

### The Practice of Forecasting Discounted Cash Flows of Joint Stock Companies in Uzbekistan

Foziljonov Ibrohimjon Sotvoldikhuja ugli

Tashkent State University of Economics, associate professor of Banking and Investments Department, doctor of philosophy in economics (PhD)

#### Article Information

**Received:** April 07, 2023

**Accepted:** May 08, 2023

**Published:** June 09, 2023

**Keywords:** *discounted cash flow, operating margin, revenue from product sales, gross profit, net income from operating activities, discount rate, free cash flow.*

#### ABSTRACT

*This article describes the scientific and theoretical basis of forecasting the discounted cash flows of joint stock companies. In this, the theories of the existing foreign economists on forecasting discounted cash flows were analyzed and the views of scientific schools were studied. Based on the research results, a procedure for forecasting the discounted cash flows of joint stock companies has been developed.*

#### Introduction.

Today, joint stock companies are widely using modern methods in forecasting cash flows. Calculating cash flow indicators and forecasting them is one of the most important elements in running a business. Several indicators should be taken into account in joint-stock companies during forecasting cash flows. In particular, it is necessary to make a forecast taking into account free cash flows and discounted cash flows of joint-stock companies.

In general, researchers and analysts perform cash flow forecasting by calculating the expected cash flows from joint stock companies and the present value of their future income-producing assets. In particular, in practice, the method of discounted cash flows is widely used to calculate the cash flow of investment projects of joint-stock companies. The discounted cash flow method is a rate that reflects the level of risk in forecasting the cash flow of an investment project, and reflects the future cash flow of joint-stock companies in their current value.

Moreover, in foreign practice, discounted cash flows are used as the main tool for estimating the business value of joint-stock companies and forecasting cash flows in capital. The discounted cash flow method is a modern corporate finance tool, and it is very important to fully understand how this method works and its limitations and implications. The discounted cash flow method is the most important tool in forecasting cash flows, and it is used not only in the valuation of joint-

stock companies, but also in the valuation of primary and secondary securities and other financial assets. It is such a powerful instrument in the field of modern finance that this method is widely used by investment banks, investment consultants and financial managers all over the world, even the method of discounted cash flows is called "the heart of corporate capital budgeting systems" (Luehrman T. A. 1998).

Forecasting the cash flows of joint stock companies is important for every business activity. Also, with the help of cash flow forecasting, the general account of cash flow inflows and outflows of joint stock companies is determined. The advantage is that it shows when the expenses of the joint-stock company will be covered and whether there is a need to take unexpected loans to cover cash needs.

### **Literature review.**

In order to maintain the competitiveness of joint-stock companies' business activities, cash flow forecasting for each indicator should be accurate and realistic. Therefore, joint-stock companies often make cash flow forecasts for business plans that cover many years. In particular, if joint-stock companies do not perform the forecast of cash flows based on accurate calculations, joint-stock companies face large financial losses, which leads to the loss of business opportunities.

In the joint study of foreign economists Odeyinka and others, accurate forecasting of cash flows of joint-stock companies was considered the key to financial planning of the company. In joint-stock companies, it is important for shareholders and investors to forecast cash flows and successfully manage the company's cash flows (Chen Mark, 2007).

Investors, creditors, employees and rating agents monitor the cash flow forecast of joint stock companies. Particularly, the purpose of investors to monitor cash flows of companies is to determine how much dividends the company will pay, to make decisions on investments related to increasing capital value, and to determine the amount of funds needed to cover capital investments. Creditors, on the one hand, have an interest in making decisions about the solvency of the joint stock companies in which they do business, the job security of employees, and the ongoing risk issues related to the firms they work for. Rating agents, on the other hand, analyze the cash flows of joint stock companies to determine whether the company has the ability to pay its debts when they come due (Yun Lee, Luiz Moutinho, Kwaku K. Opong, and Yang Pang, 2014).

The purpose of cash flow forecasting of joint-stock companies is to realize the company's cash and liquidity position by simulating inflows and outflows of cash in advance and investing. The purpose of forecasting cash flows is to determine the availability of funds to finance the activities of a joint-stock company and to make sure that the company's cash resources are used to the maximum extent and that there is no need to take additional loans. The advantage of successful cash flow forecasting is that it lowers the cost of capital of joint stock companies and increases excess cash returns (Rajendra, 2013).

In particular, the use of incorrect information in the forecasting of cash flows means that the cash flow in the period in which the cash flows are forecasted will not be realized correctly. Furthermore, the comparison of the cash flow forecast with the actual figures and the correction of the figures leads to the improvement of the cash flow forecast of the joint stock company (Bragg S.M, 2010). In addition, Rajendra's research points out that there are several methods of cash flow forecasting.

The implementation of the forecasting method depends on the actual needs. He also showed that there are two classic types of cash flow forecasting, namely direct and indirect. In particular, direct cash flow forecasting predicts when cash will enter the business at a given time. It tries to determine when payments are due on a particular day or week of a month. For example, not when the invoice is sent, but when the payment is actually made. Since the forecast is based on

real data, it provides a definite amount of money, especially in the short term. The direct method of cash flow forecasting includes all types of transactions, including credit and cash transactions, as well as reconciliations with promissory notes, invoices, and taxes (Rajendra, 2013).

In particular, according to Rajendra's research, if the cash flow forecast of a joint-stock company is carried out accurately, it supports the company's management decision-making and enables risk management. Also, the main component of risk management in joint-stock companies is the prediction of future cash flows and their effective management. In turn, it directly affects the financial value of the joint-stock company.

### Research methodology.

The joint-stock company "Andijan Territorial Electric Networks Enterprise" operating in Uzbekistan was selected, and cash flow forecasting of the companies was carried out using the method of discounted cash flows.

First, we forecast the share of income from the sale of joint-stock companies, taking into account the increase in the income from the sale of products compared to the previous year. This can be expressed by the following formula:

$$R = \frac{C}{P} - 1$$

here:

R– increase in revenue from product sales;

C– income from product sales in the current year;

P– income from sales of products of the previous year in the current year.

Secondly, we determine the operating margin of the joint-stock company using the following formula:

$$OM = \frac{GP}{IPS}$$

here:

ОП – Operating margin;

GP – gross profit.

IPS - of income from product sales

Thirdly, we determine the net income from the main activity of the joint-stock company using the following formula:

$$IMA = GP(1 - \text{tax rate})$$

here:

IMA– net income from the main activity;

The tax rate - the ratio of the income from the sale of the product to the taxes paid.

Fourthly, the free cash flow of the joint-stock company was determined.

Fifth, after determining the free cash flows of the joint-stock company, the discount rate should be determined. The discount rate of a joint-stock company is determined using the following formula:

$$DR = K_k(1 - \text{tax rate}) \times K_{KB} + K_{VI} \times K_{HAB} + K_O \times K_{OAB}$$

here:

$K_{\text{K}}$  – cost of debt capital of a joint-stock company;

Tax rate - the income tax rate of the joint-stock company;

$K_{\text{KB}}$  – the share of debt capital of the joint-stock company in the total capital;

$K_{\text{H}}$  – the value of the preferred shares of the joint-stock company;

$K_{\text{HAB}}$  – share of preferred shares of a joint-stock company in the total capital;

$K_{\text{O}}$  – the value of common shares of a joint-stock company;

$K_{\text{OAB}}$  – share of common shares of a joint-stock company in the total capital. Sixth, the current value of free cash flows of a joint-stock company is determined using the following formula:

$$CFCF = FCF \times DR$$

here:

$CFCF$  – current value of joint stock company's free cash flows;

$FCF$  – free cash flows of the joint-stock company;

$DR$  – discount rate of joint stock company.

### **Analysis and results.**

In forecasting the cash flows of joint stock companies, the discounted cash flow method is widely used. When using the method of discounted cash flows in joint-stock companies, it is necessary to forecast the following indicators of the company:

first, the choice of the forecasting period of the joint-stock company;

secondly, retrospective analysis of joint stock company's income from product sales and product cost;

thirdly, forecasting and analysis of joint stock company expenses;

fourth, forecasting and analysis of investments of joint-stock companies;

fifth, calculating the amount of cash flows of each year selected for the forecast period of joint-stock companies;

sixth, determination and analysis of the discount rate for joint-stock companies;

seventh, to determine the current value of cash flows of joint-stock companies during the forecast period.

With the help of the formulas shown above, we will form the discounted cash flow of the joint-stock company "Andijan Regional Power Networks Enterprise" and make its forecast. With the help of the formulas shown above, we will form the discounted cash flow of the joint-stock company "Andijan Regional Power Networks Enterprise" and make its forecast. In our analysis, the joint stock company's income from product sales and their growth rates, product cost index and their growth rates, operating margins, net income from the main activity, discount rate, current value of free cash flows were analyzed.

Also, the analysis of the performance of the joint-stock company in the following years was carried out by means of the average growth of the five-year indicators. In particular, we analyze the discount rate of the joint-stock company before making the forecast of discounted cash flows in the following table:

**Table 1. Discount rate of the joint-stock company "Andijan Regional Electric Networks Enterprise"<sup>1</sup>**

Indicator	2017	2018	2019	2020	2021
Risk free rate	14%	15%	15%	16%	14%
Systematic risk	0,2	0,1	0,1	0,2	0,1
Capital risk premium	4,46%	4,46%	4,46%	4,46%	4,46%
Capital cost	14,9%	15,7%	15,6%	16,7%	14,6%
Cost of debt capital	166,9%	573,3%	387,2%	0,0%	0,0%
Share of debt capital	0	0	0	0	0
Equity share	100%	100%	100%	100%	100%
Discount rate	14,9%	15,7%	15,6%	16,7%	14,6%

The main risk of a joint-stock company is the risk associated with private capital. The absence of debt securities in the structure of the company's capital indicates that the change in the discount rate is mainly influenced by the change in the discount rate of private capital. If we look at the analysis, the discount rate of the capital and the discount rate of the joint-stock company are equal to each other. This indicates that there are no debt securities in the debt capital of the joint-stock company. However, the analysis of debt capital shows that it was 16.9 percent in 2017 and zero percent in 2021. This indicates that interest expenses in the joint-stock company have decreased and loans received from the bank have been fully repaid.

In particular, the forecasting of the free cash flows of the "Andijan Regional Power Networks Enterprise" joint-stock company using the discount rate is shown in the following table:

**Table 2. Forecast of discounted cash flows of the joint-stock company "Andijan Regional Electric Networks Enterprise".<sup>2</sup>**

Indicators	2017	2018	2019	2020	2021	2022	2023
Income growth	22,8%	19,7%	30,3%	101,1%	1,4%	25,9%	10,0%
Net income from sales of products, bln. Sums	362,7	434,2	565,6	1137,3	1152,6	1451,2	1995,4
Operating margin	-5,6%	-11,5%	-1,2%	5,5%	0,3%	9,8%	9,8%
Earnings before interest and taxes, bln. sums	(20,3)	(50,1)	(6,6)	62,1	3,3	142,2	195,5
Net operating profit after taxes, bln. Sums	(22,4)	(50,1)	(7,6)	54,7	3,2	27,4	30,4
Net reinvestments, bln. Sums	4,8	(108,2)	(30,1)	7,4	(90,3)	(169,3)	114,7
Free cash flows, bln. Sums	(17,6)	(58,1)	(22,5)	47,3	(87,1)	(141,9)	84,3
Discount rate	14,9%	15,7%	15,6%	16,7%	14,6%	14,9%	15,7%
Current value of free cash flows, bln. sums	(15,3)	(43,4)	(14,6)	25,5	(44,1)	(61,7)	30,4

The analysis of the data in the table shows that the income from the sale of products of "Andijan Territorial Power Networks Enterprise" JSC has a growing tendency. In 2017, it increased by 22.8%, but this indicator is expected to be 10% in 2023. The company's operating margin

<sup>1</sup> " It was identified by the author on the basis of the reports of Andijan Territorial Power Networks Enterprise.

<sup>2</sup> " It was identified by the author on the basis of the reports of Andijan Territorial Power Networks Enterprise.

decreased by 5.6% in 2017, and it is expected to increase by 9.8% in 2023. In particular, the increase in the company's operating income leads to an increase in the operating margin. The increase in operating income is explained by the increase in the income from the sale of the company's products. Income before interest and taxes in 2023 will be 195.5 billion sums is expected to reach. The main reason for this can be explained by the increase in other incomes. Net operating profit after taxes was negative 22.4 bln. sums in 2017, but this indicator is expected to be 30.4 bln. sums in 2023. The reason is that the reduction of the tax burden of joint-stock companies leads to an increase in income due to a reduction in the amount of taxes paid. Net reinvestment was 4.8 bln. sums in 2017, this indicator is expected to reach 114.7 bln. sums in 2023. It can be seen that the company's funds are being spent on investments. The analysis of discounted free cash flows shows that in 2017, the current value of the company's free cash flow was negative 15.3 bln. sums, and in 2023 it is expected to reach 30.4 bln. sums.

In general, the discounted cash flow forecast of "Andijan Territorial Electric Networks Enterprise" JSC shows that the net operating profit after taxes has a tendency to grow from year to year. However, as a result of the increase of net reinvestments in the capital over the years, the company's free cash flows become negative.

In our opinion, joint-stock companies bring an increase in the current cash flow over the projected period of the company by providing an acceptable limit of the measured value of capital (WACC) in the range of  $0.15 < WACC < 0.18$  when performing a discounted cash flow forecast.

### **Conclusions and suggestions**

In the forecast of discounted cash flows, the net operating profit after taxes showed a tendency to grow from year to year. However, as a result of the increase of net reinvestments in capital over the years, the company's free cash flow is negative. This, in turn, shows the amount of funds directed to the development of company.

A negative free cash flow of joint-stock companies does not indicate a bad state of the company. The reason is that the large amount of money of the joint-stock company indicates the investment made in the capital. In particular, it shows that the main means are being purchased and the equipment directly involved in the production is being modernized. Moreover, financial managers of joint-stock companies serve to achieve long-term income through high profitability due to the fact that they attract large amounts of investments for the development of the company.

### **List of used literature:**

1. Luehrman T. A. (1998, July). Investment Opportunities as Real Options. *Harvard Business Review*, 51-67.
2. Chen Mark T.P.E., C.C.E. 2007, "ABC of Cash Flow Projections", *AACE International Transactions*, pp. PM21-PM25.
3. Yun Li, Luiz Moutinho, Kwaku K. Opong, Yang Pang. 2014 "Cash flow forecast for South African firms" *Review of Development Finance*, Volume 5, Issue 1, June 2015, Pages 24-33.
4. Rajendra, R 2013, *Handbook of Global Corporate Treasury*, John Wiley & Sons, Somerset, NJ, USA. Available from: ProQuest ebrary.
5. Bragg SM 2010, *Treasury Management: The Practitioner's Guide*, John Wiley & Sons, Hoboken, NJ, USA. Available from: ProQuest ebrary.
6. Hackel K.S., Livnat J. & Rai A. (1994). The Free Cash Flow/Small-Cap Anomaly. *Financial Analysts Journal*, 50, (5), 33-42.

7. Phillips J.F. (2003). The Dilemma of Valuing Not-for-Profit Hospitals-Is Free Cash Flow the Answer? *Journal of Accounting and Public Policy*, 22, (4), 347-374.
8. Freund S., Prizes A. & Vasudevan G. (2003). Operating Performance and Free Cash Flow of Asset Buyers. *Financial Management*, 32, (4), 87-106.