were 7.57, 9.32, and 9.64 folds of the “current maturities of the long-term debt” in the years, respectively. The average was 8.84. 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” are about 9 folds of the debt 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. BCFRCS3 ratios of the Apple were 0.25, 0.30, and 0.35 in the years 2020-2022, respectively. It means that the CFFO was 25%, 30%, and 35% of total debt and stockholder’s equity, or all passive side of the balance sheet of the company, in the years. The average was 0.30. That’s, it creates CFFO by about 1/3 of its total debt and stockholder’s equity. It seems pretty secure to pay its obligations and dividends with its own homemade cash flow. .

BCFRCS4 ratios of the Apple were 1.23, 1.65, and 2.41 in the years 2020- 2022, respectively. It means 1.23, 1.65, and 2.41 folds of the stockholder's equity. The ratio was improved from 1.23 to 2.41 folds in the years. The Apple is producing more and more CFFO from year to year.

BCFRCS5 ratios of the Apple were 0.53, 0.64, and 0.82 in the years 2020-2022, respectively. This means that the Apple Corp. creates CFFO by more than half of its long-term debt. If it is considered that the long-term debt is provided to finance long term investments, capital investment, this means that the Apple Corp. produces its own CFFO to pay its long-term debt. It seems that from the point of view of CFCF model, there is no problem to create cash flow for financing capital investments.

BCFRCS6 ratios of the Apple were 0.77, 0.83, and 0.79 in the years 2020-2022, respectively. The average was 0.80. The company produces CFFO by more than four fifths of its current liabilities. It could be said that the Apple corp. can produce cash flow with its operations to finance operations again. Its capital structure function of CFCF model is working pretty well.

BCFRCS7 ratios of the Apple corp. were 0.63, 0.71, and 0.70 in the years 2020-2022, respectively. The average was 0.68. It means about two thirds "CFFO after dividend payment" of the current debt. The Apple seems good in producing "CFFO after paying dividend".

BCFRCS8 ratios of the Apple corp. were 0.31, 0.36, and 0.40 in the years 2020-2022, respectively. It means that the company produced 0.31%, 36%, and 40% CFFO of the total debt in the years 2020-2022, respectively. It seems good because the denominator covers all debt.

The Group B cash flow ratios of the Apple corp. shows that the company produces enough cash flow. It produces enough CFFO to total debt, current debt, and current maturities of long-term debt. More healthy comment and advice for the Apple Corp. could be fulfilled using comparisons with the other corporations operating in the U.S. Technology industry. However, if one searches for standard ratios to compare the Apple's cash flow ratios, he could not find them because these ratios have been organized first time for the CFCF model by Yilmaz (2022) and Yilmaz (2023).

4.CONCLUSION AND RECOMMENDATIONS

CFCF model is a new corporate finance model which aims to bring cash flow point of view to corporate finance. It was explained in Yilmaz (2022) and Yilmaz (2023) in detail. In this article, the capital structure of the CFCF model was explained through 11 cash flow ratios. Capital structure function of the CFCF model contributes to accrual-based capital structure function. Cash flow dimensions of capital structure issues is explored using capital structure function of the CFCF model.

Interest payment issues are explored using Group A ratios of the capital structure function of the model. Interest payment arises directly from debt. The capital structure function of CFCF model uses cash flow statement to explore and calculates the three Group A ratios ACFRCS1 CFFO to Annual Interest Payments ratio, ACFRCS2 Interest Payment Coverage ratio, and ACFRCS3 Cash Interest Coverage ratio for this purpose. Through the Group A ratios of the CFCF model, the interest payment power of company with the cash flow which is produced by the company itself is searched.

Financing sources- cash flow relationship is investigated via Group B ratios of the CFCF model. For this purpose, eight Group B ratios of the CFCF model are used. The Group B cash flow ratios used in this function of the CFCF model are BCFRCS1 Cash Debt Coverage ratio, BCFRCS2 Current Maturities of Long-Term Debt ratio, BCFRCS3 Internal Generation of Cash Available to Creditors and Investors ratio, BCFRCS4 Return to Stockholders ratio, BCFRCS5

Long Term Debt Coverage ratio, BCFRCS6 Operating Cash Flow ratio, BCFRCS7 Cash Current Debt Coverage ratio, and BCFRCS8 Total Debt ratio.

Through the Group B ratios, capital structure- cash flow relationship is searched. Especially, if a company produces or not enough cash flow to pay its debt is main subject for using this group of cash flow ratios in the capital structure function of the CFCF model. The total of Group A and Group B cash flow ratios of the capital structure function of CFCF model give an opinion about capital structure of a company. The finance manager learns the issues, strong points, and weak points of the company about capital structure management of the company. As a result, the the capital structure function of corporate finance of the CFCF model could be used an additional tool to the accrual based financial management.

To use the capital structure function of the CFCF model and the overall CFCF model, the businesses need some things like that:

- The businesses should use cash flow statement in addition to the balance sheet and income statement. They should improve themselves about that.
- They should understand the importance and meanings of cash flow ratios.
- They should understand the relationship between cash flow ratios and sub functions of corporate finance.
- Comments of cash flow ratios should be understood and used during financial management of the business.

It should not be forgotten that, as it could be seen from the calculation of the cash flow ratios of the Apple Corp, the ratios can be calculated easily. There is no problem about that. As a result, the CFCF model and its all functions including capital structure function are very useful for financial managers of the businesses. The introduction and completion of the model has been being continued and will be continued in the future by this writer. Everyone could join to contribute the model and discuss about the model. This model is a new model and it needs to be promoted.

Appendix

Codes Used in Capital Structure Function of Cash Flow Based Corporate Finance (CFCF) Model and Their Meanings

Code	Full Name of the Code	Code	Full Name of the Code
ACFRCS1	Group A cash flow ratio 1 for capital structure	BCFRCS5	Group B cash flow ratio 5 for capital structure
ACFRCS2	Group A cash flow ratio 2 for capital structure	BCFRCS6	Group B cash flow ratio 6 for capital structure
ACFRCS3	Group A cash flow ratio 3 for capital structure	BCFRCS7	Group B cash flow ratio 7 for capital structure
BCFRCS1	Group B cash flow ratio 1 for capital structure	BCFRCS8	Group B cash flow ratio 8 for capital structure
BCFRCS2	Group B cash flow ratio 2 for capital structure	CFFO	Cash flow from operations
BCFRCF3	Group B cash flow ratio 3 for capital structure	CFCF	Cash flow based corporate finance
BCFRCS4	Group B cash flow ratio 4 for capital structure		

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