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## COMPREHENSIVE STUDY OF THE IMPACT OF FACTORS ON THE EFFICIENCY OF BUDGET MANAGEMENT AT ENTERPRISES

### КОМПЛЕКСНЕ ДОСЛІДЖЕННЯ ОЦІНКИ ВПЛИВУ ФАКТОРІВ НА ЕФЕКТИВНІСТЬ БЮДЖЕТНОГО УПРАВЛІННЯ НА ПІДПРИЄМСТВАХ

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**B**udget management as a management system plays a significant role in enterprises, since it performs vital management functions. However, the current conditions of a market economy are characterized by a constant dynamic rate of development that requires an appropriate response from enterprises and their management systems. As a result, an assessment of the impact of factors on the effectiveness of budget management becomes important in order to further determine possible reserves for optimizing the efficiency of its implementation at enterprises [1].

#### Analysis of recent researches and publications

The work of many foreign and domestic researchers, among which the great contribution was made by J. Antos (1998), A.N. Asaul, I.A. Blank, E. Brigham (2012), J. Brimson (1998), N.V. Naumova, L.V. Zharikova, R.S. Kvasnitskaya, O.M. Krivoruchko, O.E. Kuzmin, I. Maitland (2000), O.G. Melnik, V.P. Savchuk, S.V. Filippova, L.V. Frolova, A.Yu. Kharkov, V.E. Khrutsky, D.A. Shevchuk, K.V. Shiborsch, Jae K. Shim (2007) and many others was devoted to studying the issues of budget management and assessing the influence of factors on its effectiveness.

#### Unsolved aspects of the problem

However, the issues of creating a comprehensive system for assessing the impact of factors on the efficiency of budget management at enterprises are not fully considered which also led to the choice of the topic of research.

*The aim of the article is to carry out a comprehensive study of the impact of factors on the efficiency of budget management in enterprises.*

The main tasks of the article are:

- Construction of a model of factors influencing the efficiency of budget management;
- Formation of a structural-logical sequence for evaluating the influence of factors on the efficiency of budget management;
- Conducting an assessment of the influence of environmental factors of indirect influence on the efficiency of budget management;

*Брагіна О.С. Комплексне дослідження оцінки впливу факторів на ефективність бюджетного управління на підприємствах. Науково-методична стаття.*

У статті здійснено оцінку впливу факторів зовнішнього середовища прямого і непрямого впливу на ефективність бюджетного управління на підприємствах. Автором сформована система показників для оцінки впливу факторів внутрішнього середовища на ефективність бюджетного управління і на основі кореляційно-регресійного аналізу проранжовано показники в залежності від сили їх впливу. За результатами дослідження на основі методу кореляційно-регресійного аналізу визначені можливі резерви оптимізації ефективності здійснення бюджетного управління на підприємствах. Метою статті є розробка механізму оцінки впливу факторів на ефективність бюджетного управління на підприємствах.

*Ключові слова:* фактор, ефективність, бюджетне управління, фактори зовнішнього середовища, фактори внутрішнього середовища, кореляційно-регресійний аналіз

*Bragina O.S. Comprehensive study of the impact of factors on the efficiency of budget management at enterprises. Scientific and methodical article.*

The article assesses the influence of environmental factors of direct and indirect influence on the efficiency of budget management at enterprises. The author has developed a system of indicators for assessing the impact of factors of the internal environment on the efficiency of budget management, and based on correlation-regression analysis, indicators are plotted depending on the strength of their influence. According to the results of the study, based on the correlation-regression analysis method, possible reserves of optimization of the efficiency of budget management in trade enterprises were determined. The purpose of the article is to develop a mechanism for assessing the impact of factors on the efficiency of budget management in enterprises.

*Keywords:* factor, efficiency, budget management, factors of the external environment, factors of the internal environment, correlation-regression analysis

- Assessment of the impact of environmental factors of direct influence on the efficiency of budget management;
- Conducting an assessment of the influence of internal environment's factors on the efficiency of budget management;
- Analysis of the use of possible reserves' sources for optimizing budget management.

### The main part

The process of implementation of enterprises' budget management involves not only its detailed analysis, the identification of trends and patterns of development, but also the identification of factors that determine it. Under the factors influencing budget management, we understand such processes and phenomena in the economic activity of enterprises in

the industry, which cause changes in the process of its implementation and results [2]. The effectiveness of fiscal management is influenced by various factors, the impact of which is carried out with different strength and in different directions.

The main task of factor analysis is to identify the most significant factors that affect the effectiveness of budget management. The basic idea of factor analysis is to decompose the general variation of the resulting function into components that do not depend on each other and each of which characterizes the influence of variation of a factor or interaction of a number of factors [3].

The model of the factors' influence on the efficiency of budget management developed by us is presented in fig. 1.

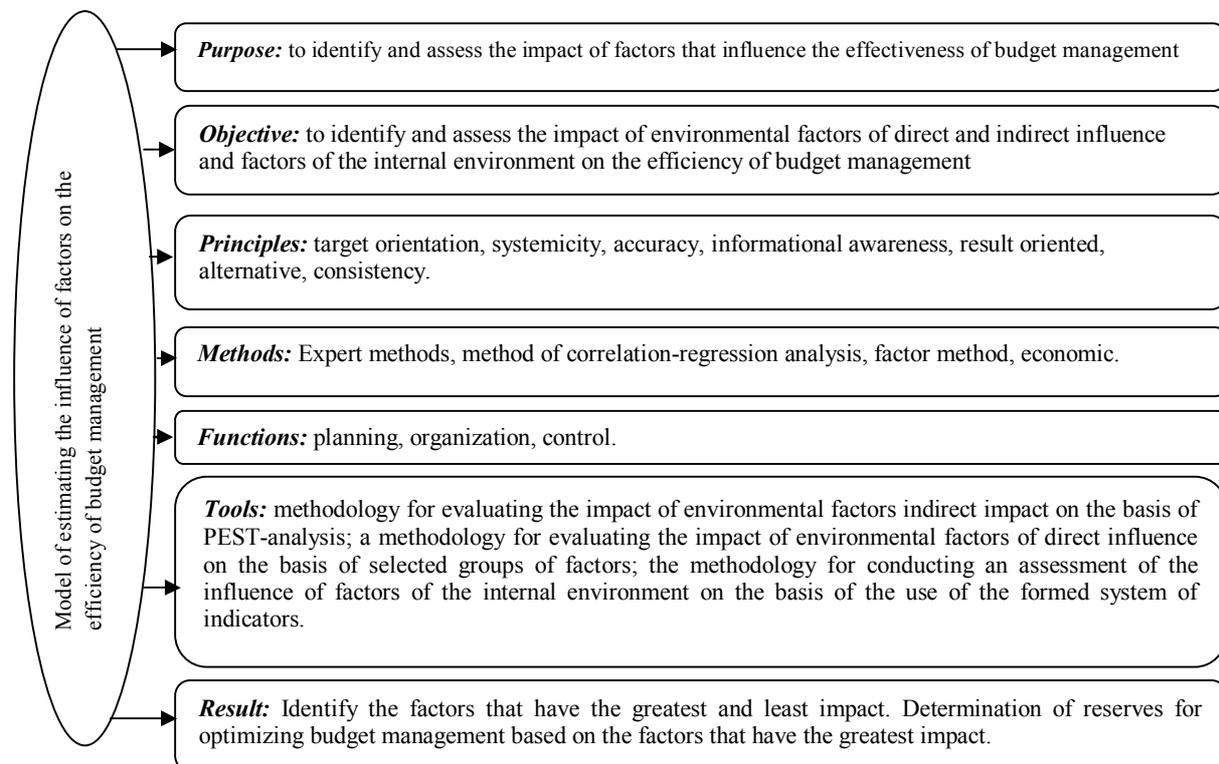


Fig. 1. Model for assessing the impact of factors on the efficiency of budget management

Source: own elaboration

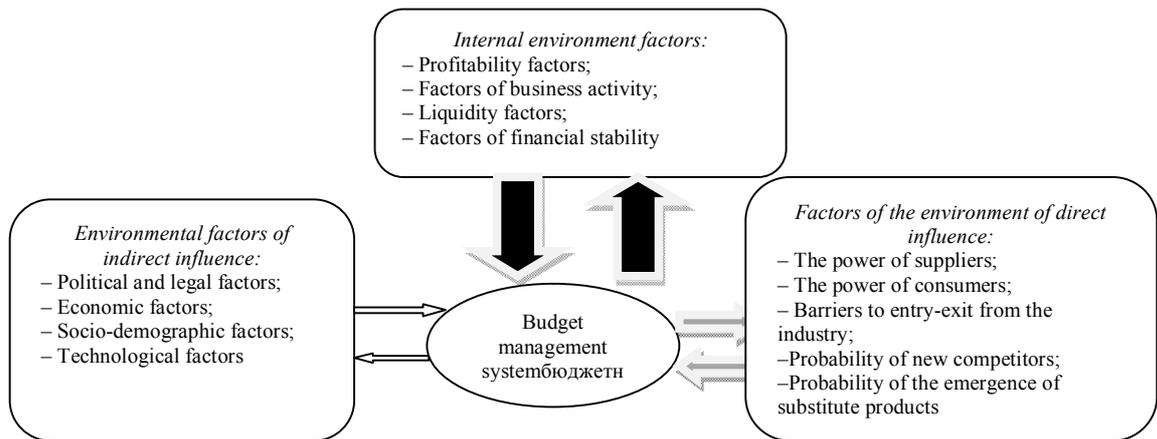
Based on the study of modern economic literature in the model developed by us, the following groups of influencing factors are identified (fig. 2):

1. Factors of the external environment of indirect influence – a combination of factors that form the long-term activity of the enterprise and which the company can not influence at all or has little influence [4].

2. Factors of the external environment of direct influence (or factors of the intermediate environment or "environment of tasks") – a set of factors that shape the activities of the enterprise in the long run and which it can affect through the establishment of effective communications [5].

3. Factors of the internal environment of the enterprise – a set of factors that form the enterprise activities in the long run and are under the direct control of its managers and staff [6].

Thus, in order to obtain a complete picture of the effectiveness of budget management at enterprises, it is expedient to assess the degree of influence of each of the selected groups of factors. The estimation of the influence of factors is carried out according to the methodology, which is a set of successively changing operations, which make it possible to identify factors that influence the effectiveness of budget management, to determine the direction and the strength of their influence on the purpose of timely action to neutralize or minimize their negative impact.



\* The size and intensity of the colors of the arrows reflect the strength of the relationship with the budget management system

Fig. 2. A set of factors that influence the efficiency of budget management  
Source: compiled by the author on the materials [7-10]

The process of assessing the impact of factors on the effectiveness of budget management is divided into a series of interconnected stages, which make it possible to establish a specific composition of the factors affecting the overall logic of the sequence of their evaluation. The sequence of evaluating the influence of factors on the efficiency of budget management at enterprises is represented by a structural-logical scheme and includes the following steps, presented in fig. 3.

An estimation of the influence of environmental factors of direct and indirect influence can be carried out on the basis of the allocation of groups of factors

that have the greatest impact on the enterprise, as well as the ranking of these factors by the force of influence on the industry. For this purpose, an integral indicator is calculated, which is calculated using the expert estimation method. Thus, the process of assessing the impact of environmental factors can be represented by the following sequence of actions:

1. Establish the significance of the group ( $\Gamma_j$ ) and individual factors ( $O_i$ ), which influence the activity of the enterprise. To do this, expertly, we divide the estimates of groups of factors (a separate factor) from 0 to 1 in such a way that their arithmetic sum is equal to 1.

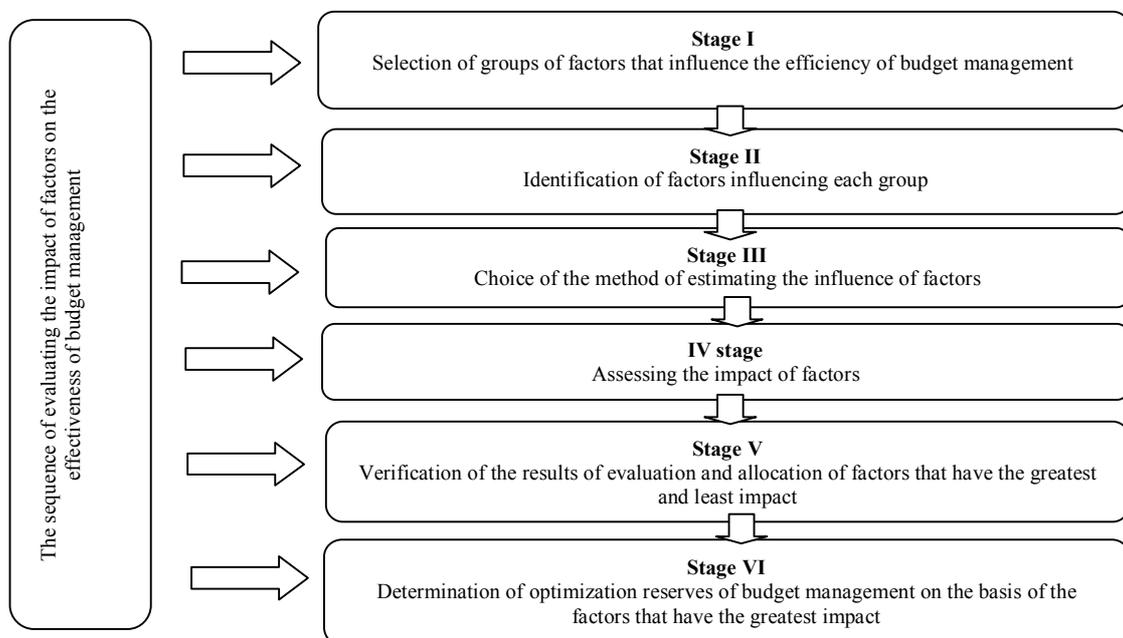


Fig. 3 Structural-logical scheme of the sequence of evaluation of the factors' influence on the efficiency of budget management

Sources: compiled by the author on the materials [7, 9, 11-16]

2. The significance of the influence of the  $i$ -th factor on the activity of the enterprise, taking into

account the  $j$ -th group significance, is determined by the formula:

$$a_{ij} = \frac{O_i \cdot \Gamma_j}{100}, \quad (1)$$

where  $a_{ij}$  – the weight of the  $i$ -th indicator of the  $j$ -th group;

$O_i$  – the weight of the  $i$ -th indicator within the  $j$ -th group;

$\Gamma_j$  – the value of the  $j$ -th group weight.

3. We will carry out an expert evaluation of the influence of factors on the retail trade sector ( $k_{ij}$ ) on a scale in the range from  $k_{\min} = -5$  до  $k_{\max} = +5$ .

4. The integral estimation of the influence of the factor (group of factors) is carried out by the additive model:

$$K = \sum_{ij=1}^n a_{ij(j)} \cdot k_{ij(j)}, \quad (2)$$

where  $\alpha$  – the weight of the  $i$ -th indicator of the  $j$ -th group (or the value of the ( $j$ -th) group weight);

$k$  – the value of the  $i$ -th partial index of the  $j$ -th group (or the index of  $j$ -th group).

5. After determining the main parameters and directions of their influence, it is necessary to determine the part of the variation range, which is an integral part of the transition from the various signs and units of measurement of indicators to comparable:

$$D_{ij} = k_{\max} - k_{\min}, \quad (3)$$

where  $D_{ij}$  – part of the variational dimension for the  $i$ -th indicator in the  $j$ -th group (the number of possible ball scores is 10).

6. To calculate the part of the actual value of the integral factor of the individual factor's influence ( $r_i$ ) (group of factors ( $R_j$ )) in its maximum assessment and subsequent ranking of individual (group) factors, use the formula:

$$R_{ij}^{(t)} = \left| \frac{|K_{ij}| - k_{ij\min(\max)}^{(t)} \cdot 100}{D_{ij}} \right|, \quad (4)$$

where  $|K_{ij}|$  – the actual value of the  $i$ -th indicator in the  $j$ -th group modulo;

$k_{ij\min(\max)}^{(t)}$  – extreme value of the indicator (the minimum and maximum value of the score).

For  $t = 1$  minimum value  $k_{ij\min}^{(1)}$  (equal-5) is taken,

For  $t = 2$  – maximum value  $k_{ij\max}^{(2)}$  (equal +5).

At  $t = 1$  the value  $R(t)_{ij}$  is maximized, at  $t = 2$  – it is minimized.

If  $0\% < R_{ij}^{(t)} < 50\%$ , then the influence of the factor (group of factors) is negative. When  $R_{ij}^{(t)} \rightarrow 0\%$  the negative influence increases. If  $50\% < R_{ij}^{(t)} < 100\%$ , the influence of the factor (group of factors) is positive. When  $R_{ij}^{(t)} \rightarrow 100\%$  the positive effect increases.

7. We will determine the force of influence of each individual factor by the formula:

$$F = \frac{|K_{ij}|}{K_{ij\max}} \cdot 100, \quad (5)$$

where  $|K_{ij}|$  – the actual value of the  $i$ -th indicator in the  $j$ -th group modulo;

$K_{ij\max}$  – the maximum value of the  $i$ -th indicator in the  $j$ -th group. It is determined by the formula 2. In this case,  $k_{ij(j)} = k_{\max} = 5$ .

8. The obtained values allow us to rank the groups of factors (or individual factors within the group) by the power of influence on the retail industry, and, therefore, identify those ones that will most determine the direction of development of the industry as a whole and each individual enterprise in particular.

Implementation of the methodology for determining the integral indicator in assessing the influence of environmental factors of indirect influence on the sphere of retail companies, which carry out their activities in the "store near the house", will be based on the assessment of the impact of such groups of factors as political, legal, economic, socio-demographic and techno-technological ones. An assessment is made on the basis of expert assessments, taking into account the views of leading specialists of the investigated enterprises. The result of this study is presented in fig. 4.

Based on the results of the conducted research, it can be concluded that the greatest impact on the analyzed group of enterprises is provided by economic (80.00%) and socio-demographic (70.00%) factors. Among economic factors, all factors have a strong influence, with the exception of the growth factor of retail trade, which has an average degree of influence. It should be noted the different direction of the influence of factors. So, according to experts, among the economic factors, only inflationary processes in the economy have a negative impact. Among socio-demographic factors, factors such as high unemployment and unsystematic wage payments have the greatest impact, with both factors having a negative impact. Such factors as the decrease in the population and the non-compliance of the subsistence level of the minimum wage also have a negative impact, but differ in the average force of influence.

The rest of the factors' group is less affected. Thus, the indicator of the impact assessment for technical and technological factors was 54.97%, and for the political-legal 52.00%. Investigating in more detail the nature of the influence of technical and technological factors can be noted in general, the effect of influence on the average level and the positive effect of influence on all factor criteria.

During the analyzing of environmental factors, due attention should be paid to the factors of direct influence, since these factors of the environment have a greater impact on the activities of enterprises. Investigation of the factors' influence is possible on the basis of expert evaluations of the opinions of leading specialists of the enterprises under study. The process of analyzing the environmental factors of direct influence on the activities of retailers will be based on the impact assessment of the four groups of influencing factors: suppliers, consumers, competitors and contact audiences.

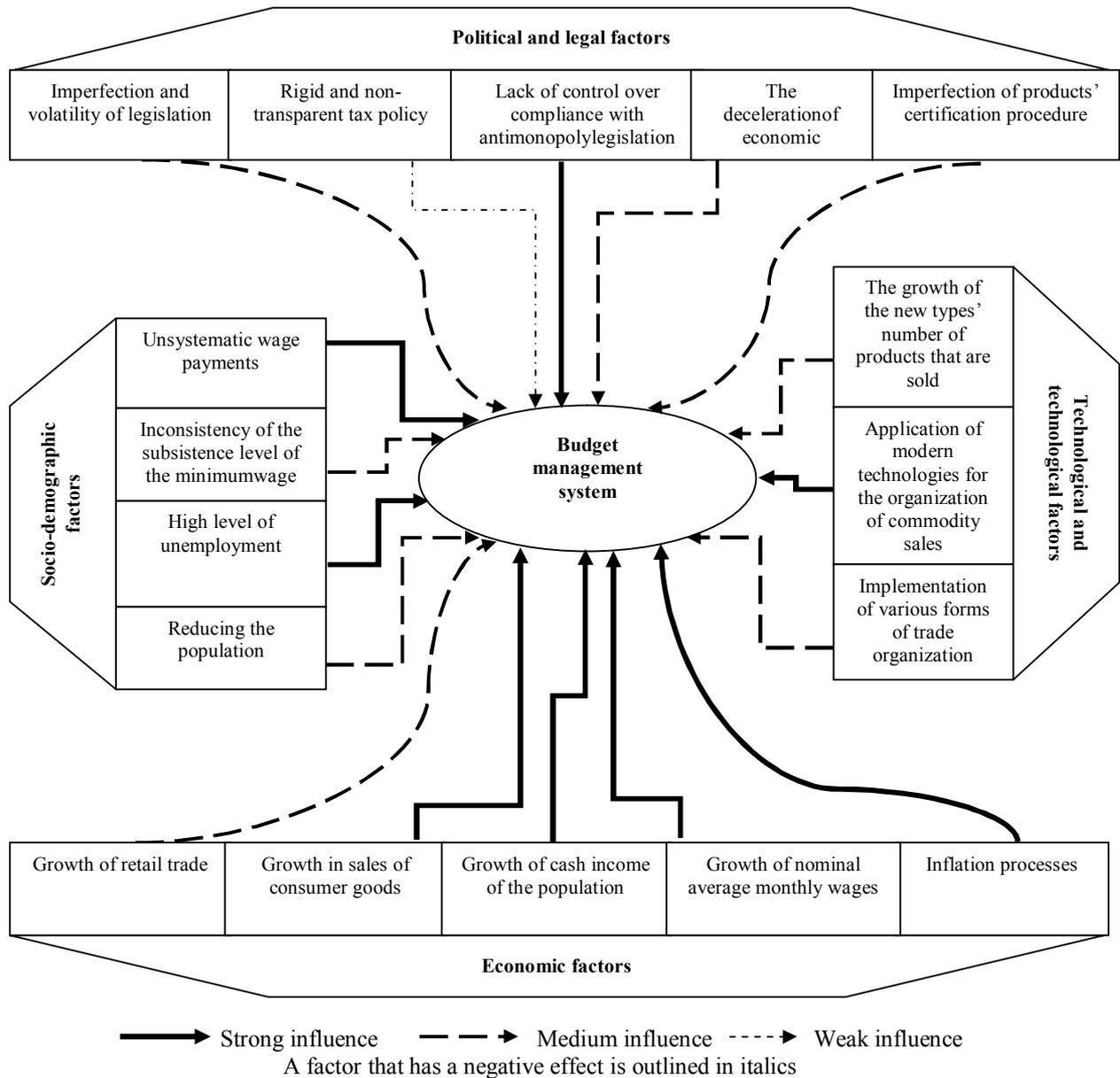


Fig. 4. Estimation of environmental factors' influence of indirect influence on the efficiency of enterprises' budget management  
 Source: own elaboration

During the evaluating of environmental factors' influence direct, we use the same methodology as during the evaluating of environmental factors' influence of indirect influence. The results of the study presented in fig. 5.

Based on the results of the study, it can be concluded that the most affected companies are experienced by competitors (73.33%) and suppliers (70.00%). In this case, the influence of competitors differs in the negative nature of the impact, and on the part of suppliers is positive.

Among the negative factors on the part of competitors it is important to note the presence of a high degree of intensity of competition in the market, as well as low barriers to entry to potential competitors. However, long-term relationships with

the vast majority of suppliers have a positive impact on the efficiency of budget management and on the efficiency of enterprises in general.

The consumer also has a high degree of influence (68.00%). Among the factors that have a high degree of influence can be the regular purchase of goods in this enterprise, high sensitivity of buyers to changes in prices, as well as the ability to choose other sellers.

The least impact is provided by contact audiences. So, the less influence on this group and in general on all groups of factors has imperfect contacts with the press. In assessing the factors for the activities of enterprises, a special place should be allocated for factors of the internal environment, because these factors have the most significant impact on their activities.

For the purpose of analysis of internal environment's factors' influence on the efficiency of budget management of the enterprise, a correlation-regression analysis is widely used. Correlation-regression analysis – is a classic method of stochastic

modeling of financial and economic activity [17]. It examines the relationship between the indicators of financial and economic activity, when the relationship between them is not strictly functional and is violated by the influence of external factors [17].

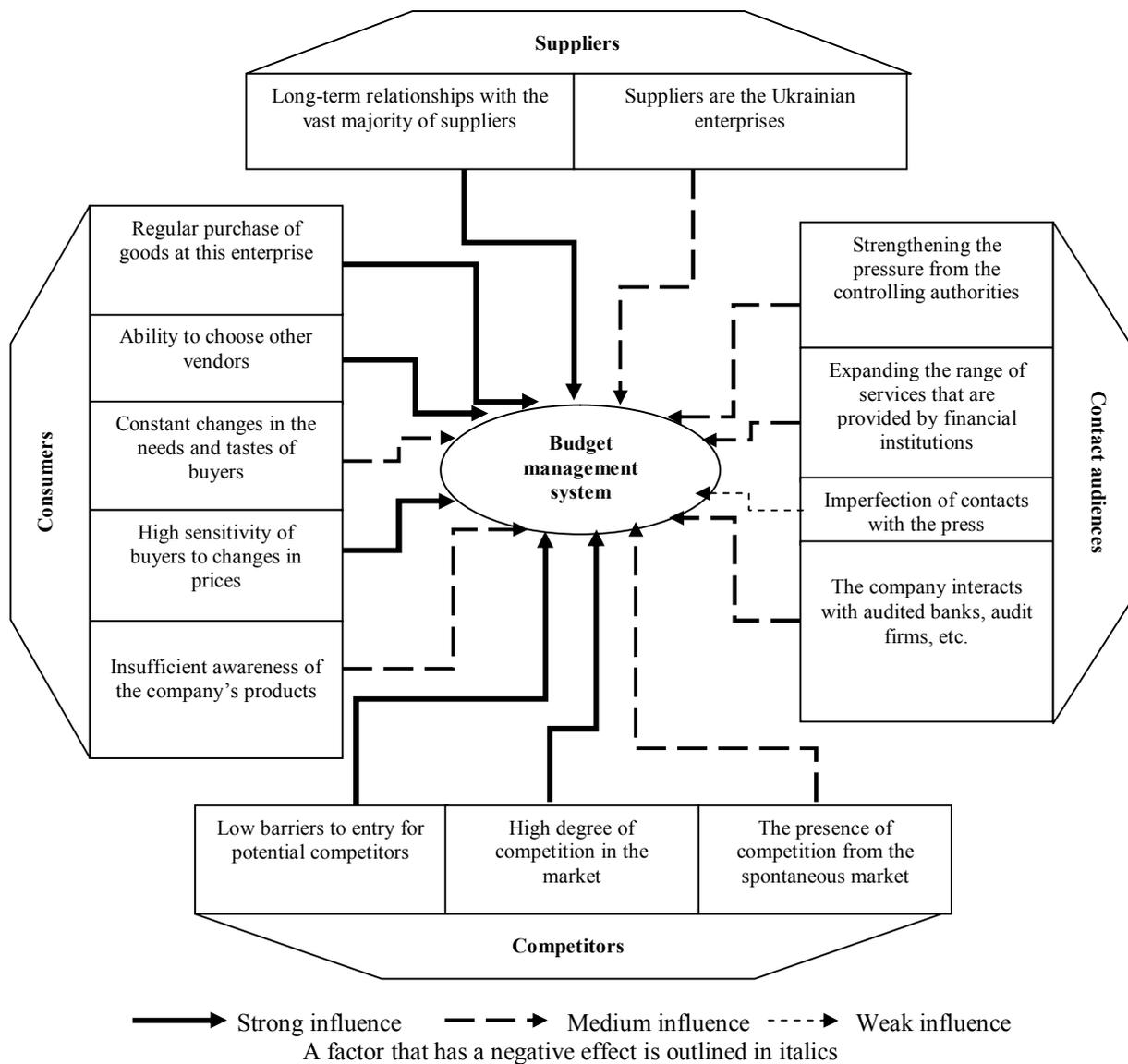


Fig. 5. Analysis of the influence of direct impact's environmental factors on the activities of enterprises budget management

Source: own elaboration

Conducting correlation-regression analysis involves the construction of various correlation and regression models of economic activity. In these models, distinguish factor and performance indicators (attributes). Depending on the number of investigated indicators, there are pair and multi-factor models of correlation-regression analysis [18].

The main task of correlation analysis is to measure the tightness of the relationship between the variables that vary and estimate the factors that have the greatest impact on the resultant.

The relationship between the indicators is correlation, if the law of distribution of one value

corresponds to the distribution law of another, or if the change in the mathematical expectation of one magnitude affects the change in the mathematical expectation of another. For the quantitative assessment of the compression ratio, the correlation coefficient ( $r$ ) is used, which varies in the range from -1 to +1 [3].

Regression analysis is intended for choosing the form of communication and the type of model for determining the estimated values of the dependent variable (attribute) [19].

The most developed in the theory and widely used in practice is a pair correlation, in which the

relationship between the productive feature and one factor is investigated. This is a one-factor correlation-regression analysis [3].

During the conducting factor analysis of budget management, criterion indicators were selected separately for each component of the general system of the enterprise's budgets:

1. The indicator of profitability of the turnover was selected to assess the impact of factors on the efficiency of the budget revenue and expenditure.
2. The indicator of profitability of funds –to assess the impact of factors on the effectiveness of the budget cash flow.
3. The indicator of return on capital – to assess the impact of factors on the efficiency of the balance budget.
4. Profitability indicator – to assess the impact of factors on the effectiveness of the sales budget.
5. The indicator of profitability of the purchase – to assess the impact of factors on the budget procurement effectiveness.
6. The rate of return on labor costs – to assess the impact of factors on the effectiveness of the budget wage costs.
7. Indicator of profitability of general expenses – to assess the impact of factors on the efficiency of the budget general spending.
8. The indicator of the profitability of administrative costs and sales costs – to assess the impact of factors on the effectiveness of the budget administrative costs, and marketing costs.

The effectiveness of budget management is influenced by a system of factors of the internal environment, among which were identified the following groups: profitability, financial stability, business activity and liquidity.

Within each group, a set of indicators is presented, which is presented in fig. 6.

The functional relationship between the index and the factors influencing can be represented using formula (6) [3].

$$y = f(x_1, x_2, \dots, x_{m-1}) \quad (6)$$

The functional relationship between the criterion indicators of profitability (P) and their influence on the groups of factors F1, F2, F3, F4 can be represented using formula (7).

$$P_t (P_f, P_c, P_i, P_p, P_l, P_g, P_a, C) = \begin{cases} F1 (P_c, P_s, P_e P_{ca}, P_{nsa}) \\ F2 (C_{mwc}, CA, C_{mcae}, C_{cr}, I_{as}, C_{fs}) \\ F3 (R_a, T_{ca}, T_{ac}, T_{ar}, T_{ce}, T_{ec}) \\ F4 (C_{tl}, U_{lr}, A_{lr}, R_{r/p}, R_{ae/d}, C_{FR}) \end{cases} \quad (7)$$

With the help of the correlation method, we investigate the dependence of the rate of profitability of the trade turnover on the system of factors presented in fig. 6. Similarly, we investigate the relationship between profitability indicators for each of the analyzed budgets and affect them by group of factors.

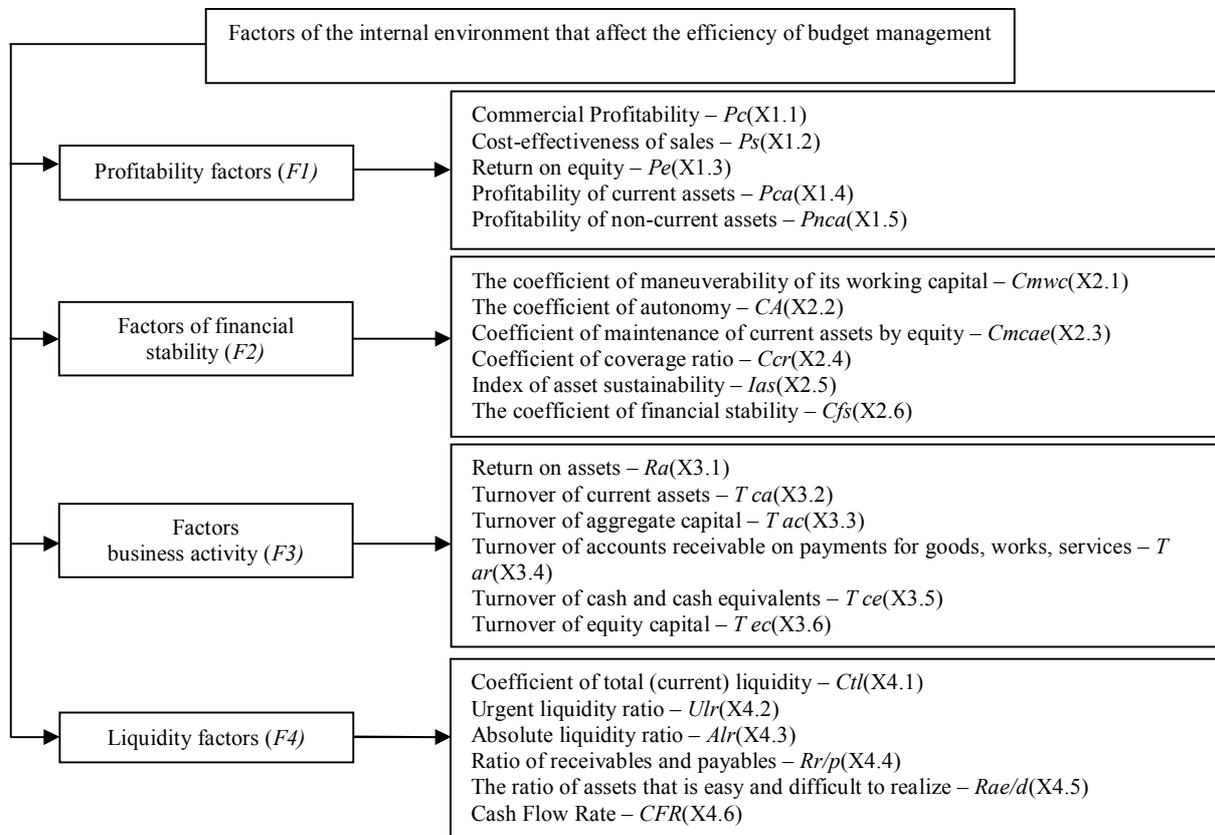


Fig. 6. The system of factors of the internal environment that influence on the efficiency of budget management  
Source: own elaboration

These correlation matrices provide an opportunity to summarize the results and group the factors that

influence the profitability indicators for each budget by the force of their influence, as shown in fig.7.

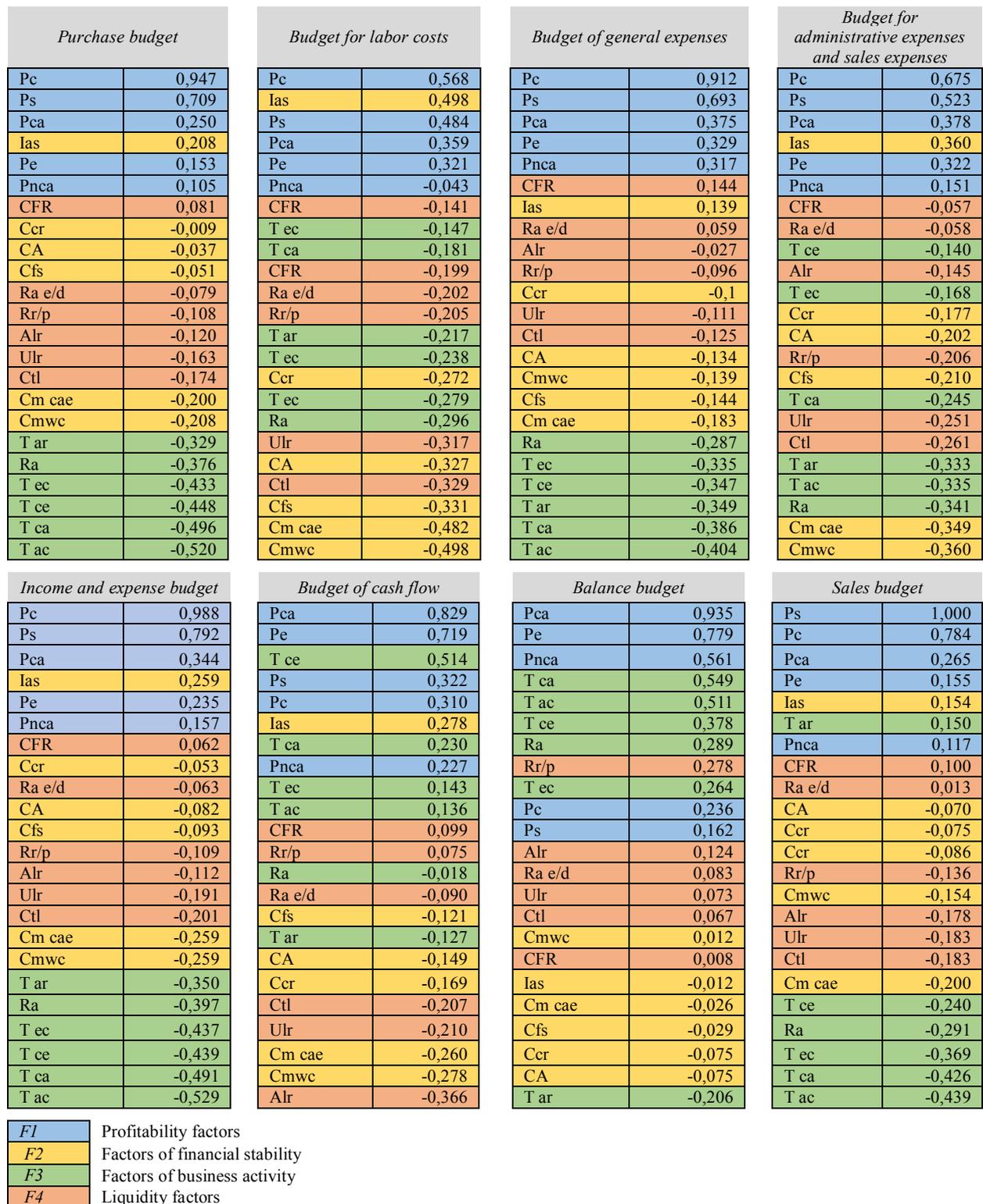


Fig. 7 Scales of the results of the assessment of the impact of internal environment's factors on the efficiency of budget management

Source: own elaboration

Based on the results of correlation analysis presented in the form of scales factors and sorted in strength and direction of impact it can be noted that in

general, the greatest influence is made by factors of profitability, the smallest – by indicators of the liquidity group.

Great influence is made by factors of business activity, but in most cases the reciprocal orientation of the relationship should be noted, as evidenced by the negative values of the coefficients of correlation. The reciprocal orientation of the relationship suggests that for these enterprises the dependence between the factor and the resultant indicator can be traced, but only in the opposite direction.

It should be noted that the revenue and expenditure budget, sales budget, procurement budget and general spending budget are most affected by the performance of the groups of profitability and business activity. At the same time, the indicators of business activity also have a strong impact, but differ in the reciprocal nature of the focus.

The budget for labour costs and the budget for administrative expenses and sales expenses are most

affected by the performance of groups of profitability and financial sustainability. At the same time, the indicators of financial sustainability indicate a reciprocal orientation of the relationship.

Profitability groups (0.935 / 0.779 / 0.561) and business activity (0.549 / 0.511 / 0.378) also have the largest impact on the balance sheet budget, with a direct focus on exposure. Similar dependence is observed for the budget of the movement of funds.

Based on the results of the correlation study, we distinguish three factors that have the greatest impact on each budget, examine the nature of this relationship and for these factors, as for the most significant, we will construct linear model of dependence, the result of which we shall represent in tab. 1.

Table 1. Assessment of the tightness of the relationship and the development of practically adequate models of dependence

Budget	Influence factor (x)	Group of factors (F)	Correlation coefficient (r)	The power of interconnection *	The direction of the relationship *	Linear dependence model (regression equation)	R2
Income and expense budget	<i>Рком</i> (X1.1)	<i>F1</i>	0,988	↑	+	$Y = 0,13 + 0,82 * X1.1$	0,986
	<i>Рпрод</i> (X1.2)	<i>F1</i>	0,792	↑	+	$Y = 0,51 + 0,58 * X1.2$	0,627
	<i>Коб κ</i> (X3.6)	<i>F3</i>	-0,529	⇔	-	$Y = 2,82 - 0,72 * X3.6$	0,280
Budget of cash flow	<i>Роа</i> (X1.4)	<i>F1</i>	0,829	↑	+	$Y = 1,00 + 4,69 * X1.4$	0,687
	<i>Рск</i> (X1.3)	<i>F1</i>	0,719	↑	+	$Y = 4,67 + 1,57 * X1.3$	0,517
	<i>Коб δс</i> (X3.5)	<i>F3</i>	0,514	⇔	+	$Y = 5,56 + 0,84 * X3.5$	0,264
Balance budget	<i>Роа</i> (X1.4)	<i>F1</i>	0,935	↑	+	$Y = 0,20 + 0,66 * X1.4$	0,874
	<i>Рск</i> (X1.3)	<i>F1</i>	0,779	↑	+	$Y = 0,76 + 0,21 * X1.3$	0,607
	<i>Рноа</i> (X1.5)	<i>F1</i>	0,561	⇔	+	$Y = 1,29 + 0,06 * X1.5$	0,315
Sales budget	<i>Рком</i> (X1.1)	<i>F1</i>	0,784	↑	+	$Y = 0,38 + 0,89 * X1.1$	0,614
	<i>Коб κ</i> (X3.6)	<i>F3</i>	-0,439	⇔	-	$Y = 3,34 - 0,82 * X3.6$	0,193
	<i>Коб оа</i> (X3.2)	<i>F3</i>	-0,426	⇔	-	$Y = 3,40 - 0,65 * X3.2$	0,181
Purchase budget	<i>Рком</i> (X1.1)	<i>F1</i>	0,947	↑	+	$Y = -0,09 + 1,16 * X1.1$	0,897
	<i>Рпрод</i> (X1.2)	<i>F1</i>	0,709	↑	+	$Y = 0,55 + 0,77 * X1.2$	0,503
	<i>Коб κ</i> (X3.6)	<i>F3</i>	-0,520	⇔	-	$Y = 3,74 - 1,04 * X3.6$	0,270
Budget for labor costs	<i>Рком</i> (X1.1)	<i>F1</i>	0,568	⇔	+	$Y = -7,49 + 19,64 * X1.1$	0,323
	<i>Іна</i> (X2.5)	<i>F2</i>	0,498	⇔	+	$Y = -15,60 + 67,20 * X2.5$	0,248
	<i>Кмсок</i> (X2.1)	<i>F2</i>	-0,498	⇔	-	$Y = 51,60 - 67,20 * X2.1$	0,248
Budget of general realization costs	<i>Рком</i> (X1.1)	<i>F1</i>	0,912	↑	+	$Y = 0,21 + 0,63 * X1.1$	0,831
	<i>Рпрод</i> (X1.2)	<i>F1</i>	0,693	⇔	+	$Y = 0,54 + 0,42 * X1.2$	0,480
	<i>Коб κ</i> (X3.6)	<i>F3</i>	-0,404	⇔	-	$Y = 2,13 - 0,46 * X3.6$	0,164
Budget for administrative expenses and sales expenses	<i>Рком</i> (X1.1)	<i>F1</i>	0,675	⇔	+	$Y = 4,21 + 3,74 * X1.1$	0,455
	<i>Рпрод</i> (X1.2)	<i>F1</i>	0,523	⇔	+	$Y = 46,09 + 2,54 * X1.2$	0,273
	<i>Роа</i> (X1.4)	<i>F1</i>	0,378	⇔	+	$Y = 6,19 + 21,93 * X1.4$	0,143

\* The scale for determining the cohesiveness of the relationship is presented in the Addition orientation of the relationship: + direct - the inverse the power of the relationship: ↑strong ⇔oderate ↓ak ⊗sent

Source: own elaboration

Based on the results of the correlation-regression analysis of the research (tab 1), made over the investigated group of companies, for each of the budgets, three factors that have the greatest impact were identified. So the biggest impact is the performance of the profitability group, including commercial profitability, return on sales, profitability of current assets and return on equity.

For each budget, a linear dependency model was developed. The significance of each model for budgets can be judged by the value of the

determination coefficient. So the most significant should be considered the model of the relationship of commercial profitability with the budget revenue and expenditure. At the same time, the effectiveness of the budget revenue and expenditure by 98.6% is determined by commercial profitability.

The high degree of dependence is noted between the indicator of commercial profitability and the procurement budget, which is expressed in 89.7%. Significant degree of interconnection, namely 87.4%, is also observed between the indicator of return on

assets and the balance budget. It is also important to note the strong impact of commercial profitability on the budget of general outlays, which is determined by 83.1%. As a result of the correlation-regression analysis was carried out the factors that have the greatest impact and the extent of this dependence are identified. The results of this study give an opportunity to optimize the process of budget management based on corrective actions on factor indicators in order to increase the efficiency of the budget management process.

All this leads to the need to increase the efficiency of budget management, which is possible based on the definition of unused optimization reserves.

Determination of possible optimization reserves is determined on the basis of the results of correlation-regression analysis of budget management separately for each budget, as a result of which we obtained

different linear dependence models. To determine the optimization reserves, we have determined the estimated values for each of the indicators that affect and make their comparison with the actual values.

The analysis showed that each of the factors can have both a positive and a negative impact. As a whole, based on the results of the survey, we did not find any company where there would be no opportunity to optimize budget management. It should be noted that the greatest number of optimization reserves, especially in the reporting year, is allocated among cluster A enterprises, the smallest among cluster enterprises of C. Thus, one can conclude that the most effective system of budget management for enterprises in the cluster C.

To analyze the degree of use of possible reserves' sources for optimizing budget management, the last two years were compared (tab. 2).

Table 2. Analysis of the use of possible reserves' sources for optimizing budget management

Budget	Factor	Cluster A										Cluster B		Cluster C							
		PE "Lakomka"	LLC "Chayka"	PE "Vega"	LLC "Domashniy"	PE Riton	LLC "Products"	LLC "Marina"	LLC "Appetite"	PE "Romashka"	LLC "Bim"	PE "Kamerton"	LLC "Dva husaka"	PE "Prodtorg"	LLC "Meat and feesh"	PE "Pulse"	LLC "Pyatachok"	LLC "Fresh"	LLC "Kiwi"	LLC "Simeynny"	PE "Mriya"
Income and expense budget	Commercial profitability	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★
	Cost-effectiveness of sales	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★	●★
	Turnover of equity capital	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Budget of cash flow	Profitability of current assets													★							
	Turnover of equity capital	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★
	The turnover of cash equivalents	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★	▲★
Balance budget	Profitability of current assets	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
	Turnover of equity capital	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
	Profitability of non-current assets	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
Sales budget	Commercial profitability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Turnover of equity capital	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Turnover of current assets	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Purchase budget	Commercial profitability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Cost-effectiveness of sales	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Turnover of equity capital	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Budget for labour costs	Commercial profitability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Index of asset sustainability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	The coefficient of maneuverability of its working capital	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Budget of general realization ed costs	Commercial profitability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Cost-effectiveness of sales	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Turnover of equity capital	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Budget for administrative expenses and sales expenses	Commercial profitability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Cost-effectiveness of sales	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Profitability of current assets	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Source: own elaboration

To interpret the results of the study, the following notation was used:

★ availability of optimization reserve last year. In the reporting year, the reserve was used and the optimization reserves remained (+/-).

▲ absence of a reserve in the past year. In the reporting year there was an opportunity to use optimization reserves (- / +).

● availability of optimization reserve last year. In the reporting year, the possibility of using the optimization reserve remained (+/-).

□ Absence of possibility of optimization reserves in the past and in reporting years (- / -).

### Conclusions

Thus, it should be noted the high importance and the need to assess the impact of factors on the effectiveness of budget management, which enables, based on the definition of the nature and strength of influence to effectively manage these factors for the purpose of the business enterprises. The revealed

optimization reserves give concrete directions for improving the efficiency of budget management in trade enterprises. As a result of the correlation-regression analysis of the impact of factors of the internal environment on the efficiency of budget management, the indicators were ranked according to the force of their influence and practically adequate models of dependence were developed. To identify and analyze the degree of use of sources of possible reserves for optimizing budget management, the past two years have been compared, which resulted in the allocation of four groups of optimization reserves:

- optimization reserves that were used in the reported year compared to the past;
- optimization reserves that were identified for use in the reporting year compared with the past;
- optimization reserves that have been used and are available for further use;
- reserves, for which there is no possibility of optimization.

### Abstract

Budget management as a management system plays a significant role in enterprises, since it performs vital management functions. However, the current conditions of a market economy are characterized by a constant dynamic rate of development that requires an appropriate response from enterprises and their management systems. As a result, an assessment of the influence of factors on the effectiveness of budget management becomes important in order to further determine possible reserves for optimizing the efficiency of its implementation at enterprises.

The purpose of the article is to carry out a comprehensive study of the impact of factors on the efficiency of budget management in enterprises.

To achieve this goal, the following tasks were solved:

- The models of factors influencing the efficiency of budget management are constructed;
- A structurally-logical scheme of the sequence of conducting an estimation of influence of factors on the efficiency of budget management is formed;
- Assessments of the influence of environmental factors of indirect influence on the efficiency of budget management;
- Estimates of the influence of environmental factors of direct influence on the efficiency of budget management;
- Assessments of the impact of internal environment factors on the efficiency of budget management;
- The use of sources of possible reserves for optimizing budget management has been analyzed.

The research uses such methods as economic, method of correlation-regression analysis, method of examination, method of analysis and synthesis.

Thus, it should be noted the high importance and the need to assess the impact of factors on the effectiveness of budget management, which enables, based on the definition of the nature and strength of influence to effectively manage these factors for the purpose of the business enterprises. The revealed optimization reserves give concrete directions for improving the efficiency of budget management in trade enterprises.

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