

# Financial Investment Management of Trade Enterprises: Analytical Aspect



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**Abstract** The purpose of the study is to develop methodological approaches to the analysis of financial investments of trade enterprises. The information base of the article is presented by scientific works of domestic and foreign scientists. The research is based on scientific methods, among which it is expedient to distinguish: analysis and synthesis, comparison, idealization and abstraction, as well as systematization and generalization—during the formulation of conclusions as a result of the study. It has been found that the largest share in the structure of the total number of economic entities of Ukraine is occupied by trade enterprises; it is expedient to direct renewal reforms to them in order to achieve the maximum economic effect. The analysis of statistical information in general shows transformational shifts; however, in the conditions of a pandemic, the positive dynamics have an insignificant (insufficient) level or are absent at all. This confirms the need to manage the financial investments of trade enterprises as a mechanism for obtaining a return on investment in securities—stocks, bonds, contributions, etc. In the course of the research it

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was proposed to define the concept of risk as the level of financial losses. Methods of risk assessment have been considered: a technique based on the analysis of the sensitivity of the market conditions; methodology based on the analysis of the probable distribution of profitability. The stages of investment portfolio formation are determined, among which are the following: formation of goals taking into account priority; selection of a financial institution according to the following criteria: the reputation of the enterprise, availability of information, types of portfolios offered by the enterprise, the profitability of portfolios, types of financial instruments; choosing a bank that will maintain an investment account.

**Keywords** Income · Bankruptcy · Enterprise · Financial investments · Investment attractiveness · Investment portfolio

## 1 Introduction

In modern economic conditions and the intensification of competition, the ability of the entity not only to attract investment, i.e. its investment attractiveness, but also to manage them, becomes important. It largely depends on the stability of the external and internal environment, the efficiency of economic activity, the priority of tasks, etc.

The relevance of the study of financial investment management of trade enterprises is due to the fact that the growth of economic dynamics, the effects of economic crises, the global pandemic COVID-19 determine the need for the stable economic development of economic entities.

## 2 Literature Review

The following domestic and foreign scientists were engaged in the problems on this issue and its research at different levels: Bandurin F., Berestov K., Blank I., Bocharov V., Gaidutsky F., Gutkevych S., Ivanov Yu., Kopyl O., Korenyuk P., Mazaraki A., Mnykh E., Nosova O., Pidlisetsky G., Epstein D., and many others. Despite thorough research of theoretical and methodological principles, the question of forming a methodology for managing financial investments of trade enterprises remains logically incomplete.

## 3 Methodology

The purpose of the article is to study the main tools for managing financial investments of trade enterprises, their importance and peculiarities of application in modern

conditions. In accordance with this purpose, the article is designed to: reveal the nature and features of financial investments; investigate the step-by-step algorithm of their analytical research.

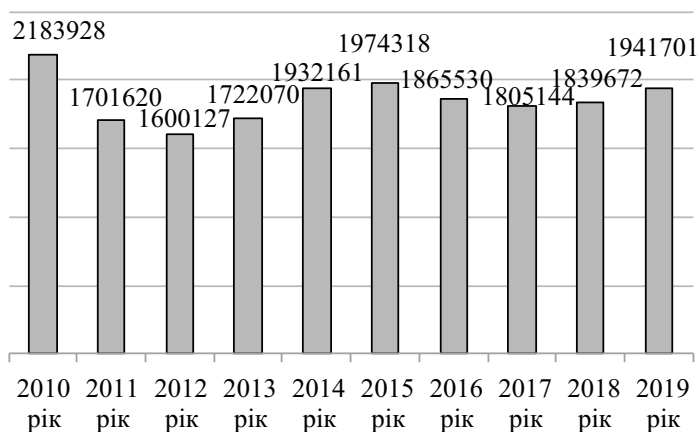
The research is based on scientific methods, among which it is expedient to distinguish: analysis and synthesis, comparison, idealization and abstraction, as well as systematization and generalization—during the formulation of conclusions as a result of the study.

## 4 Results

In the conditions of deepening of transformational processes of development and formation of market relations in the system of world economy all branches of the economy of Ukraine undergo significant transformations and reorientation. Under the influence of internal and external factors, the market environment changes. Despite the great resource potential, domestic trade enterprises fail to gain a leading position compared to the enterprises of economically developed countries. Therefore, it is advisable to study the current state of Ukraine's trade in general, analyze the dynamics of key indicators and find possible ways to improve the situation.

The dynamics of the number of business entities in Ukraine during 2010–2019 are presented in Fig. 1.

The presented information indicates a decrease in the number of business entities in Ukraine during the study period. The largest number of them was recorded in 2010 and amounted to 2,183,928 subjects. Since 2014, there has been a gradual decrease in the number of business entities, and only since 2018 the situation has improved.



**Fig. 1** Dynamics of change in the number of business entities of Ukraine for 2010–2019

Such dynamics are due to the crisis of the economy and the increase in the number of bankrupt enterprises. Based on statistics, it has been found that bankruptcy is one of the biggest problems of the domestic economy.

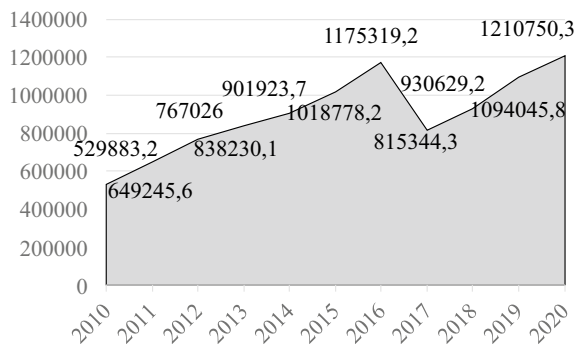
We have found that the structural sector of the domestic economy is trading, in the total number of economic entities of Ukraine, the largest share of them is this sector. According to the State Statistics Service of Ukraine (State Statistics Service of Ukraine), in 2019 the number of business entities was 1,941,701 units. The share of retail and wholesale enterprises is 46.9% (834,159 units). Despite the constant reduction in the number of economic entities in Ukraine, the number of enterprises engaged in wholesale and retail trade is increasing every year.

In view of this, we propose to pay more attention to the activities of trade enterprises. Consider statistical data on the dynamics of retail trade, which includes the retail turnover of enterprises (legal entities) engaged in retail trade, and estimated data on sales of goods in the markets and individual entrepreneurs (Fig. 2).

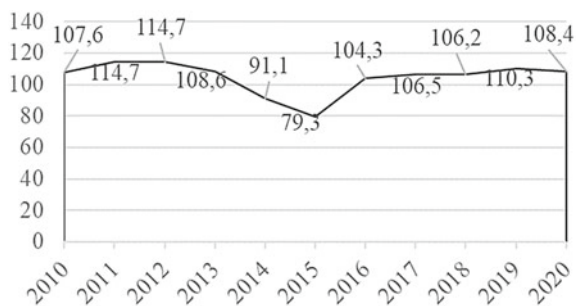
The dynamics of retail trade turnover are characterized by stability—the indicator is growing every year (except for a sharp decline in 2017 to UAH 815,344.3 million, from UAH 1,175,319.2 million in 2016). However, the dynamics of the index of physical turnover of retail trade indicate negative trends (Fig. 3).

The analysis of the structure of retail trade turnover of retail trade enterprises in 2010–2020 confirms the predominance of the share of non-food products over food

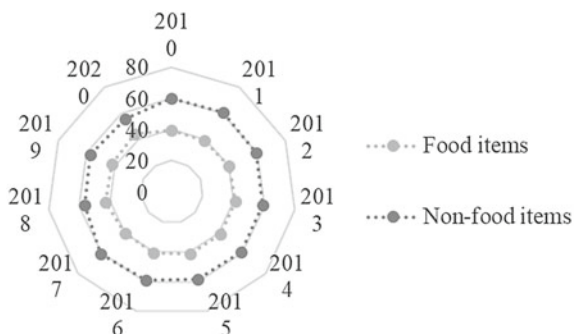
**Fig. 2** Dynamics of retail trade turnover of Ukraine for 2010–2020, UAH million



**Fig. 3** Dynamics of the index of physical volume of retail trade turnover of Ukraine to the corresponding period of the previous year for 2010–2020, as a percentage



**Fig. 4** The share of commodity groups of retail trade turnover of retail trade enterprises in 2010–2020, as a percentage



products throughout the analyzed period, distinguishing these product groups from others (Fig. 4).

Therefore, given that the largest share in the structure of the total number of economic entities of Ukraine is occupied by trade enterprises, it is advisable to direct the renewal reforms to them in order to achieve the maximum economic effect.

The analysis of statistical information in general shows transformational shifts, however, in the conditions of a pandemic the positive dynamics have an insignificant (insufficient) level or are absent at all. This confirms the need to manage the financial investments of trade enterprises as a mechanism for obtaining a return on investment in securities—stocks, bonds, contributions, etc. Forming a portfolio of financial investments, the company needs to analyze the relationship of such key characteristics as profitability and risk level.

Risk and return in financial analysis are considered as interrelated categories. They may be associated with a single asset (financial instrument) or with a particular combination of financial instruments (assets).

Risk is understood as the probability of losses or non-receiving of income that was expected to be received in accordance with the plan (project). Detailing the concept of risk, it can be defined as the level of financial loss, expressed in:

- the possibility of not achieving the goal;
- uncertainty of the predicted result;
- subjectivity of the assessment of the predicted result.

Assets that are associated with a relatively large amount of probable loss are considered the riskiest. In another interpretation, the risk is the degree of income variability that can be obtained for a given type of asset. The higher the rate of variation of income, the riskier the assets.

Income provided by a particular type of asset consists of income from changes in the value of the asset and income from dividends received.

Return on asset (rate of return) is the income calculated as a percentage of the initial value of the asset:

$$i = \frac{[d + (p - p_N)]}{P_N} \cdot 100,$$

where  $i$ —return on assets;

$d$ —the amount of income paid for the year in the form of dividends;

$P$ —the market value of the asset;

$P_N$ —the nominal price of the asset (the price at which the asset was purchased).

To make investment decisions, we assume that profitability and risk change proportionally. The higher the return on an asset, the higher its riskiness.

In financial analysis, there are two methods of risk assessment:

- a technique based on the analysis of the sensitivity of the market conditions;
- a methodology based on the analysis of the probable distribution of profitability.

The first method is to calculate the magnitude of variation in return on assets, based on pessimistic, most plausible, and optimistic estimates:

$$R = i_o - i_n,$$

where  $R$ —asset risk;

$i_o, i_n$ —return on assets by optimistic and pessimistic estimates.

The most probable return ( $i_i$ ) is calculated by the arithmetic mean:

$$i_i = \frac{i_o + i_n}{2},$$

or is determined by an expert method along with  $i_o$  and  $i_n$ .

The second method of assessing the risk of an individual asset is to construct the probable distribution of values of profitability, calculation of their standard deviation from the most probable return and the coefficient of variation. The higher the value of the coefficient of variation, the riskier this type of asset.

The calculation of the risk of an individual asset according to the second method is carried out in the following sequence:

1. Values of profitability ( $i_j$ ) and probability of their realization ( $P_j$ ) are developed. In this case:

$$\sum_{j=1}^n P_j = 100\%.$$

2. The most probable return is calculated ( $i_b$ ):

$$i_b = \sum_{j=1}^n i_j \cdot P_j.$$

3. Standard deviation is calculated ( $B_c$ ):

$$B_c = \sqrt{\sum_{j=1}^n (i_j - i_b)^2 \cdot P_j}.$$

4. The coefficient of variation is calculated ( $V$ ):

$$V = \frac{B_c}{i_b}.$$

The risk associated with an individual asset increases over time. This is because it becomes more difficult to predict the return on assets: the magnitude of the variation in expert returns ( $R$ ) and the coefficient of variation ( $V$ ) increase.

Therefore, the longer the type of asset, the higher the variation in its return and the riskier it is.

The risk associated with a particular asset should be considered in terms of its impact on the risk of the investment portfolio as a whole. As all financial investments differ in the level of return and risk, the portfolio as a whole is characterized by the average value of these indicators. In the case of optimal selection of financial investments, it is possible to achieve a reduction in the risk of the financial investment portfolio.

The following optimization mathematical models are used to effectively solve this problem:

- models that minimize risk at a given level of expected return;
- models that maximize profits at a given level of risk.

Factors that are required to build a portfolio of financial investments include:

- developed securities market;
- a fairly long period of functioning of the securities market;
- availability of statistical information;
- operational analysis of statistical information.

The formation of the investment portfolio is carried out in the following sequence (Mnykh and Barabash 2014):

1. Formation of goals taking into account the priority (ranking from priority: regular receiving of dividends, increasing the value of assets, etc.); setting risk levels, minimum profit, permissible deviations from the specified values.
2. Choosing the financial institution according to the following criteria: the reputation of the enterprise, availability of information, types of portfolios offered by the enterprise, the profitability of portfolios, types of financial instruments.
3. Choosing a bank that will maintain an investment account.

The type of investment portfolio is formed in accordance with the target priorities. There are three types of portfolios: growth portfolio, income portfolio, and conservative portfolio.

The degree of risk of the financial investment portfolio is inversely proportional to the number of types of securities included in the portfolio by chance. The total risk of the portfolio consists of two parts: diversified (non-systematic) risk and non-diversified (systematic) risk.

There is a “portfolio theory”, in which you can optimize the risk of the securities portfolio and estimate the expected return using statistical methods.

This theory includes four elements: asset valuation, investment decisions, portfolio optimization, performance evaluation.

The task of the investor is to reduce diversified (unsystematic) risk by selecting securities which income has different amplitudes.

Search for securities with different amplitude of fluctuations in income is carried out using the method of covariance, which allows you to compare the directions of changes in fluctuations in income from different types of securities. The correlation coefficient ( $K_{kop}$ ) determines the limits within which income changes in one direction: if when comparing the characteristics of some assets with others  $K_{kop} = 1$ , it means that the direction of income from these assets is the same; if  $K_{kop} = -1$ , then the directions of income change are opposite. The correlation coefficient can vary from  $-1$  to  $+1$ . If you purchase assets with a portfolio correlation coefficient of  $1$ , the risk will not decrease. If  $K_{kop} < 1$ , then the risk will be lower the lower the correlation coefficient that characterizes the tightness of the relationship between return on assets.

Using the covariance method to calculate the correlation coefficients of different portfolio assets, you can select assets that minimize risk (Mnykh and Barabash 2014).

The assessment of non-diversified (systematic) risk is based on the use of the dependence of the return of individual securities on the return of the securities market as a whole. The level of systematic risk of individual financial assets is determined by the sensitivity of income from securities to the general situation in the financial market. A sensitivity index is used to assess systemic risk ( $I_i$ ).

$$I_i = \frac{i_n}{i_r},$$

where  $i_n$ —security profitability index;

$i_r$ —market profitability index.

If  $I_i > 1$ , then securities of this type are more sensitive than the market, i.e. riskier than the market as a whole. If  $I_i = 1$ , then the securities have market sensitivity, and if  $I_i < 1$ , then securities are less sensitive than the market, i.e. less risky.

Portfolio theory uses a capital asset pricing model (“CAPM”), to link systematic risk and return, according to which non-diversified risk is calculated using a ratio  $\beta$ . Each type of security has its own ratio  $\beta$ , which is an index of the profitability of this security in relation to the profitability of the securities market as a whole:



$$\beta = \frac{\sigma_{R_i, R_m}^2}{\sigma_{R_m}^2},$$

$$\sigma_{R_i, R}^2 = \frac{1}{n} \sum_{j=1}^n (R_{ij} - \bar{R}_i)(R_{mj} - \bar{R}_m),$$

$$\sigma_{R_m}^2 = \frac{1}{n} \sum_{j=1}^n (R_{mj} - \bar{R}_m)^2,$$

$$\beta = \frac{\sum_{j=1}^n (R_{ij} - \bar{R}_i)(R_{mj} - \bar{R}_m)}{\sum_{j=1}^n (R_{mj} - \bar{R}_m)^2},$$

where  $R_{ij}$ —return on securities of  $i$ —enterprise for  $j$ —period ( $i = 1, 2, \dots, k; j = 1, 2, \dots, n$ ).

$\bar{R}_i$  - the average return on securities of  $i$ —enterprise for all periods:

$$\bar{R}_i = \frac{1}{n} \sum_{j=1}^n R_{ij};$$

$R_{mj}$  - return in the securities market for  $j$ —period:

$$R_{mj} = \frac{1}{K} \sum_{i=1}^k R_{ij};$$

$\bar{R}_m$  - average return on the securities market for all periods:

$$\bar{R}_m = \frac{1}{n} \sum_{j=1}^n R_{mj}.$$

In general, the market coefficient  $\beta = 1$ . Most companies have coefficients  $\beta$ , which range from 0,5 to 2,0. If the ratio  $\beta$  of securities is equal to 1, it means that the securities have a medium degree of risk relative to what has developed in the stock market. If  $\beta < 1$ , then the company's securities are less risky than the market as a whole. An increase in the coefficient  $\beta$  in the dynamics indicates that the risk of investing in securities of the enterprise increases.

## 5 Conclusions

As a result of the analysis of the dynamics of indicators that characterize the general trends of trade enterprises in Ukraine, negative trends were revealed due to the aggravation of economic crises, hostilities in the east, the annexation of the Autonomous Republic of Crimea, destabilization of social and political life, pandemic COVID-19. It has been determined that the main reason for this situation is the bankruptcy of domestic trade enterprises due to the low level of competitiveness and the inability to adapt to changing external and internal conditions and attract investment.

In the course of the research, it was proposed to define the concept of risk as the level of financial losses. Methods of risk assessment have been considered: a technique based on the analysis of the sensitivity of the market conditions; methodology based on the analysis of the probable distribution of profitability. The stages of investment portfolio formation are determined, among which are the following: formation of goals taking into account priority; selection of a financial institution according to the following criteria: the reputation of the enterprise, availability of information, types of portfolios offered by the enterprise, the profitability of portfolios, types of financial instruments; choosing a bank that will maintain an investment account.

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