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## Cash Flow at Risk: A Tool for Financial Planning

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### Abstract

The company's cash levels can vary considerably over time depending on, payment and collection cycle. Made full and timely payment of sufficient operating capital to keep and disruption of operations, it is important to predict cash levels correctly. Cash Flow at Risk; as well as financial strategies and long-term investment planning based on the scientific basis of creation, it provides an assessment of capital structure. Through different scenarios that may occur rarely even considers events. Through Cash Flow at Risk calculations on a specific date how much cash levels may fall within the confidence interval, how can rise under favorable market conditions can be analyzed. As a result of this analysis, to meet the level of cash payments , the probability of occurrence of certain changes in the cash flow, working capital requirements for market risk are determined in consideration of cash planning is done. The purpose of the study is to evaluate the risks that may arise due to the deviation of cash flows. In this context, based on 2014 budget of a sample business, cash flow at risk will be calculated. To manage the liquidity risk of sample business, an analysis will be carried out in two different scenarios whether to use or not to use a credit.

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### 1. Introduction

Risk is defined as an event that has a probability of occurring, and could have either a positive or negative impact to a project should that risk occur. A risk may have one or more causes and, if it occurs, one or more impacts ([www.phe.gov](http://www.phe.gov)). The concept of risk is manageable due to the phenomenon of constantly being analyzed by investors, and development tools for hedging evil is constantly monitored studies. Risk management is a rapidly developing discipline and there are many and varied views and descriptions of what risk management involves, how it should be conducted and what it is for ([www.theirm.org](http://www.theirm.org)).

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Financial planning is a process by which you assess your financial situation and your sources of finance, determine your objectives, and then formulate financial strategies to achieve those objectives (Elahi, 2008). Having planned financial activities in advance, where they could be used in the most profitable way of funding also means early detection. In addition, financial planning, and all business units to focus on their business objectives in a coordinated way towards achieving the same goal efforts provide an important contribution.

In search of such information, the managers of the company could opt to evaluate its risk profile using the widely used Value-at-Risk measure, or, being an industrial company, Cash Flow-at-Risk (CFaR). The CFaR measure provides a summary statistic of the risk inherent in the firm's portfolio of cash flows. It essentially represents the shortfall of cash flow, associated with a certain probability, a company could experience over a certain time period. Such a modelling effort can be helpful in managing the firm's operating cash flow and provide a sense of the firm's overall liquidity risk over a certain time period (Jankensgard, 2008).

## 2. Financial Planning

Financial planning, investment and financing choices available to business analysis, prediction of future consequences of taken decisions, to decide which alternative will be implemented and is measured in terms of financial performance objectives identified in the plan (Brealey, v.d., 1997). In other words, financial planning, based on the available data, is predicting the company's future operations and financial condition. Financial planning for the provision of financial objectives will serve to identify ways and means. In short, financial planning for the future consists of financial analysis. (Dalgat, 2002) and also financial planning has a major influence on hedging. Financial planning is a directory of business growth and change. Financial planning decisions on the four basic cases are planned (Uzun et al., 2003).

- The level of investment in fixed assets.
- In the planning period, the company's liquidity or working capital requirement level.
- Debt and equity composition.
- How to evaluate business decisions.

The cash flow statement is utilized in financial planning. Statement of cash flows is a table showing the company's cash resources and the use of these fields in a given period. The aim of arranging the cash flow statement is preventing the constriction of liquidity. In the application part of the study, the cash flow at risk will be calculated starting from a business's cash flow statement 2014.

Financial planning has three components including inputs, planning model and outputs. Entry of financial plans consist of current and future estimates of financial statements. Planning models; are tools to help profit, investing and financing calculations. The outcomes of financial plans are the tables of projected balance sheet, estimated income statement and forecast resource usage (Ceylan, 2004).

## 3. Business Budgets

Budgets are the providing reports for the next operating period for the purposes of business, based on the objectives and policies of the comprehensive plan by management to quantify the monetary. A budget is a comprehensive financial plan that draws of an organization's financial and functional way to achieve the goals envisaged. Budgeting is an effective step in financial planning (Gençtürk and Bağcı: 2012).

Budgeting, despite used as an intermediate to restrict the expenses and keep under control before, nowadays to ensure the most efficient tool has been used in the hands of the company's financial resources by the leaders. As a result of this, administrators, fulfilling their duties in financing plan, they began to exploit from a financial planning tool budgeting techniques on a large scale (Özdemir, 1999). Budgets as a planning tool, profitability through effective use of resources, in the long term efficiency and liquidity is used to provide operating continuity and development.

According to the activities; businesses are preparing various budgets. Budget covering all business functions are called by the general budget or the main budget. General budget, is prepared by combining summarized which

covers the different functions of the business of the budget and also reflects the main purpose that the business will reach (Büker et al., 1997). Outlined in the general operating budget and business organized according to the major functions of the budget, is divided into three groups as operating budgets, operating expenses and capital budgets, and including budget. Divided into three groups for this budget, is finalized as cash budget, proforma income statement and proforma balance sheet (Gençtürk and Bağcı: 2012).

#### **4. Value at Risk- (VAR)**

Scientific studies, VAR measures the financial risk if done correctly, many businesses have shown that they can protect themselves against advance. Risk measurement, it is of great importance in terms of the continuity of the company. Therefore, states, independent auditors, suppliers, customers, competitors, and even trade unions are interested in VAR figures (Demireli and Taner, 2009). Value at Risk is used mainly in all institutions exposed to financial risks. Due to the sector audit and control activities in the regulatory agencies and their holding of financial instruments, in risk management mandatory largest trading portfolio with banks, pension funds, other financial institutions, Value at Risk provides useful results non-financial institutions exposed to financial risk (Jorion, 2000). Value at Risk, is a risk management tool. Also, it is used to measure in the reporting of information on the risks of the company, risk-adjusted returns that permit the use of resources within the company to determine the position and performance measuring.

VAR, estimates interest rates, inflation, exchange rate and stock prices as well as the total effect of market risk. Thus, for a predetermined period and a confidence interval, which are sensitive to changes in market factors specific to the assets and liabilities represents the total expected loss. So that; Micro base can be also used to invest in a single investment portfolio as at the macro level (Aktaş, 2008).

#### **5. Cash Flow at Risk- (C-FaR)**

C-FaR is defined as an analytic method of measuring with high degree of probability the risk of cash flow shocks for non-financial firms by its producers. This model helps firms by being a measure to evaluate the changes in their values. The model is proposed as a form of VaR for finding the overall risk against a firm's cash flow (Vural, 2004). The company's cash levels can vary considerably over time depending on, payment and collection cycle. Made full and timely payment of sufficient operating capital to keep and disruption of operations, it is important to predict cash levels correctly. Cash Flow at Risk; as well as financial strategies and long-term investment planning based on the scientific basis of creation, it provides an assessment of capital structure. Through different scenarios that may occur rarely even considers events (Balkoç, 2012).

The firms want to know their C-FaR for the purpose of their capital structure policy. Capital structure policy means the debt-equity choice of the firms. These firms try to exploit the benefits of debt against the potential costs such as financial distress. C-FaR helps firms to evaluate their probability of financial distress by interpreting the cash flow volatility. And C-FaR helps them to consider new investments and make strategic decisions (Vural, 2004). The difference between the CFaR and the analogy of value at risk (VaR) is that the CFaR focuses on the operating cash flow, whereas the VaR on the asset value, and the time horizon of the CFaR can even be a quarter or one year. The essence of the CFaR metrics is to condense the overall corporate risk exposure into one manageable figure. Management must be fully aware what risk measures are monitored by those concerned within the company, and has to disclose the related information in the form of a risk report accordingly (Kuti, 2011).

#### **6. Application**

The purpose of the study, due to the deviation of cash flows is to assess the risks that may arise. In this context, through a sample of the 2014 budget business, cash flow risk will be calculated. This sample businesses', to manage liquidity risk, such as whether or not to use credit will be carried out an analysis in two different scenarios in Table 1. In this context assumptions are; (a) Operating income of \$ 30 million in 2014 sales forecast (b) 30% of sales is risky (c) in 2014, dealer loans, annuities, term loans and other payments to be made from the sum of \$ 33 million (d) the entity is evaluated in the current market conditions would provide more than \$ 4 million in new credit limit.

Table 1. Cash Flow At Risk Analysis

1. Scenario ( without the use of the new credit)	
2014 Sales Target	30.000.000 USD
Risky Sales Amount	9.000.000 USD
In order to meet financial obligations minimum funding	33.000.000 USD
%95 Confidence Level CFaR	15.195.000 USD
In 2014 the possibility to meet financial obligations	% 63,06
2. Scenario (\$ 4,000,000 loan if using)	
2014 Sales Target	30.000.000 USD
Risky Sales Amount	9.000.000 USD
Credit	4.000.000 USD
In order to meet financial obligations minimum funding	33.000.000 USD
%95 Confidence Level CFaR	15.195.000 USD
In 2014 the possibility to meet financial obligations	%45,57

As seen in Table 1, property in its present form in 2014, 63% of overdue financial obligations will likely meet. This rate is over 50% constitutes a risky situation. However, liquidity risk with the use of \$ 4,000,000 of loans dropped from 50% to 45% will take place. Volatility in property sales, market liquidity levels and possible changes in financial liabilities may affect these rates.

## 7. Result

In recent years, risk managers have noticed that market risk measuring the amount of cash required for these risks at the same time to identify and determine the amount of cash required in credit risk induced is very important. In parallel, used to measure the market risk Value at Risk (VaR) models, financial markets in all countries, developed or developing as a modern risk measurement techniques are used. Value at Risk, a certain probability defines the maximum amount that can be lost. On the other hand; Cash Flow at Risk provides the financial strategy and long-term investment planning based on the scientific basis of the establishment as well as the evaluation of capital structure.

As a result of this analysis, the level of cash payments meeting the situation, the probability of occurrence of certain changes in the cash flow, working capital requirements for market risk identified and would have been made in consideration of cash planning. Cash Flow At Risk (CFAR), in the medium term due to the deviation of cash flows are used to assess the risks that may arise.

In the study; the risks that may arise are evaluated due to the deviation of cash flows. In this context; based on 2014 budget of a sample business, cash flow at risk was calculated. To manage the liquidity risk of sample business, an analysis was carried out in two different scenarios whether to use or not to use a credit.

Analyzing the examples considering assumptions, while in the first scenario, in 2014 ,the possibility of meeting financial obligations are 63.06%, in the second scenario, in 2014, 45.57% is more likely to meet financial obligations.

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