

CAPITAL TURNOVER AS DETERMINANT FACTOR OF THE FINANCIAL PERFORMANCE OF INDUSTRIAL ENTERPRISES - AN EMPIRICAL ANALYSIS

NEDELUCU ANA,
PhD in economics, associate professor,
Cahul State University „B.P.Hasdeu”
ana_nedelcu@rambler.ru

***Abstract.** The actuality of the given research is determined by the importance of financial performance for any enterprise. This concept is multidimensional and transdisciplinary and its complexity has conditioned the use of different evaluation approaches and methods. Thus, the evaluation of financial performance is still an actual research topic.*

Financial performance is influenced by a wide range of factors. One of such factor is considered to be capital turnover. The current state of studying the relationship between capital turnover and financial performance has focused on developing the methodological framework for assessing the influence of the capital turnover not on the financial performance as an integrating concept but on its various dimensions (profitability, liquidity, solvency, etc.).

This research paper aims to clarify such concepts as capital, performance, financial performance. Moreover, it seeks to develop a reliable methodology of financial performance evaluation as a whole concept based on an aggregated index, which will lead to a better understanding of the relationship between capital turnover and financial performance of industrial enterprises.

***Keywords:** capital, capital turnover, performance, financial performance, performance evaluation, industrial enterprises.*

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Introduction

The enterprise is an essential component of economic development, and its fundamental objective is financial performance. The current context of the national and global economy reveals an upward trend in identifying performing businesses. Thus, performance and performance measurement are now the point of maximum interest for managers, shareholders, and, of course, potential investors.

Indicators are instruments for performance evaluation. Using a single indicator to estimate an enterprise's performance becomes irrational due to the complexity of economic phenomena and processes. Starting from the extensive literature focusing on the financial performance assessment, the author notes that, in an evolutionary context, traditional indicators such as financial result and profitability are insufficient to assess, control and improve the financial performance of an enterprise that operates in a dynamic and hyper-competitive environment. At the same time, the author claims that in order to obtain a pertinent and harmonious representation of the financial performance of the enterprise it is necessary to use an aggregate indicator, which will encompass its multidimensional character.

The importance of this scientific approach is justified by the fact that financial performance is the source of the progress of any enterprise, and the understanding of the multiple valences of this concept and factors contributing to the enhancement of performance is utmost important. The enterprise's capital, as the most important factor of production, fulfills its defining role in the process of creating value added, which allows the author to assert that capital is a determinant of financial performance.

What is more, the industrial enterprises face major problems in using their capital. At present, the slowdown in the turnover of the beverage industry by 28%, accompanied by a higher degree of indebtedness, causes a state of non-financial performance of wineries. The beverage industry, with a 1034-day capital turnover, recorded the lowest level of financial performance, while car industry enterprises and light industry enterprises reached higher levels of financial performance due to a shorter turnover period (372 days and 322-day capital).

The exposed issues confirm the actuality of the research theme and condition the investigation and resolution of the problems related to the efficient use of the capital of the industrial enterprises in the context of the financial performance's increase.

Analysis of recent researches and publications

The relationship between capital turnover and financial performance is a vital issue which has not been resolved in the finance field. In order to research these financial concepts and their relation, author proceeded to the investigation of the following concepts: capital, performance, financial performance and capital turnover.

Research on the evolutionary realities of the concept „capital” shows that capital is now the most important factor of production which fulfills the defining role in the process of value creation.

The development of concept „capital” as a factor of production was initiated with its primary definition as "a sum of money given in a loan" in the work of mercantilists [6]. Physiocrats have made a major contribution to explaining the concept of capital by delimiting fixed capital from the circulating one [10]. Adam Smith, in his famous work "The Wealth of Nation", has embodied the differences between capital and wealth, which has allowed understanding of the complex nature of the enterprise's capital and perceiving its essence as a determinant of financial performance [23].

Although, the author disagrees with the J.S. Mill's statement, according to which circulating capital adds value only by the change of the owner and the fixed one by holding it [12]. Instead, author considers that the capital adds value through the process of its rotation, which in its essence, consists in the successive change of functional forms and the return to its primary form (money capital) of a higher value.

In the Marxist vision, labour has been seen as a component part of capital that creates a surplus value. This idea forms the basis of Marxist critique of capitalism, according to which bank and commercial capital do not produce added value [9].

Generalizing the neoclassical approach, the author emphasizes its contribution to capital theory by considering capital as the main factor of production. However, the author disagrees with the position of Jevons W.S., according to which capital as a production factor holds a lower position than the labor factor [11], and with the opinion of Clark J.B., according to which only the material form of capital is the only representation of "true capital" [7].

Currently, capital is considered to be the most important factor of production. The diversity of its categories identified in research literature determines the major complexity of this concept. Thus, economic theory distinguishes the following components of capital: natural capital, economic capital, financial capital, human capital and social capital.

The research of recent theories [1,2,8,13] on the role of capital for financial performance, from a critical perspective, allows the author to conclude that economic and financial capital have a central role in obtaining, maintaining and improving the level of financial performance of an enterprise. Financial capital and the economic one, through the process of turnover, determine the creation of added value and therefore contribute to the achievement of financial performance. At the same time, the author considers that the human capital and the social one indirectly influence the level of financial performance. Knowledge, skills of managers and other employees can contribute to the efficiency of the production process, which enhance the speed of capital turnover. At the same time, mutual trust between the enterprise and its suppliers or customers contributes to streamlining the supply and marketing activities, therefore positively influencing the process of capital turnover, increasing the level of sales and the level of financial performance [14]. In this context, the author asserts that capital, due to its defining role in the process of value creation, is a determinant of financial performance, and efficient use of capital is a primary condition for enhancing the financial performance of an enterprise.

Performance is a modern and universal concept, the meaning of which varies from one domain to another. In economic sciences there is no unanimity in treating this term, nor in its evaluation. The diversity of the approaches is the repercussion of the polysemantic use of the concept. The research of the concept of financial performance in an evolutionary and transdisciplinary perspective allowed the author to realize the following:

- In the economic field, performance is perceived as a result of an enterprise's activity, which is achieved in terms of efficient use of resources, reflecting the newly created value and the achievement of the proposed objectives. From the reported ones, the performance of the enterprise, in a narrow sense, is

a result of the enterprise's activity, while, in a broad sense, performance is "a strategic and integrated process that ensures the long-term success of the enterprise" [16].

- In the context of a *transdisciplinary approach*, financial performance is treated differently. Accounting and finance fields identify financial performance with the performance of the entire enterprise, while managerial and social sciences challenge this affirmation, arguing that financial performance is a component of enterprise performance. Enterprise performance can not be defined solely through the achievement of financial objectives, while neglecting other aspects of enterprise performance: *operational, social and environmental dimensions*. The approach from financial and accounting perspectives considers that the *financial performance is the success of the enterprise, which means obtaining financial results and value creation for shareholders*. From a managerial point of view, *the enterprise performance includes the financial component, ie the financial performance, reflecting the achievement of the financial objectives, and the non-financial component, called operational performance, describing the achievement of the enterprise's objectives in areas such as market, consumers, competition, etc.* In the context of sustainable development, financial performance gains another connotation. Achieving financial goals or creating new value for shareholders is just a facet of enterprise performance that is essential alongside the value created by the enterprise for the whole of society and the environment [15].

- The complexity of the concept of financial performance is conditioned not only by the fact that it is addressed by various disciplines but also by its multidimensional character. The study of a wide range of domestic and foreign scientific publications on this concept allowed the author to identify the most commonly used dimensions of financial performance: *profitability (return), financial result, growth, capital turnover, financial stability, value added, market value, ability to pay, cash flow and financial equilibrium*. According to the author, an enterprise is performant if its activity is expanding (*growth*), positive financial results are recorded (*financial result*), the invested capital generates profit (*profitability*), the enterprise is able to pay its bills (*the ability to pay*), the enterprise's activity generates cash flows in increasing volume (*cash flow*), the enterprise uses its capital in an efficient manner (*the capital turnover*) within an optimal financial structure (*financial stability*) and under minimum risk (*financial equilibrium*), the activity of the enterprise creates a surplus of economic value (*value added*) and contributes to the increase of the market value [18].



Figure 1. Financial performance dimensions

Source: Developed by the author

In this context, the author concludes that, besides the same complexity, the concept „financial performance” is narrower than the concept of enterprise performance. At the same time, its multidimensional character creates a series of controversies regarding the assessment of financial

performance, which highlights the need for more in-depth research on this issue. Finally, taking into account the transdisciplinary and multidimensional approach, the author defines financial performance as *a new value created for shareholders, expressed by the ascending dynamics of the financial state of the enterprise*.

The enterprise maintains its capital through its permanent reproduction, ie through the process of turnover. The author considers that the capital turnover means the passage of the three phases (purchase, production, sale) and the return of the capital to the initial form of a higher value, which leads to the creation of an additional value, thus increasing the financial performance. By synthesizing the views on the relation between the capital and the financial performance, the author concludes that the fact that the number of rotations in a period of time is greater or the period of a rotation is smaller determines the creation of a greater amount of value, leading to the enhancement of financial performance, in other words, speeding up capital turnover increases financial performance [17].

Evaluating financial performance is an extremely important activity for any enterprise. The assessment of financial performance allows identification of the factors that influence its increase or decrease, which gives the possibility to control the level of performance and eventually to improve it [20].

Researching the current state of development of the financial performance assessment methodology has enabled the author to identify six scientific approaches: *accounting approach, financial approach, global approach, goal-based approach, behavioural approach and stakeholder approach*. Generalizing all these approaches, the author concludes that the accounting, financial and global approaches provide the methodology of assessment of the financial aspect of performance, ie financial performance, which can be estimated with a high degree of accuracy and objectivity, and the data obtained can be generalized and used for time and space comparisons. The global and stakeholder approach implies assessing the performance of the enterprise vis-à-vis several stakeholders (shareholders, managers, consumers, employees), however the global approach provides a higher degree of objectivity (this is done by using less subjective primary data: net profit per share, number of complaints, compliance with environmental rules, etc.). While the stakeholder approach involves assessing not just the created value for interest groups but also how these groups have contributed to value creation, which makes evaluation more subjective [20].

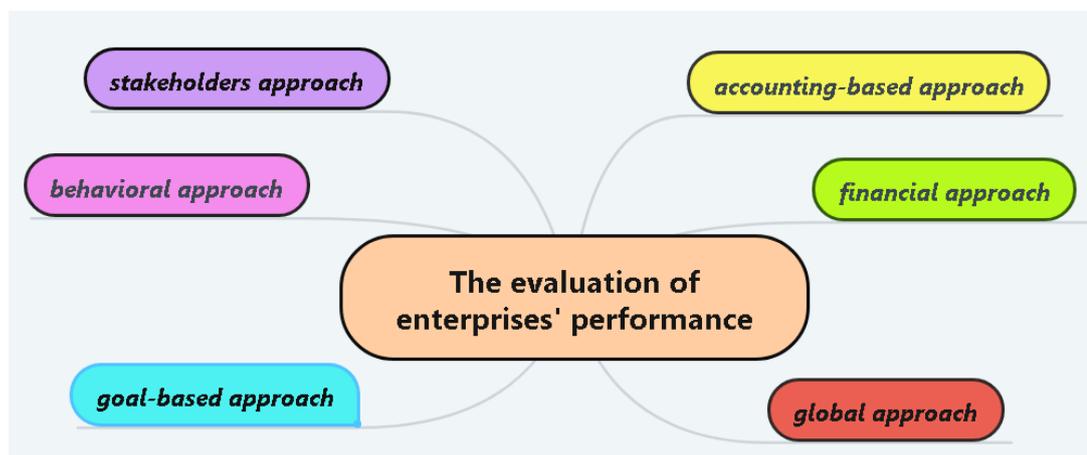


Figure 2. The approaches to the performance evaluation of enterprises

Source: Developed by the author

The diversity of approaches to assessing financial performance has conditioned the use of different evaluation methods, the application of which depends on the purpose of the research. In this context, the author distinguishes four basic categories of evaluation methods:

- the method of financial ratios involves analyzing the evolution of different performance dimensions;
- the scores method allows the calculation of the overall level of financial performance based on financial ratios that estimate performance dimensions;

- the regression analysis method gives the possibility of calculating the overall level of financial performance and estimating the influence of factors at a significant statistical level;
- the multi-criterion analysis method allows for a ranking of enterprises according to the level of financial performance [21].

Choosing a concrete method of assessing financial performance depends on the purpose of the proposed research. At the same time, according to the author, the method of ratios remains the basis of the other evaluation methods, therefore, the author considers that regardless of the approach and the method of evaluation selected by the researcher, the first step in the process of evaluating the financial performance is identification of its dimensions and structuring a system of evaluation indicators able to capture the most important dimensions of performance: profitability, liquidity and ability to pay, financial balance, the ability of the entity to adapt to the requirements of the market in which it operates, etc.

The current state of affairs in research of the relationship between capital turnover and financial performance (the DuPont model, the factorial model of the financial result, the model of the cash conversion cycle) shows that the acceleration of capital turnover leads to an increase in profitability ensures liquidity and solvency of the enterprise and increases the net cash flow. As a consequence, the author concludes that researchers have focused on developing the methodological framework for assessing the influence of the capital turnover not on the financial performance as an integrating concept, but on its various dimensions (profitability, liquidity, solvency, etc.). In this context, the need to develop a methodology for assessing the effects of the capital turnover on financial performance, in line with its multidimensional character, is absolutely justified.

Research Methodology

In order to achieve all the objectives referring to the scientific research, this particular research is based on the systemic approach, which is applied to concepts studying as well as to assessment of current situation of analyzed domains. During the research, the following traditional methods were used: logical, dialectical method (scientific abstraction, analogy, analysis and synthesis, induction and deduction). Also, some specific research methods were applied such as: graphical method, economic comparison, analytical table method, absolute and relative size method, rate method, scoring method, Dupont method, logistic regression method and panel data regression method. The information support of the research was provided by the official data of the National Bureau of Statistics, the National Commission of the Financial Market, the National Bank of Moldova, as well as by the author's own estimates and analyzes.

The aim of the article

The purpose of this research is to develop an aggregated index of financial performance that will allow to highlight how the capital turnover influences the level of financial performance of industrial enterprises.

In the effort to achieve the proposed goal, the following objectives were formulated:

- Studying the evolutionary aspects of an enterprise's capital concept as a determinant of financial performance;
- Researching the context in which financial performance has evolved and developed, dimensioning the current state of knowledge through an evolutionary and transdisciplinary approach;
- Systemise conceptual approaches to financial performance assessment methods;
- Reflecting the interdependence between capital turnover and financial performance;
- Analysis of the current state of financial performance of industrial enterprises and empirical research of the effects of the capital turnover on it;
- Elaboration of the methodology for estimating the effects of the capital turnover on the financial performance of industrial enterprises;
- Identify directions for speeding up capital turnover to enhance financial performance.

Research results

This research analyses the industrial sector, which is utmost important for economic development of Republic of Moldova. This statement is argued by its contribution to the production volume (24%) and to the GDP (12%). The results of the research show that the main industrial sectors, according to the share in the value of production, the number of enterprises and the volume of exports are: the beverage industry, the light industry and the machinery, equipment and appliances industry (Table 1). These industrial fields account for more than 20% of the enterprises of the manufacturing industry, which produce about 28% of total industrial production and export almost 40% of goods.

The purpose of analyzing the financial performance of industrial enterprises lies in the clear distinction between performing and non-performing enterprises as well as in identifying factors that have led to performance or non-performance. The financial ratio method is applied as a method of assessing financial performance. The financial ratios are calculated on the basis of the performance dimensions identified in the theoretical part of the paper: financial result, profitability, growth, financial stability, payment capacity and financial equilibrium.

Table 1. The shares of the beverage industry, the light industry and the machinery, equipment and appliances industry in manufacturing industry and exports, %

Indicators	2011	2012	2013	2014	2015
1. The beverage industry					
1.1. Share in production value of the manufacturing industry	10,89	12,08	13,01	10,87	10,77
1.2. Share in the number of enterprises	3,55	3,46	3,66	3,60	5,04
1.3. Share in the volume of exports	8,18	9,94	10,39	8,28	8,14
2. The light industry					
2.1. Share in production value of the manufacturing industry	8,97	8,84	9,91	10,75	11,39
2.2. Share in the number of enterprises	8,12	8,43	9,24	9,12	12,05
2.3. Share in the volume of exports	19,82	19,17	16,47	17,05	16,41
3. The machinery, equipment and appliances industry					
3.1. Share in production value of the manufacturing industry	3,49	4,01	3,47	5,07	5,97
3.2. Share in the number of enterprises	6,52	6,70	7,17	7,41	3,88
3.3. Share in the volume of exports	12,78	12,89	13,01	13,23	15,02

Source: Developed by the author based on data of the National Bureau of Statistics

The financial result is a well-defined performance dimension, which accurately estimates the company's ability to earn profits from its activity. Assessing this financial performance's dimension involves analyzing sales revenue, gross profit, net result, and so on. The analysis of financial performance in terms of financial result indicators provided the following results [3]:

- The sales revenue of the investigated industrial enterprises shows an upward trend, with the exception of the beverage industry, whose sales revenue has declined by 24% in 2014, which has significantly compromised the financial performance of these enterprises.

In the given context, the author identifies the following directions for increasing the level of sales revenue:

- - *Diversifying the sales markets;*
- - *Developing the national quality wine brand through high quality, impressive traditions and unique personality.* The Protected Geographical Indications are helpful, as the

certified origin offers a guarantee of quality for the consumer and such wines are sold much better than others (by 15-20%);

- - *Developing efficient and robust marketing strategies* that will enable sectoral positioning in foreign markets;
- - *Continuing legislative reforms and ensuring a credible quality framework* (Figure 3).

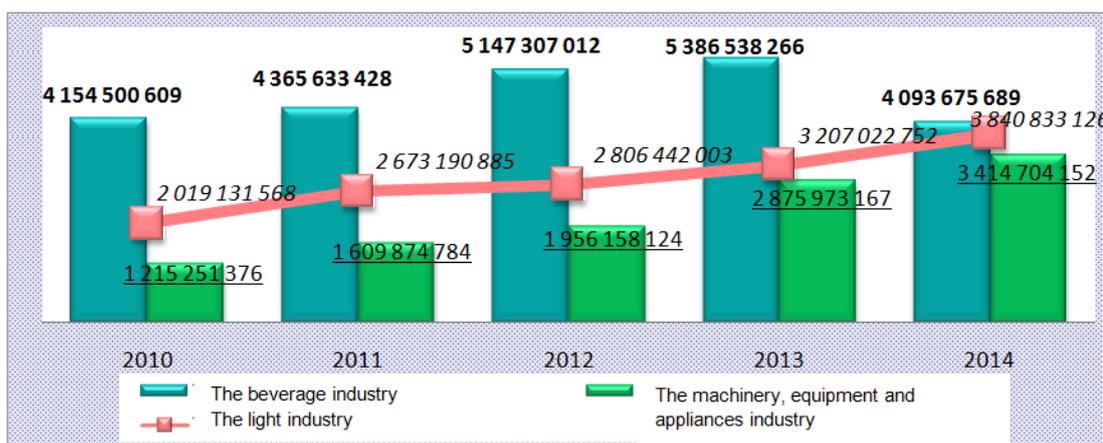


Figure 3. The comparative evolution of sales revenue in period of 2010-2014, lei

Source: Developed by the author based on data of the National Bureau of Statistics

- In the context of gross profit analysis, the author finds that the financial performance of the machinery industry is affected by inefficient production cost management, which causes sales costs to grow more rapidly than sales revenue, resulting in a reduction in gross profits. In this respect, the author proposes the following measures: *increasing labour productivity; optimizing technology costs, streamlining management control, and using objective allocation keys.*

- Comparative analysis of the net financial result of industrial enterprises shows that: the beverage industry does not manage to achieve a positive net financial result; whereas the light industry enterprises have the highest net financial result; while machinery industry enterprises have net profit, but its level has been oscillating during the analysed period (Figure 4).

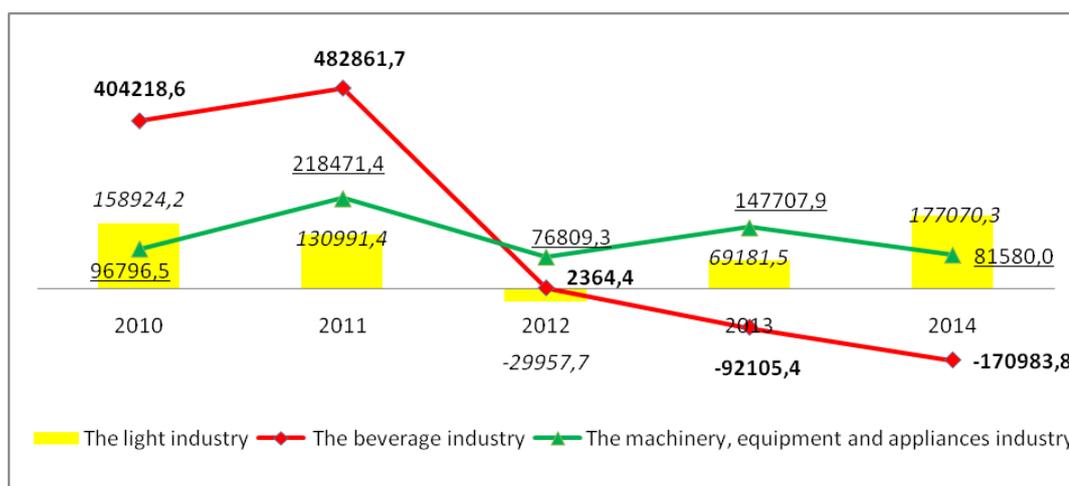


Figure 4. The comparative evolution of net result in period of 2010-2014, lei

Source: Developed by the author based on data of the National Bureau of Statistics

Profitability (return) is one of the most synthetic forms of expressing the financial performance of

an enterprise, which reveals the efficiency of capital use in various stages of the economic circuit, while *growth* indicators allow quantification of the business expansion. In the author's view, growth indicators need to be analyzed along with cost-effectiveness indicators, as growth only reveals the quantitative aspect of performance.

The analysis of the profitability indicators reveals that although the enterprises of the beverage industry have reached the highest level of the commercial rate of return - 30.15%, these enterprises have failed to obtain positive values of the economic and financial profitability indicators, while the highest level of these indicators is recorded by light industry enterprises [3]. In this context, the author concludes that enhancing the profitability of the beverage industry enterprises is an important direction towards increasing the financial performance, *that can be achieved by increasing sales revenues, optimizing production costs, rationalizing administrative expenses, minimizing financial losses, and so forth*.

The analysis of the rates of return and growth indicators has revealed that the beverage industry enterprises have considerably diminished their activity in 2014. While the light industry enterprises have registered an efficient increase since 2012, manifested by increased sales revenues accompanied by increased commercial profitability and increased total assets accompanied by increased economic profitability. A different situation is observed in the machinery industry, where the increase in sales and total assets is due to the decline in profitability indicators, which demonstrates the lack of performance in this branch. In this context, the author concludes that the financial performance of machinery, equipment and appliances enterprises can be enhanced by stabilizing measures such as increasing investment in innovation and enhancing enterprise cooperation with scientific centres within industrial clusters [3].

The complex nature of financial performance requires the research of its other aspect - the *financial stability*, which reveals the financing structure of the company's and allows appreciation of the contribution of the financial policy to the achievement of the financial performance. The research of the financial stability indicators of industrial enterprises reveals that light industry enterprises show a higher degree of financial stability, but, according to the author, the increase in the degree of financial autonomy will allow for a high level of long-term financial performance. Also, the optimization of the financial structure is considered to be as a means of increasing the financial performance of the beverage industry and the car industry [18].

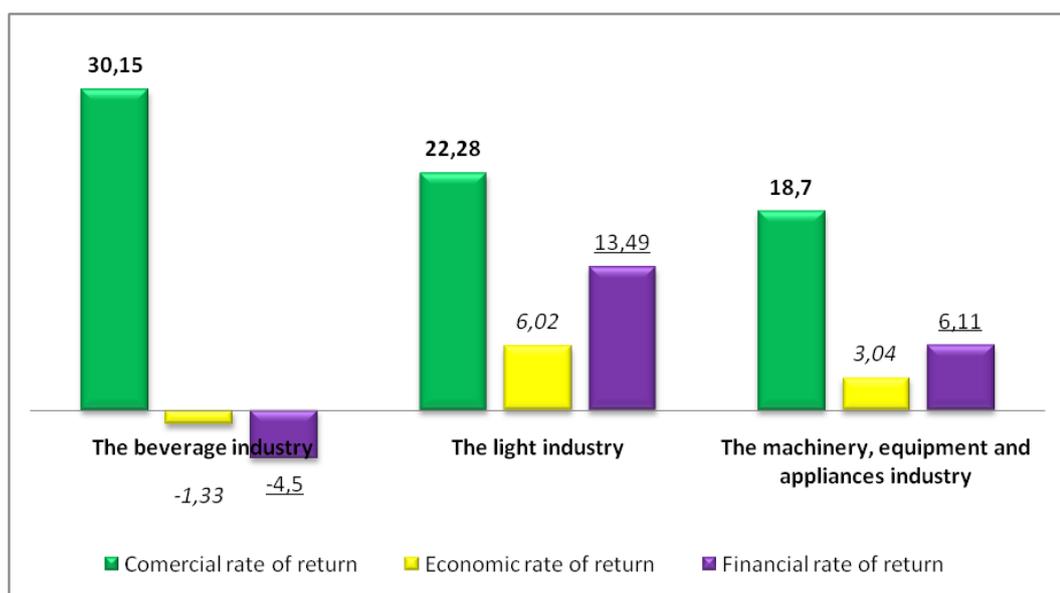


Figure 5. The comparative analysis of rates of return in period of 2010-2014, %

Source: Developed by the author based on data of the National Bureau of Statistics

The assessment of financial performance through liquidity ratios permits to estimate the companies' ability to pay. The results of the analysis show that both current and intermediate liquidity ratios have

recorded values within the unanimously accepted limits. However, the author generally recommends to raise the level of immediate liquidity ratio and, particularly, to raise the level of solvency ratio of beverage industry enterprises.

Equilibrium, in general, means a harmony between the components of a system, and from the financial perspective it involves the harmonization of financial sources with the financial needs of the enterprise. The analysis of the equilibrium ratios reveals that the light industry and machinery industries are more balanced, which contributes to a higher performance compared to the beverage industry, whose circulating capital is mostly financed by the working fund, which implies higher costs, affecting in the long run both the capacity to generate profit and the ability to pay [18].

The results of the analysis of the industrial enterprises' financial performance reveal that beverage companies have low level of financial performance caused by the strong indebtedness and low solvency, the inability of achieving a positive financial result. In addition, light industry enterprises are considered to be the most performant due to high profitability and efficient growth, while the financial performance of sales machinery, equipment and appliances enterprises has been compromised by inefficient growth, unstable results, declining profitability and financial autonomy.

Evaluating the financial performance of enterprises by the method of financial ratios has not provided a clear representation of overall financial performance, but rather it has showed the evolution of its dimensions. In this context, the author proposes another methodology for evaluating the financial performance based on the scoring method.

As a basis for this methodology, the model of US economist Piotroski J. "F-score" is taken. This model calculates an aggregate indicator of financial performance based on 9 binary financial criteria, grouped in three dimensions of financial performance: profitability, operational efficiency, solvency/liquidity.

Thus, the author proposes the following conditions for the financial performance scoring model: 20 criteria grouped in 7 dimensions of financial performance (financial result, profitability, growth, stability, capital turnover, ability to pay and financial equilibrium) and a 5-point scale with clear logical conditions.

After awarding scores for 20 criteria, the overall level of financial performance is calculated by summing up the obtained results. The index can take values between 20 and 100 points and the level of financial performance can be attributed to one of the following categories: 20-40 points - non-performance; 41-60 points - low performance; 61-80 points - average performance; 81-100 points - superior performance [19].

The scoring model developed by the author offers the possibility to estimate the global level of financial performance and to distinguish performing and underperforming enterprises. Also, this model has an increased practical utility; in this sense, the author recommends it as a tool for diagnosing the financial performance of industrial enterprises in the forming the national development strategies of the industrial sector by the Ministry of Economy of the Republic of Moldova; as informational support for the managers in developing strategies and tactical plans and as a methodology for assessing the financial performance and identifying directions of its enhancing.

Applying the proposed model gives a clearer representation of the financial performance of the analyzed enterprises. Thus, the beverage industry is moving from a medium performance (77 points) to a weak performance (40 points), which is due to the impossibility of obtaining positive and growing net result, high indebtedness and the slowing of the speed of capital turnover.

The evolution of the financial performance of light and machine industries describes a non-uniform trend. Thus, if in 2012 the overall level of financial performance of light industry enterprises dropped to a lower level, in 2014 it managed to achieve the highest level (92 points), due to the high financial results, the significant acceleration of the speed of capital turnover, increasing profitability and optimized financial structure.

The evolution of the machinery, equipment and appliances industry is more dramatic since it does not end with a significant increase. Thus, these enterprises have evolved from a superior level of performance (88 points), registered in 2011, to its lower level, taking only 59 points out of 100 possible.

The decrease in financial performance is explained by the high indebtedness (62%), accompanied by diminished financial results and profitability, as well as slowing down the speed of capital turnover [19].

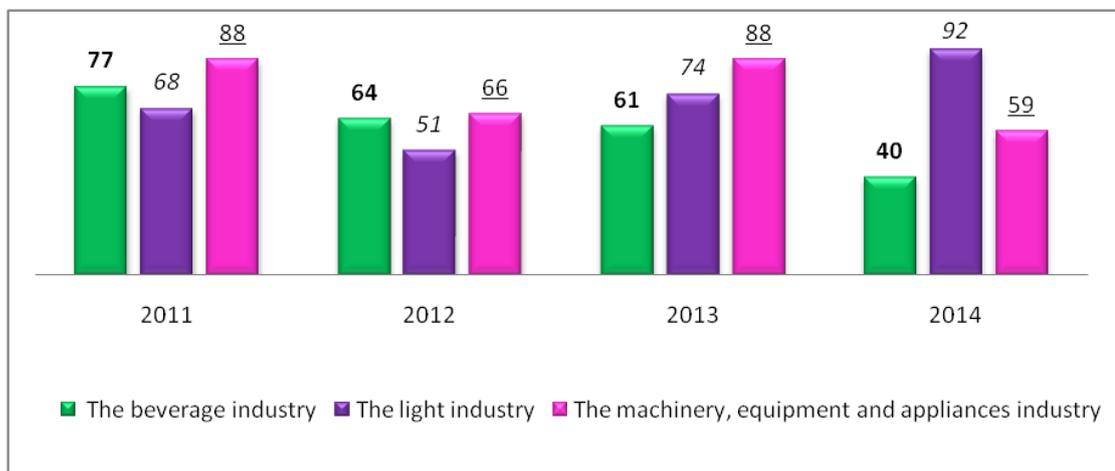


Figure 6. The comparative evolution of financial performance in period of 2010-2014

Source: Developed by the author based on own estimations

The *capital turnover* of a company is an extremely important dimension of financial performance because it has a significant influence on all its dimensions.

The comparative analysis of the capital turnover period of the industrial enterprises has revealed that the slowest rotation is registered in the beverage enterprises. In addition, based on the fact that beverage enterprises have registered the highest level of sales and the slowest turnover, author states that the beverage industry's enterprises do not use their entire productive and commercial potential, caused by the destructive influence of a wide range of internal and external factors. In the same context, the author finds that the capital of light industry enterprises has the shortest turnover period and a tendency of acceleration is observed. These results are considered to be determinants of the financial performance enhancement of the light industry enterprises. Moreover, a slowdown of the capital turnover speed has been registered in the machine industry, which has been caused by the increase in receivables' turnover period.

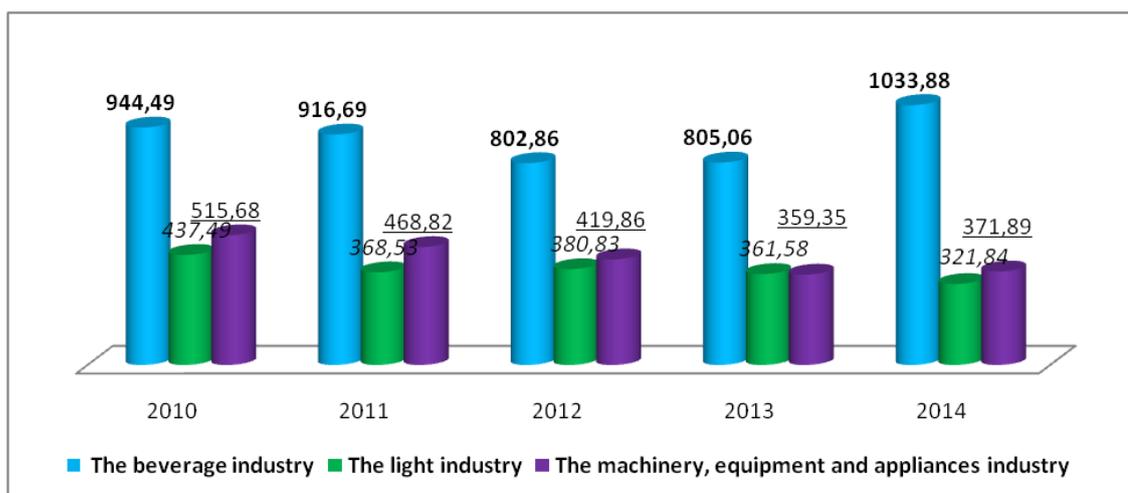


Figure 7. The comparative evolution of capital turnover period during 2010-2014, days

Source: Developed by the author based on data of the National Bureau of Statistics

The estimation of the capital turnover's effects through DuPont model, the factorial model of the financial result and the model of the cash conversion cycle has allowed the author to conclude the following:

- the slowdown of the capital turnover has led to a reduction in the financial profitability of beverage companies, while the acceleration of the capital turnover has had positive effects on the financial profitability of light industry enterprises, contributing to the highest level of profitability over the last 5 years. In the case of the machinery industry, the acceleration in speed of the capital turnover has showed a positive influence, diminishing the negative effects of reducing profit and increasing indebtedness.

- the slowdown in the turnover of the capital has affected the results of the light industry enterprises in 2012, the machinery industry enterprises in 2014, and the beverage industry enterprises in 2013 and 2014. The capital turnover has manifested as a positive factor for enterprises of the machinery industry, contributing to the growth of performance indicators in 2012 and 2013 and for light industry enterprises in 2013 and 2014.

- the beverage companies' ability to pay is compromised by the slowdown in the rate of rotation of receivables and stocks, while the machinery industry's enterprises have considerably extended the deferral of payments due to the slowdown in the receivables rotation, which has created additional risks for the ability to pay. In the same context, the acceleration of the receivables turnover speed is considered to have enhanced the ability to pay of the light industry's enterprises.

Generalizing the results, the author concludes that the capital turnover is a direct and determinant factor of financial performance. Enhancing the financial performance by the means of capital turnover acceleration, especially of the circulating capital, is considered to be a viable solution for the industrial enterprises.

The financial performance assessment methodology proposed by the author is elaborated using the non-linear regression technique based on the system of financial performance indicators, which includes 36 variables [5].

In order to reduce the number of independent variables, the ANOVA test and the bivariate correlation matrix were used. Logit and probit models were tested. As a result, the logit model demonstrated the higher ability to simulate the reality, with a total predictability of 74%. The result of the logit valuation is based on the aggregate index of financial performance, which takes values between 0 and 1, where "0" indicates that the probability of worsening of an enterprise's financial situation is 0%, which means that the enterprise is performant, while "1" indicates that the enterprise is unperformant.

The results of the simulations (table 2) reveal that the aggregate index for assessing the financial performance of industrial enterprises contains five relevant indicators: financial autonomy ratio, own working capital ratio, financial profitability, net profit/ share, price-to-book value ratio. The action of each of them is influenced by a range of internal and external factors that need to be traced and directed to the positive course of enterprise performance.

The aggregate index of financial performance is estimated by the following mathematical relationship:

$$(x) = \Pr(y = 1|X) = \frac{1}{1 + e^{-(4,34 - 3,62RAF - 1,05RFRP - 3,1ROE - 0,11PNACT - 0,08PBR)}}$$

where:

RAF - financial autonomy ratio; RFRP - own working capital ratio;

ROE - financial profitability; PNACT - net profit/ share;

PBR – price-to-book value ratio.

The estimation of the marginal effects of these independent variables on the financial performance denotes the following:

- The financial autonomy ratio (RAF) of a medium-sized enterprise determines, by 0.1 units, the increase in financial performance by 8.43%;

- The own working capital ratio (RFRP) of a medium-sized enterprise contributes by 0.1 points increasing the enhancement in the financial performance by 2.44%;

- The financial profitability (ROE) of a medium-sized enterprise, increasing by 0.1 point, increases

its financial performance by 7.21%;

- The net profit/ share (PNACT) of a medium-sized enterprise, increasing by 0.1 points, will increase the probability of success by 0.26%;

- The "Price-to-Book-Ratio" (PBR) of a medium-sized enterprise determines by 0.1 percentage points the increase in financial performance by 0.18%.

Table 2. The results of the logit model

Dependent Variable: PF Method: ML - Binary Logit Sample: 2011 2014 Included observations: 172				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	4.342582	0.826609	5.253489	0.0000***
RAF	-3.624646	0.948105	-3.823042	0.0001***
RFRP	-1.050723	0.350771	-2.995465	0.0027***
ROE	-3.099125	1.612851	-1.921519	0.0547*
PNACT	-0.110815	0.038410	-2.885057	0.0039***
PBR	-0.077785	0.038917	-1.998742	0.0456**
McFaddenR ²	0.260187	Mean dependent var		0.540698
S.D. var. dep.	0.499796	S.E. of regression		0.419770
Akaike info criterion	1.090459	Sum squared resid		29.25038
Schwarz criterion	1.200256	Log likelihood		-87.77952
Hannan-Quinn criterion	1.135007	Restr. log likelihood		-118.6509
Restr. deviance	237.3018	Media funct. verosim		-0.510346
StatisticaLR	61.74280			
Prob(statisticaLR)	0.000000			
ObswithDep=0	79	Total obs		172
ObswithDep=1	93			

*p<0.1,**p<0.05,***p<0.01

Source: Developed by the author in EViews 8.0

Depending on the registered level of the estimated index, according to the relationship of the proposed model, the following categories of financial performance of the industrial enterprise are distinguished:

- ✓ "0 ≤ PF ≤ 0.30" - superior financial performance;
- ✓ "0.30 < PF ≤ 0.50" - average financial performance;
- ✓ "0.50 < PF ≤ 0.70" - low financial performance;
- ✓ "0.70 < PF ≤ 1" - financial non-performance [5].

This assessment model, developed by the author, offers a number of advantages, including:

- It is an efficient tool for estimating financial performance and discrimination in performant and unperformant enterprises;
- It allows identification of the factors that contribute to or affect the financial performance;
- It is a true informational source for evaluating strategies implemented by an enterprise.

In addition, author believes that aggregate index model of the financial performance will be helpful for the following users of financial information:

- **Enterprise managers** can use this model to develop and evaluate enterprise strategies and

competitive environment;

- **Financial managers** can enhance the quality of their financial policy by matching its components (financing policy, dividend policy and investment policy) with the real level of financial performance;

- **The National Financial Market Commission** can use this model as an effective tool for monitoring the financial situation of professional participants in the capital market, while giving current and potential investors a clear picture of the company's financial condition.

- **Commercial banks** can use the aggregate financial performance index to assess the creditworthiness of customers.

- **Academic researchers and other research organization** can use this model to carry out various research studies.

By generalising the results of the financial performance assessment, author concludes that financial performance is conditioned by uncompromising financial autonomy, the existence of positive working capital, increasing profitability and stock exchange rates as the result of efficient capital management. An equally important consideration is that efficient use of capital has to be improved, first of all, by accelerating capital turnover, avoiding capital immobilization in different phases of the economic and financial circuit.

World theory and practice recognise the importance of capital turnover for the prosperity of an enterprise. However, the existing models for estimating the effects of the capital turnover have focused on assessing the relationship of capital turnover with performance dimensions, but not on financial performance as an integral concept. In this context, the author proposes a methodology for assessing the effects of capital turnover on financial performance, based on two key ideas:

1. In assessing the influence of the financial performance factors, its complex and multidimensional character must be taken into account. In light of this, the author proposes the aggregate index of the financial performance estimated by means of the logit regression technique as a dependent variable;

2. As the economic capital is considered to be a system and its turnover a systemic process characterized by interdependent relations between its components, the author proposes the use of indicators that will reflect both isolated and systemic effects of the capital turnover on financial performance. Thus, the author suggests to use the following detailed factors of the capital turnover: *the turnover period of the tangible assets (RIC)*, *the stock turnover period (RS)*, *the receivables collection period (RC)*, *the cash turnover period (RN)*, *the „tangible-to-total assets turnover period” ratio (RICRAT)*, *the „stock-to-total assets turnover period” ratio (RSRAT)*, *the „receivables-to-total assets turnover period” ratio (RCRAT)* and *the „cash-to-total assets turnover period” ratio (RNRAT)*.

The panel data regression was chosen as a simulation technique. The research sample included enterprises of the wine industry, light industry and machinery, equipment and appliances industry. The results of repeated simulations revealed the following at a statistically significant level:

- The aggregate financial performance index is influenced by the „cash-to-total assets turnover period” ratio (RNRAT);

- The financial autonomy ratio (RAF) is influenced by the „receivables-to-total assets turnover period” ratio (RCRAT);

- The own working capital ratio (RFRP) is influenced by the „tangible-to-total assets turnover period” ratio (RICRAT) and the „cash-to-total assets turnover period” ratio (RNRAT);

Apart from the "Price-to-Book-Ratio" (PBR), this is not statistically sensitive to the variables of the capital turnover [22].

Therefore, combining the research results with the concepts of DuPont model and factorial model of financial results, the author concludes that both financial performance and its dimensions are influenced by the capital turnover with the exception of "price-to-book" ratio.

The simulation of capital turnover effects on the financial performance by the means of the panel data regression technique has shown the following results:

a) An increase of the systemic indicator „cash-to-total assets turnover period” ratio determines an enhancement of the financial performance;

b) A reduction of the systemic indicators „*tangible-to-total assets turnover period*” ratio (RICRAT) and „*receivables-to-total assets turnover period*” ratio (RCRAT) contributes to an increase of the financial performance.

Conclusions

Researching the correlation between capital turnover and financial performance from both quantitative and qualitative perspectives reveals that the following cases will contribute to increasing financial performance:

- *The increase of the RNRAT indicator is determined by the faster acceleration of the total assets turnover than the acceleration of the cash turnover;*

- *The reduction of the RICRAT and RCRAT indicators is based on the slower acceleration of the total assets turnover than the acceleration of the tangible assets turnover and the receivables turnover.*

Thus, the author concludes that the necessary conditions to be present regarding the interdependence between the turnover of the economic capital and the turnover of its elements in order to increase the financial performance are the following [22]:

1. *The turnover of total assets, tangible assets, receivables and cash should accelerate;*

2. *The turnover of tangible assets and receivables must exceed that of the economic capital (total assets);*

3. *The turnover of the economic capital must be higher than the cash turnover.*

At the same time, the author considers important to emphasize that *the acceleration of the economic capital turnover will have the greatest positive effect on financial performance when it is determined by the higher increase of the revenues than the increase of the average value of the economic capital.*

Thus, *sales revenue should grow at a higher rate than the average economic capital. At the same time, the average value of tangible assets and receivables should increase at a slower pace than the average of the capital as a whole, and the average value of cash should rise at a higher rate than the economic capital.*

Therefore, in order to increase the financial performance of industrial enterprises the following conditions have to be respected:

a) Revenue from sales increases significantly;

b) The increase of sales must lead to the cash growth rather than that of the receivables;

c) The increase in cash must not lead to an excessive level of liquidity;

In the context of the obtained results, the author identifies the following directions for increasing the financial performance through the acceleration of the capital turnover:

1. Improvement of the company's commercial policy, which will ensure a continuous and significant increase in sales revenue. Proposed measures:

a) Elaboration of the sales program in accordance with the general objectives of the company, taking into account the distribution channels and the sales' factors of influence;

b) Coordination of the production activity with the elaborated sales program, so that the scheduled demand is covered by the company's offer of products;

c) Strengthening the sales system, diversifying the distribution channels;

d) Promoting the brand of enterprises and branded products through various methods (positioning of the company brand and product uniqueness, TV advertising, magazines, internet, increasing the visibility through the company's web site and social networks page);

e) Increasing distributors' and customers' loyalty through promotional techniques (grouped sales, discounts, contests, lotteries, etc.)

2. Optimising customer management to accelerate collection of receivables, which can be achieved through the following activities:

a) *Determining the maximum acceptable level of receivables on the basis of the sales program* will avoid the increase of receivables at a rate higher than the increase of the sales revenues;

b) *Analysing the receivables by customer groups* according to their importance for the enterprise and their credit history;

c) *Current controls of receivables* by the means of a registry, classifying them according to the collecting period;

d) *Developing a well-defined lending policy* containing clear provisions on the conditions for granting and receiving commercial credit for all categories of clients based on solvency standards;

e) *Applying a trade discount system* to encourage customers to pay as quickly as possible.

f) *Use of debt re-financing techniques* (e.g. factoring).

3. Increasing the efficiency of liquidity management through the following measures:

a) *Prognosis of receipts according to the sales schedule, and payments according to the exigibility of the current obligations;*

b) *Monitoring and synchronising cash inflows with cash outflows;*

c) *Determining and controlling the current cash flow* according to:

- The amount of current debts in order to comply with the optimum level of liquidity rates;

- The capital turnover indicators. The cash turnover should accelerate and it should be higher than the growth rate of the average value of the economic capital, of the tangible assets and of the receivables.

d) *Forming and optimizing the information base on cash flows, cash balance;*

e) *Increasing the efficiency of cash surplus management* by checking current cash balance is at optimum level, use of short-term investment banking products and other banking services to facilitate cash management (web-business or corporate-banking, mobile signature and so on.).

4. Streamlining the investment policy of the enterprise with a view to a balanced combination of investment in tangible, intangible and financial assets. The results of panel data regression have revealed that the excessive increase in tangible assets affects financial performance. In this context, the author proposes the following:

a) *The realization of investments in tangible assets must be directed to innovative projects, to modernization*, which will contribute to increasing the competitive advantage of the enterprise;

b) *Current control of the growth rate of the average value of tangible assets* by comparing it with the growth rate of sales revenue and of economic capital (the growth rate of tangible assets must be lower);

c) *Re-dimensioning investment policy* including and using such components as investment in intangible assets, financial assets and short-term investments. Investments in intangible assets must be directed towards the purchase of intellectual property, which will enhance the innovative development of the enterprise, the quality of manufactured products, and so on. Investments in financial assets are an alternative to investment in tangible assets because they are divisible, have a higher liquidity degree, are not depreciated. Short-term investments in the form of bank deposits with right to replenish and withdraw to the customer's need are a useful way of equilibrating the risk-profitability relationship. Thus, the enterprise avoids additional costs resulting from excessive cash holdings and the risk of inability to pay immediate bonds.

In conclusion, the author notes that the capital turnover is a determinant of financial performance, the influence of which is significant and positive. Based on empirical research, the author finds that capital turnover influences financial performance not only through isolated, but also systemic effects. Thus, the author concludes that it is not enough for capital turnover just to accelerate; a correlation between the turnover of economic capital and the turnover of its components has to be maintained. In addition, the author finds that if the tangible assets turnover and the receivables one accelerates faster than the capital turnover (total assets), the financial performance will increase. In the same time, capital turnover acceleration rate must be higher than that of cash. And finally, in conclusion, *the capital turnover has positive effects on the financial performance when the turnover accelerates, being determined by a faster growth of sales compared to the increase in the average capital value.*

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