ASPECTS REGARDING THE RISK MANAGEMENT IN THE FINANCIAL INVESTMENT COMPANIES, IN THE CONTEXT OF RECENT ECONOMIC CHANGES

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Abstract: The bubbles, either involving real or financial assets, previous to the subprime crisis bring at the investors community’s concern the elusive topic of risk mitigation. Funds industry need today, more than any time in the past, a clear, decisive and competent approach in risk management. A competitive financial investment company must take in consideration not only basic risk management measures, such as VaR, CFaR or PaR, but also more sophisticated tools, like Monte Carlo simulation or complex risk matrixes.

Key words: risk matrix, potential risks, value at risk, cash flow at risk, profit at risk, Monte Carlo simulation

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1. INTRODUCTION

The corporations, investment companies, investment funds, banks, generally, all economic organizations that pursue profit are complex, open systems that operate in an external environment marked with uncertainties. These can be transferred on that organization and can influence its goals and performance. Therefore, the management must identify the risks and adopt the most appropriate actions to soothe the effects of the risks within the acceptable limits, both as consequences and costs of avoidance/transfer or insurance.

Thus, it is necessary to draw a systematic and periodical analysis of the risks associated to the activities performed by the company in its current operations on the market, in the relations with its specific environment, with the authorities or investors or its public (Cuzman, Manațe, Fărcaș 2006).

The major risks are of primarily interest, as they can significantly influence the organization goals. The segregation between a risk considered acceptable (the cost to avoid it is not justified in relation to the consequence) as compared to a major risk, consists in defining an adequate significance threshold, starting from aspects such as the frequency of occurrence, the probability or the impact on the organizational goals MFP (2005).

The successful operation of a company in the present competitive environment is increasingly conditioned by the existence of an information flow that contains attributes of reliability, exactness, relevance, update and opportunity.

Given these goals, the management will define: the type, contents, sources, recipients and the frequency to collect relevant data and information for the organization activity, also identifying the most adequate flow model, as to make it available on short notice to the staff so that to allow efficient reactions.

The data and information flow is both internal and external, representing one of the main components of the competitive intelligence system (IC) crucial today to modern organizations that aim to be also competitive.

The flow itself adds value to company’s operations, but in fact it is boosted by the internal and external, flexible, efficient and fast communication on all interference levels with the internal and external environment, namely:

- on a symbolic identity level (from logo and slogan to systems of values recognized by the public),
- financial (e.g. periodical reports to be perceived as complete and relevant to users)
- socio-emotional (e.g. company to be perceived as a “good citizen”, remaining close to modern values of durable and sustainable development),
- legal/ethical (e.g. the perception of correctness of the activities and relations with the authorities and partners, of corporate governance in investor relations)

The continuous change of the external environment requires periodical reassessment of the initial working hypotheses on which the strategic, tactical and operational goals were set. One of the key elements used by the performance management is to correlate hypotheses with goals and the staff responsible for performing these both on initial levels and on any possible reassessment of inputs, especially if outputs are being changed. Different techniques, such as “war rooms”, brainstorming with expert teams, etc. should not be ignored at all, especially in an industry so sophisticated as the one of investment funds.

Any activity can benefit from the existence of certain well defined procedures intended for the most important aspects of a corporate business. The written documents, complete and precise, that can comprise: handbooks, instructions, check lists are made available to the staff ensuring the continuity of the activity if one key person is absent or unavailable. Also, it ensures the access to the knowledge needed to achieve the basic tasks at a minimum, desired and required, level.

2. GENERAL PRINCIPALS OF RISK MANAGEMENT IN FINANCIAL INVESTMENT COMPANIES (SIF)

The operational risk is defined (Basel Committee on Banking Supervision 2001) as being “the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events.” Thus, the operational risk does not depend on measurement or requests for capital, it depends on the management of processes, people and technology, and also, on external events.

As regards the financial investment companies (Cuzman, Manațe, Fărcaș 2006), the operational risk represents the risk of recording losses or failing to achieve the expected profits. This risk is determined by:

- internal factors:
  - inadequate performance of certain internal activities due to insufficient internal procedures,
  - improper personnel,
  - inadequate information systems,
  - failure to adapt to continuous technological progress etc.
- external factors:
  - hostile economic environment,
  - changes in the business environment due to legal frame incoherencies etc.
  - political-social events,
  - environmental conditions etc.

The management of the operational risk starts from a more comprehensive risk matrix (Manațe, Fărcaș, Pescar 2006), that includes both the real risks (that already occurred in the past and affected the organization) and the potential risks (that did not occur in the past but can occur in the future) which implies the management of processes regarding the identification, valuation and assessment of the operational risks, determining the responsibilities, taking measures to mitigate and anticipate risks, periodical review and progress monitoring.
Mastering the real risks is a guarantee that the internal control systems are effective. In other words, mitigation of real risks enables the company to no longer face in the future the same risks, to the same extent, it has faced in the past or to limit the negative effects of risks up to an acceptable level.

The operational risk does not include the strategic risk and the reputational risk (Cuzman, Manațe, Fărcaș 2006). Along with the investment risk, the strategic risk and the reputational risk, the operational risk is included in the major risks category, namely of the risks with impact on the assets and/or reputational condition of a company.

The operational risk is an issue falling within the direct responsibilities of the executive board, the efforts connected to this field being coordinated at this level of the organization.

The developments within the field of investment funds revealed that the operational risks can become an important problem for the investment funds, these risks being able to cause significant losses. The management of operational risk implies to undergo the following five steps (adapted subsequently to AS/NZS 4360:2004):

1) identifying risks;
2) risk quantification;
3) solutions to overcome risks;
4) administration of the risk management process;
5) establishing the risk management strategy and setting the internal mechanisms required for implementation.

The management of operational risk aims to:

- Ensure the *minimum capital requirements* to cover risks;
- Secure employee involvement and promoting both of responsibilities toward the operational risk, meaning to reduce losses by identifying and reporting the events that caused losses;
- *Create a corporate culture* in order to identify and anticipate events of operational risk.

We still have to underline that not the models and techniques are the most important, but the attitude toward risk and this is, first of all, an aspect of the corporate culture created over time and not on the spot by adopting some compulsory technical procedures.

Risk management implies changing the style of management, primarily the managers’ attitude, that besides the reactive approach of the impact of some risk events produced should develop reactions oriented to the future. Identifying the possible threats before they occur and determine unfavorable consequences over the goals set is the main mission of the management. This means to adopt a proactive management style.

Proactive management relies on the principle: *“better prevent than wait for the occurrence”* and this type of managers try to discover the future risks associated to some changes in the external environment. In the terminology adopted in some countries, the risks that did not yet occur, but that may occur in the future, are known as *potential risks*.

On the other hand, identifying and ranking the threats to which the organization is exposed depending on how frequent it occurs and the size of the impact over the corporate goals (AS/NZS 4360:2004) contributes to better allocate resources, allowing the company to focus its efforts on important aspects, thus facilitating the achievement of corporate goals.

Generally speaking, risk management, and especially risk matrix, through the risk hierarchy according to frequency and impact criteria is a good support for internal control.
3. RISK MANAGEMENT PROCEDURES AND PRACTICES TAILORED FOR FINANCIAL INVESTMENT COMPANIES (SIF)

Risk affects company activities generally and especially the results of the activity. Since the results of the company directly depend on the working methods accepted and used in the investment process, on communication and inter-departmental relationships, on the knowledge and efficient use of human resources, on the reliability and security of the use of internal systems, risk management is a crucial component in the current activity of the company.

For the financial investment companies it is defined that (Stancu 2002): “the risk of an investment represents the possibility to have deviations of the returns relative to expected average, following the anticipated and unanticipated variation of economic and financial phenomena that determines it. Reported to the frequency of this deviation and to the distribution more or less symmetrical compared to the average, one can anticipate the risk’s magnitude.”

The investment risk management is performed within some risk limits set by mathematical algorithms and by the use of measurement methods based on some measures such as: Value at Risk - VaR, Cash Flow at Risk - CFaR and Profit at Risk - PaR, while the management of operational risk is performed mostly through procedures (RiskMetrics Group 1999).

As regards the financial investment companies, the documents for risk reporting proposed by us are of two types:
- Reports of risk events and
- Risk reports.

The reports of risk events are prepared by different positions in the organisational chart, while the risk reports will be prepared by the members of the risk management division. These reports are electronic, distributed and accessed automatically through the company server. The person in charge to prepare the event or risk report, as appropriate, prepares the document in electronic format then posts it in the place indicated on company server.

All computer applications that support the reporting process rely on calculation algorithms that are meant to automatize the process of risk measurement and reporting – the algorithms and software being part of the integrated system of risk management (Manațe, Fărcaș, Pescar 2006).

3.1 Reporting the market risk – Value at Risk (VaR)
SIF Banat - Crișana approach

The value at risk (VaR) is the most common measurement method of market risk, being used by financial companies to determine the maximum loss that can be tolerated by a certain portfolio, in a certain period of time and for a given probability (RiskMetrics Group 1999). VaR measures risk on different levels, starting from the level of one item up to the level of a complex portfolio. VaR measures risk both by statistical methods and by simulations that can measure the volatility of portfolio assets. VaR is a flexible measurement tool, it can calculate different time horizon (from one day to one month) as well as different levels of trust (between 90% and 99%).

The most common methods for calculating VaR are, that are also used in the risk management at SIF Banat-Crișana are:
1. VAR/COVAR method – variation/co-variation;
2. Monte-Carlo simulation method;
3. EWMA model (Exponential Weight Moving Average)

Technically speaking, VaR valuation for the portfolio of financial instruments of SIF Banat-Crișana implies the breakdown of the portfolio on classes (Manațe, Fârcas, Pescar 2006). After the breakdown of SIF portfolio in several classes of instruments, calculation algorithms were designed for each class and a calculation model of VaR parameter was adopted:

- For the class of stocks traded on BSE, liquid, VaR is calculated by the method Variance – Co-variance;
- For the class of stocks traded on BSE, illiquid, VaR is calculated by Monte-Carlo simulation;
- For the class of unlisted stocks, VaR is calculated by Monte-Carlo simulation, starting from the capitalization of net profit;
- For each class of bonds, deposits and certificates of deposit and the class of treasury bills and bonds, VaR is assessed by Monte-Carlo simulation method starting from the statistical data of the variation of values that can be determined
- For the entire SIF portfolio, the VaR parameter will be aggregated, by adopting the Monte-Carlo method.

3.2 Reporting the risks that affect the financial-economic results and the liquidities of SIF Banat-Crișana

As regards SIF Banat-Crișana, the sources that size the cash flows and implicitly the net result of the company are the following (Manațe, Fârcas, Pescar 2006):

1. revenues/receipts from the interests related to financial instruments with fixed income (RON and foreign currency-denominated bank deposits, RON and foreign currency-denominated treasury bills and bonds, RON and foreign currency-denominated corporate and municipal bonds),
2. revenues / receipts from foreign exchange gains related to foreign currency-denominated financial instruments,
3. revenues/receipts from the dividends due from the participations in the share capital of companies in the portfolio,
4. revenues/receipts from the transactions regarding divestments of participation held in the share capital of companies in portfolio;
5. revenues / receipts from the support activities of the company.

The risk to fail to achieve the financial flows, estimated annually within the "Financial Plan, are measured by two specific measures:

a. PaR – Profit at Risk and
b. CFaR - Cash-Flow at Risk.

The identified influence factors that shape the variability of these two measures analyzed, Cash-Flow and Net Profit, are:

- Variation of the rate of interest (split on types of investments),
- Variation of the rate of foreign exchange,
- Variation of the amount of dividends due/collected by SIF Banat-Crișana,
- Variation of the revenues from the sale of stakes in company portfolio.

The variability of the results analyzed (Net result and Cash-flow) is analyzed compared to the budgeted level in the Financial Plan for that year. The starting point for the analysis of the influence factors presented further in detail is the corporate Financial Plan, since the tool relies on the mathematical formalization of the relations between the identified influence factors and the two inputs and out measures, thus meeting the demands of the study.
**Raporting profit at risk PaR**

The profit at risk (PaR) represents the maximum decrease of net profit (P) as compared to a profit target goal that can be recorded in a certain reporting period, with a certain level of trust, due to the exposure to market risk. The following risks are considered, that can significantly affect the main revenue flows:

1. Interest rate risk,
2. Exchange rate risk,
3. Risk to fail to achieve the planned Cash Flow, which is due to:
   3.1. variation of the amount of due dividends from participation in the share capital of issuers in SIF Banat-Crisana portfolio,
   3.2. variation of the revenues from the sale of the stocks in the portfolio,

**Raporting cash-flow at risk CFaR**

Another parameter for risk assessment is Cash Flow at Risk (CFaR) that represents the maximum decrease as compared to the cash flow target goal that can be recorded for a certain reporting period, with a certain level of trust, due to the exposure to market risk that can significantly influence the main receipts/payment flows. The variation of the planned Cash Flow has a source in the liquidity risk.

The financial operations performed by SIF Banat-Crisana refer to the daily inputs and outputs of cash flows, as there are daily requests for funds to finance the investment projects and to cover the current needs (maintaining the normal operation of the company: salaries, taxes and duties, commissions etc.) and availability of funds due to reaching maturity of the financial instruments with fixed income or due to the receipts from the divestments in portfolio.

The lack of correlation between receipts and payments can lead to:
- miss investment opportunities, namely not taking full advantage of the capital invested,
- failure to achieve the expected cash flows,
- the lack of necessary cash.

Most of the influence factors on profit have also impact on cash flows, influence factors from the monetary market and from the capital market.

In terms of the monetary market, by the maturity of financial instruments with fixed income or in the exceptional situation of early redemption of financial instruments with fixed income, the cash flow table offers the image of monthly receipts (interests, foreign exchange gains or losses) and payments (bank commissions, foreign exchange losses) from the monetary market monthly, respectively quarterly, half-yearly or annually.

In terms of the capital market, the variation of the dividends collected and the receipts from the sale of financial instruments has direct impact on company’s Cash Flow.

The change in any item: interest collected, dividends collected, receipts from the sale of financial instruments or payment of commissions, taxes, salaries or other services rendered by third parties is reflected in the deviation from budgeted level, deviation measured both in absolute value and in percentage.

**4. CASE STUDY: VaR ASSESSMENT FOR CLASS A IN SIF BANAT - CRIȘANA PORTFOLIO**

We will show an example to assess risk for a subportfolio within SIF Banat-Crisana, portfolio of financial instruments, that we called Class A Subportfolio Class A contains companies in SIF Banat-Crisana, portfolio, listed, liquid and traded on Bucharest Stock Exchange. The liquidity conditions refer both at the trade volume and at the number of days that should be greater than one percent preset, e.g. greater than 66% from the number of days the stock exchange operates, as for this class, the VaR index is calculated daily. The
breakdown in disjunctive classes is done regularly for the entire portfolio of financial instruments SIF Banat-Crișana, by adequate calculation applications and programs.

The following were taken into consideration for VaR valuation at Class level A:

a. VaR calculation method: Variance – Co-variance;
b. Calculation period - 1 day, calculation of daily VaR;
c. Level of confidence 95 %

As of September 1, 2010, there were 35 issuers in Class A, 1st and 2nd tiers on Bucharest Stock Exchange and Rasdaq Electronic Stock Exchange. The results of applying the variance-covariance method to assess the value at risk, VaR, for a two-month period of time, September and October 2010, are presented below. It means that in this interval, the variation of the portfolio did not exceed the VaR estimated value, at the confidence level of 95%.

5. CONCLUSIONS

The risk management process ensures:
- identifying the types of risks at which the company is exposed;
- setting some limits – alarm thresholds;
- taking decisions concerning the potential values of losses by:
  • assuming some risks;
  • preventing and reducing of other risks through control measures;
  • removing the most exposed activities;
  • risk transfer, through:
    o externalization,
    o conclusion of insurances
  • diversification on external markets;
  • hedging.
The techniques and models for assessing the market risks related to SIF financial assets portfolio offer besides assessing the value risk also possibilities to simulate different situations for investment/divestment on the monetary capital market.

By implementing a suitable design of appropriate risk management integrated system, SIF Banat – Crișana considered the following organisational benefits:

- facilitating the efficient and effective achievement of corporate goals;
- changing the management style supporting a proactive attitude towards risk to boost competitiveness;
- integrating the item “risk” in the investment reports submitted to the Investment Committee and a better perception of investment risk and of certain important concepts, such “risk adjusted return”;
- choosing the best investment projects in terms of “risk adjusted return”;
- ensuring the main conditions for a sound and efficient internal control in terms of the risks facing the company, either internal or external.

We conclude by underlining that a performing management is, first of all a rational one, defined, not by only the effort to avoid risks but, above all, characterized by a disciplined and methodical effort to control risks and limit their consequences on the organization’s objectives. Also, a rational manager does not try to completely eliminate uncertainty but rather reasonably diminish the incertitude related to a specific context or situation.

6. REFERENCES

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