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MODERN METHODS FOR FORECASTING CASH FLOWS

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discount cash flow, operation margin, proceeds from the sale of products, gross profit, net income from its main activities, discount rate, free cash flow.

ANNOTATION

This article describes the scientific and theoretical basis for forecasting discounted cash flows of Joint-Stock Companies. In this case, the theories of existing foreign Economist scientists on the forecasting of discounted cash flows were analyzed and the views of scientific schools were studied. Based on the results of the study, a procedure for forecasting discounted cash flows of Joint-Stock Companies has been developed.

Introduction. Today, modern methods are widely used in forecasting cash flows of Joint-Stock Companies. When doing business, one of the most basic elements is the calculation of cash flow indicators and their forecasting. When making a forecast of cash flows, it is necessary to take into account several indicators in joint-stock companies. In particular, it is necessary to make a forecast taking into account free cash flows of Joint-Stock Companies and discounted cash flows.

In general, researchers and analysts are implementing a cash flow forecast by calculating the expected cash flows from Joint-Stock Companies and the current value of their future income-generating assets. In particular, in practice, investment projects of Joint-Stock Companies widely use the discounted cash flow method to calculate cash flow. The discounted cash flow method is considered to be a rate that reflects the level of risk in forecasting the cash flow of an investment project and is a reflection of the future cash flow of Joint-Stock Companies in its current value.

It is also used in foreign practice as the most basic tool for assessing the business value of joint-stock companies using discounted cash flows and forecasting cash flows in capital. The discounted cash flow method is a modern corporate financial instrument, and it is very important to fully understand how this method works and its limitations, consequences. The discounted cash flow method is the most important tool in forecasting cash flows, which is used not only to assess joint-stock companies, but also to assess the mass placement of primary and secondary securities and other financial assets. In modern finance, such a powerful instrument is widely used by investment banks, investment consultants and financial managers around the world, even calling the discounted cash flow method "the heart of corporate capital budgeting systems."

Forecasting cash flows of Joint-Stock Companies is important for the activities of each business. Also, with the help of forecasting cash flows, a general account of the inflow and outflow of cash flows of Joint-Stock Companies is determined. The advantage is that the costs incurred for the activities of the Joint-Stock Company indicate when they will be covered and whether there is a need to take unexpected debts to cover the needs for cash.

Literature review. To maintain the competitiveness of business activities of joint-stock companies, it is necessary to be clear and realistic to forecast cash flows according to each indicator. Therefore, joint-stock companies often carry out cash flow forecasts for business plans, which include many years. In particular, if the forecast of cash flows of Joint-Stock Companies is not carried out on the basis of accurate calculations, Joint-Stock Companies will suffer large financial losses, which will lead to the loss of business opportunities.

In a joint study of Odeyinka and others from foreign Economist scientists, a clear implementation of the forecasting of cash flows of Joint-Stock Companies was considered the key to the implementation of the financial planning of the company. It is important for shareholders and investors in joint-stock companies to forecast cash flows and successfully manage the company's cash flows (Chen Mark T,P.E. 2007).

The forecast of cash flows of Joint-Stock Companies is followed by investors, creditors, employees and rating agents. In particular, the purpose of investors to monitor the cash flows of societies is to determine how many dividends a society will give, make decisions on the implementation of investments related to increasing the value of capital, and determine the norm of funds that will be needed to compensate for investments made in capital. Creditors, on the other hand, are interested in making solvency decisions related to joint-stock companies in which they are doing business, employees are interested in work safety and constant risk issues related to the firms in which they work. Rating agents, on the other hand, make it clear that by analyzing cash flows, joint-stock companies have the ability to pay off the debts of a company when the term comes (Yun Li, Luiz Moutinho, Kwaku K. Opong, Yang Pang. 2014).

The purpose of forecasting cash flow of Joint-Stock Companies is the implementation of cash and liquidity status of the company by simulating and investing in the inputs and outputs of cash flows in advance. The purpose of forecasting cash flows is to determine the availability of funds for financing the activities of a Joint-Stock Company and make sure that the maximum use of cash resources of the company, as well as the absence of the need to receive additional debts. The advantage of successful forecasting of cash flows is that it reduces the cost of the capital of Joint-Stock Companies and increases excess cash income (Rajendra, R 2013).

In particular, the use of misinformation when forecasting cash flows during the period in which the forecast is made is not carried out correctly. Also, the forecast of cash flows leads to comparison with real numbers and correction of numbers, improvement of the cash flow forecast of the Joint-Stock Company (Bragg SM 2010). In addition, Rajendra argues that there are several ways to predict cash flow in his research.

The implementation of the forecasting method is considered to depend on real needs. It also showed that there are two classic types of cash flow forecasting, namely direct and indirect. In particular, when forecasting direct cash flows, it predicts when funds will enter the business at a certain time. It tries to determine when payments will be made on a specific 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 for the determination of the amount of money, especially in the short term. The direct method of forecasting cash flows includes all types of operations, including operations related to credit and cash, as well as mutual settlements with bills of exchange, invoices and taxes (Hackel K.S., Livnat J. & Rai A. 1994).

In particular, according to Radjendra's research, the cash flow forecast of a joint-stock company will support the management decision-making of a society if done accurately and will allow risk management. Also, the main component of risk management in joint-stock companies is forecasting and effective management of future cash flows. In turn, the financial value of a joint-stock company is directly affected.

Research methodology. The Joint-Stock Company "Andijondonmahsulot", operating in Uzbekistan, was selected and the forecasting of cash flows of societies by the method of discounted cash flows was carried out.

Firstly, we projected the share of proceeds from the sale of products, taking into account the growth of the proceeds of joint-stock companies from the sale of products in relation to the previous year. This can be expressed by the following formula:

$$\mathrm{IRFPS} = \frac{\mathrm{PFSPCY}}{\mathrm{RSPCYL}} - 1$$

Here:
IRFPS – increase in revenue from product sales;
PFSPCY – proceeds from the sale of products in the current year;
RSPCYL – revenue from sales of products in the current year last year.

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

$$\mathrm{OM} = \frac{\mathrm{GP}}{\mathrm{MCTT}}$$

Here:
ОП – operational margin;
GP – gross profit.

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

$$\mathrm{N}IFMA = \mathrm{GP}(1 - \mathrm{Tax\ rate})$$

Here:
NIFMA – net income from major activities;
Tax rate - the ratio of revenue from product sales to taxes paid

Fourth, free cash flows of the Joint-Stock Company were determined.

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

$$\mathrm{DR} = \mathrm{W_d}(1 - \mathrm{Tax\ rate}) \times \mathrm{R_d} + \mathrm{R_{ps}} \times \mathrm{W_{ps}} + \mathrm{R_e} \times \mathrm{W_e}$$

Here:
W_d *– the cost of a joint-stock company for borrowed capital;*
Tax rate – income tax rate of a joint-stock company;
R_d *– share of Joint-Stock Company borrowed capital in total capital;*
R_{ps} *– value of preferred shares of a joint-stock company;*
W_{ps} *– share of preferred shares of a joint-stock company in total capital;*
R_e *– the value of ordinary shares of a joint-stock company;*
W_e *– share of ordinary shares of a joint-stock company in total capital.*

Sixth, the current value of free cash flows of a joint-stock company is determined using the following formula:

$$\mathrm{CVFCF} = \mathrm{FCF} \times \mathrm{DR}$$

Here:
$CVFCF$ – current value of free cash flows of a joint-stock company;
FCF – free cash flows of a joint-stock company;
DR – discount rate of a joint-stock company.

Research results. When forecasting cash flows of joint-stock companies, mainly the discounted cash flow method is widely used.

Using the formulas indicated above, we form a discounted cash flow of the Joint-Stock Company "Andijonmahsulot" and make its forecast. In our analysis, indicators of the proceeds of the Joint-Stock Company from the sale of products and their growth rates, the indicator of the cost of products and the growth rates of them, the operating margin, net income from their main activities, the discount rate, the current value of free cash flows are analyzed.

Also, through the average growth of five-year indicators, an analysis of the indicators of the next years of the Joint-Stock Company was carried out. In particular, we will analyze the discount rate of a joint-stock company in the table below before the discounted cash flows make the forecast:

Table 1. Discount rate of Joint-Stock Company "Andijondonmahsulot"1

Indicator	2017 year	2018 year	2019 year	2020 year	2021 year
Risk-free rate	14%	15%	15%	16%	14%
Systematic risk	0,3	0,1	0,2	0,7	0,2
Reward for capital risk	4,46%	4,46%	4,46%	4,46%	4,46%
Capital value	15,3%	14,9%	15,9%	19,3%	14,8%
Cost of borrowed capital	13,7%	16,1%	24,1%	24,0%	26,5%
Debt capital share	0	0	0	0	0
Private equity share	100%	100%	100%	100%	100%
Discount rate	15,3 %	15,4 %	15,9 %	19,3 %	14,8 %

In the table data analysis, we can see that the discount rate of the Joint-Stock Company "Andijondonmahsulot" fell by 14.8% in 2021, while in 2017 the discount rate was 15.3%. One of the main reasons for this is the drop in the refinancing rate in our country, which is why the discount rate of the Joint-Stock Company fell in exchange for the fall in interest rates. The main risk of a joint-stock company is the risks associated with private capital.

The non-existence of debt securities in the capital structure of society suggests that the change in the discount rate is largely influenced by the change in the discount rate of private capital. Looking at the analysis, the discount rate of a joint-stock company with a discount rate of capital is considered equal to each other. The reason is that the debt capital of a joint-stock company indicates that there is no borrowed securities.

However, the analysis of debt capital shows that in 2017 it increased by almost 2 times, while in 2021 it was 13.7 percent. This should be explained by the decrease in interest-related expenses in the Joint-Stock Company and an increase in bank loans. In particular, the forecast of the Joint-Stock Company "Andijondonmahsulot" through the discount rate of Free Cash Flows is shown in the table below:

Table 2. Forecast of discounted cash flows of the Joint-Stock Company "Andijondonmahsulot"1

Indicators	2017 y.	2018 y.	2019 y.	2020 y.	2021 y.	2022 P	2023 P
Revenue growth	11,50 %	11,90 %	25,70 %	56,30 %	24,10 %	25,90 %	10 %
Net proceeds from the sale of products, billion. sum	91,6	102,5	128,9	201,4	249,8	314,6	692
Operational margin	2,3%	-32,7%	6,3%	9,1%	9,8%	12,1%	5,0%
Income before paying interest and taxes (EBIT), billion. sum	2,1	(33,5)	8,2	18,4	24,5	37,9	34,6
Net operating profit after the payment of taxes, billion. sum	1,9	(33,5)	6,6	15,5	20,1	38,1	30,5
Pure reinvestments, billion. sum	(36,5)	(51,4)	43,9	89	(1,9)	(36,5)	57,9
Free cash flows, billion. sum	(34,6)	(17,9)	(37,3)	(73,5)	18,2	1,6	20,4
Discount rate	15,3 %	14,9 %	14,1 %	19,3 %	14,8 %	15,7 %	15,7 %
Free cash flows-Current Value, billion. sum	(30,0)	(13,6)	(25,1)	(36,3)	9,1	(14,4)	(6,4)

In the analysis of table data, "Andijondonmahsulot" JSC's revenue from product sales has a growing trend. While it grew by 11.5 percent in 2017, it is expected to grow by 10 percent in 2023. The community is expected to grow by 2.3% in 2023, while the operating margin grew by 5% in 2017. This is due to the fact that the operating income of the Joint-Stock Company amounted to 2.1 billion in 2017. the sum was 24.5 billion in 2021. it should be explained by the increase in

Net operating profit after taxes were paid was $ 1.9 billion in 2017. sum, this figure was 30.5 billion in 2023. the sum is expected to be up. The reason is that joint-stock companies are leading to an increase in income through a decrease in the amount of taxes paid in exchange for a decrease in the tax burden. Net reinvestments were negative in 2017 at $ 34.6 billion. sum, but this figure was 57.9 billion in 2023. the sum is expected to be up.

It can be seen from this that the money of society was not spent on investment. An analysis of discounted free cash flows shows that the current value of free cash flow of society in 2017 was negative 30.0 billion. there were sums, but this figure in 2023 was negative 6.4 billion. it is expected to reach sums. In general, the discounted cash flow forecast of "Andijondmahsulot" JSC shows that the net operational sums. In particular, an increase in the operational income of society leads to an increase in the operational margin.

The increase in operational income is explained by an increase in the revenue of society from the sale of products. The income before the payment of interest and taxes was 34.6 billion in 2023. it is expected to reach sums. This can be explained by the fact that other incomes increase.

profit after the payment of taxes has a tendency to grow from year to year. However, as a result of the increase in net reinvestments made to capital over the years, the free cash flows of society become negative. This, in turn, indicates the amount of money invested in the development of society.

In general, the discounted cash flow forecast of "Andijondmahsulot" JSC shows that the net operational profit after the payment of taxes has a tendency to grow from year to year. However, as a result of the increase in net reinvestments made to capital over the years, the free cash flows of society 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

[1] Determined by the author based on the reports of "Andijondonmahsulot" JSC.

1 Determined by the author based on the reports of "Andijondonmahsulot" JSC.

the range of 0.15<WACC<0.18 when performing a discounted cash flow forecast.

Conclusion. In the forecast of discounted cash flows, the net operational profit after the payment of taxes showed a tendency to grow from year to year. However, as a result of the increase in net reinvestments made to capital over the years, the free cash flows of society become negative. This, in turn, indicates the amount of money invested in the development of society.

The negative flow of free money of Joint-Stock Companies does not indicate a bad state of society. The reason is that large amounts of money from a joint-stock company indicate the implementation of the investment being made in capital. In particular, it indicates the purchase of fixed assets and the modernization of equipment that is directly involved in production from the factory. It also serves to ensure that the financial managers of joint-stock companies achieve long-term income through high profitability due to the fact that they attract a large amount of investment in the development of the society

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