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ЗРОСТАННЯ БІЗНЕСУ – ЗЛИТТЯ ТА ПОГЛИНАННЯ

Злиття та поглинання проаналізовані як елементи зовнішньої стратегії зростання в сучасних умовах економічного середовища. Проаналізовано еволюцію котирування акцій до і після злиттів і поглинань.
Ключові слово: злиття, поглинання, розширення, об'єднання бізнесу.

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РОСТ БИЗНЕСА – СЛИЯНИЯ И ПОГЛОЩЕНИЯ

Слияния и поглощения проанализированы как элементы внешней стратегии роста в современных условиях экономической среды. Проанализирована эволюция котировки акций до и после слияний и поглощений.
Ключевые слова: слияние, поглощение, расширение, объединение бизнеса.

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ANALYSIS MODELS OF PROFITABILITY IN AGRICULTURE

In this article there is developed a synthetic theoretical framework regarding the profitability analysis through economic and financial rates of return using different models, and also it is made a case study on the similarities and differences between various models of rates of return analysis in agriculture. The motivation of choosing this theme is to determine the relationship between financial and economic profitability using Pearson correlation coefficient. The research conducted leads to two main categories of results; on the one hand there is made a qualitative theoretical synthesis on the rates of return in models, on the other hand it is determined the correlation between financial and economic profitability in the agriculture organizations.
Keywords: economic rates of return, financial rates of return, Pearson correlation coefficient, agriculture.

Introduction. It is known that agriculture is an important branch of the national economy, holding a significant share in Gross Domestic Product. In this context it must be taken measures that contribute to increasing of agricultural holdings profitability. The need to develop a profitable business derives for the fact that the use of inputs who are obtained with a particular effort should be balanced by the effects obtained from the execution of the activity, ie getting a surplus of effects (results) compared with the efforts (expenses) involved. The profitability is the main part of the economic and financial mechanism, reflecting the leverage of available resources.

The farm profitability reflects the measuring of effects materialized in revenues with the efforts involved materialized in expenditure. The economic efficiency principle requires that any economic activity to achieve an increase of net economic effects in a higher level of the efforts nedeed to obtain them. The most important efect is the profit, specially the net profit, which remains at the disposal of associates/shareholders.

Methodology. In order to achieve the proposed objectives, in this paper there were studied a series of material from the specialized literature: books, articles, websites and other relevant material. This research is conducted over a period of four years (2010-2013) at a farm. Determination and analysis of financial and economic rates of return was made at the level of each year, using a series of specific models. After that we proceeded to calculate the Pearson correlation coefficient between: financial rate of return-economic rate of return; financiara rate of return– commercial rate of return; economic rate of return- commercial rate of return.

The research hypotheses that we wanted to check consists of:

1.The calculation of the economic and financial rate of return using differents models leads to different results;

2.There is a high correlation between the financial, economic, commercial rate of return.

1. Profitability and its importance for organizations

In the literature there are different approaches of the profitability. So the profitability may be defined as the expression of the result obtained by the organization as a result of an activity of transformation/exchange (Pavaloaia et al, 2010). We appreciate that one of the most relevant definitions of profitability is: In terms of heritage, the profitability can be defined as the measurement of the two components at the year end, on the one hand the volume of production expenses incurred in carrying out basic activity and other activities, works and services, and on the other hand, the income earned (Burja, 2009).

The profitability of a farms, as well as for any organization, is a form of expression of economic efficiency, including a number of key economic and financial aspects of an organization, as a relevant indicator for decision making

and its orientation options (Burja et al, 2008). It is important to note that the economic efficiency is an economic category broader than profitability.

The profitability can be expressed using two categories of indicators: profit and rates of return. The profit reflects the absolute size of the profitability and rates of return refers to the degree to which capital and resource generate profit. (Isfanescu et al, 2002).

It is find that there is not a consensus on the notion of profitability, so it is often stated that when an organization makes profit it is profitable.

2. Assessing profitability through rates

The rate of return is a relative measure that expresses the degree to which capital generates profit. In the overall of the economic-financial indicators, the rate of return is situated among the most synthetic indicators of efficiency of enterprise activity (Gheorghiu, 2004).

The rate of return as an indicator of efficiency, can take different forms, as consider gross profit or net profit at the numerator, or changes the reporting base which is expressing the effort or production expenses. Different forms of expression the rates of return have a varied information value and reflect the many sides of economic and financial activity of the organization. The indicators builts according to the capital are expressing the interests of investors, while the indicators build on consumed resources highlights the interests of managers.

The rates of return has the following peculiarity (Pavaloaia et al, 2009):

• the rate of return is a relative measure that expresses the degree to which capital as a whole generates profit;

• for the economic and financial indicators, rate of return is among the most effective indicators for measuring the activity of organizations;

• the level of the rates of return reflects the performance of the organization at all stages of the economic circuit compared to the costs which reflect the results of the production stage;

• rates of return, unlike the profit, allow a comparative analysis in space between similar organizations as a profil but with a different workload.

3. Analysis of the economic rate of return by specific models

Economic rate of return (Re) measures the performance of the total assets without consider the way of acquire the capital (own or borrowed) allocated for the construction of the asset. For this reason it is said that the economic rate of return is independent by the funding policy promoted by the organization (Buglea, 2011).

The economic profitability should provide the remuneration of invested capital, ie to be superior to the inflation rate and to the economic and financial investments risk (Burja, 2009).

Economic rate of return analysis reveals a number of issues regarding the organization management (Petcu, 2009)

• the concordance between the rate of return achieved and objectives sets according to the current organization assets and their structure;

• the correlation between the investment and market capacity: assessing the size of investments;

• the level of the rate of return compared with the average sector and other organizations in the same sector;

• own dynamics and comparative with the sector and main competitors.

In the literature there are several ways of calculating the economic rate of return (Re). In this paper we will highlight two of these ways that you consider to be the most significant.

Table 1. Economic rate of return

No.	Indicators	UM	Period			
			2010	2011	2012	2013
1	Gross result	lei	73.377	69.549	38.205	15.171
2	Total asset	lei	9.602.772	8.563.625	15.709.368	13.815.987
3	Gross operating surplus	lei	1.179.333	1.229,600	1.148.115	1.065.599
4	Economic rate of return: 1:2	%	0,76	0,81	0,24	0,11
5	Gross economic rate of return: 3:2	%	12,28	14,36	7,31	7,71

Source: author projection based on the farm data

The first way of calculating the economic rate of return is : (Robu et al, 2014)

$$Re = \frac{P}{At} x100 \qquad (1)$$

where P = profit before tax; At = total assets.

Factor analysis can be done according to the following models:

Model 1

$$Re = \frac{P}{At} x100 = \frac{CA}{At} x \frac{P}{CA} x100 \qquad (2)$$

Model 2

$$Re = \frac{P}{At} x100 = \frac{\frac{P}{CA} x100}{\frac{1}{\frac{CA}{Ai}} + \frac{1}{\frac{CA}{Ac}}} \qquad (3)$$

where CA = turnover; Ai = fixed assets; Ac = current assets.

Analysis of the economic rate of return based on the model 1 leads to highlight two major categories of indicators that influence economic profitability:

total assets rotation speed: $\frac{CA}{At}$

comercial rate of return: $\frac{P}{CA} x100$

Analiza factoriala a ratei rentabilitatii economice evidentiaza factorii directi care influneteza nivelul si dinamica sa, respectiv:

Factor analysis of the economic rate of return highlights the direct factors who influence the level and its dynamics:

1. the influence of the total assets rotation speed

$$\Delta \frac{CA}{At} = \left(\frac{CA_1}{At_1} - \frac{CA_0}{At_0} \right) x \frac{P_0}{CA_0} x100 \qquad (4)$$

$\Delta_{2010-2011} = 0,25\%$

$\Delta_{2012-2013} = 0,06\%$

2. the influence of the total assets rotation speed

$$\Delta \frac{P}{CA} = \frac{CA_1}{At_1} x \left(\frac{P_1}{CA_1} - \frac{P_0}{CA_0} \right) x100 \qquad (5)$$

$\Delta_{2010-2011} = 43,90\%$

$\Delta_{2012-2013} = -0,20\%$

Analysis and interpretation of results

We note that reducing the total assets rotation speed with 0.19% (from 0.25% to 0.06%) and drastic reduction of

commercial rate of return (from 43.90% to -0.20%) led to the reduction of the economic rate of return, so in 2013 decreased with 85.5% compared to 2010.

In terms of total asset rotation speed by turnover, it is continuously decreasing from year to year. When we are referring to the growth rate of total assets they have increased with 43.9% in 2013 compared to 2010 while turnover increased only with 18.9% during the same period. This situation reflects the inefficiency of using agricultural holding assets in generating economic effects.

Regarding the commercial rate and its influence on economic rate of return we notice a drastic reduction of commercial rate of return mainly due to the significant reduction of the gross income. The decreasing of the gross income is mainly explained by the influence of unprofitable financial activity of the farms.

In conclusion, analyzing the influence of two factors on economic rate of return ant its low values we propose the following improvement measures: increasing the rotation speed of total asset by turnover; better utilization of farm assets in particular of the fixed assets; increasing the gross profit by increasing financial efficiency of the activity and

through the use of available assets; reduce operating costs while increasing operating income; reduce financial costs.

The second way of calculating the economic rate of return is: (Pavaloaia, 2010)

$$\text{Re}\,b = \frac{EBE}{Ae}\,x100 \qquad (6)$$

Reb – gross economic rate of return; EBE – gross operating surplus; Ae – economic assets.

To highlight the factors that influence the size of this rate, the model can be written:

$$\text{Re}\,b = \frac{EBE}{Ae}\,x100 = \frac{EBE}{Va}\,x\,\frac{Va}{Af}\,x\,\frac{Af}{Ae}\,x100 \qquad (7)$$

where Va = added value; Af = fixed assets; $\frac{EBE}{Va}$ – margin rate on added value; $\frac{Va}{Af}$ – tangible assets return; $\frac{Af}{Ae}$ – share of tangible assets in economic assets.

The factors influence is measured using chain substitution. Total change of economic rate of return is given by:

$$\Delta = \text{Re}\,b_1 - \text{Re}\,b_0 = \frac{EBE_1}{Va_1}\,x\,\frac{Va_1}{Af_1}\,x\,\frac{Af_1}{Ae_1}100 - \frac{EBE_0}{Va_0}\,x\,\frac{Va_0}{Af_0}\,x\,\frac{Af_0}{Ae_0}100 = \pm\,\% \qquad (8)$$

The increase /decrease of the rate is due to the influence of the following factors:

3. margin rate on added value

$$\Delta mva = \frac{EBE_1}{Va_1}\,x\,\frac{Va_0}{Af_0}\,x\,\frac{Af_0}{Ae_0}100 - \frac{EBE_0}{Va_0}\,x\,\frac{Va_0}{Af_0}\,x\,\frac{Af_0}{Ae_0}100 = \pm \qquad (9)$$

$\Delta mva_{2010-2011} = 2,16\%$
$\Delta mva_{2012-2013} = 7,58\%$

4. tangible assets return

$$\Delta ric = \frac{EBE_1}{Va_1}\,x\,\frac{Va_1}{Af_1}\,x\,\frac{Af_0}{Ae_0}100 - \frac{EBE_1}{Va_1}\,x\,\frac{Va_0}{Af_0}\,x\,\frac{Af_0}{Ae_0}100 = \pm\,\% \qquad (10)$$

$\Delta ric_{2010-2011} = -0,17\%$
$\Delta ric_{2012-2013} = 8,01\%$

5. share of tangible assets in economic assets

$$\Delta pic = \frac{EBE_1}{Va_1}\,x\,\frac{Va_1}{Af_1}\,x\,\frac{Af_1}{Ae_1}100 - \frac{EBE_1}{Va_1}\,x\,\frac{Va_1}{Af_1}\,x\,\frac{Af_0}{Ae_0}100 = \pm\,\% \qquad (11)$$

$\Delta pic_{2010-2011} = 0,09\%$
$\Delta pic_{2012-2013} = 0,83\%$

Analysis and interpretation of results

According with the analyzed model, the gross return rate is influenced by three factors: the margin rate on value added, tangible assets return, the share of tangible assets in total economic assets.

Gross operating surplus measures the surplus/deficit released by operating activities. This indicator measures the effectiveness of economic capital, ie the added value by economic capital. The margin rate on added value (determined on the above formula) have an increase from 2.16% in 2010-2011 to 7.58% in 2012-2013 because while the added value decreases, gross operating surplus increase. If we are referring to the added value, this is decreases by about 51% in 2013 compared to 2010.

If we refere to the tangible assets return, those have negative values, decreasing from -0.17% in 2010-2011 to -8,01% in 2012-2013. The return of tangible assets determined as ratio of value added and fixed assets, is continue to decrease so that the added value create based on fixed assets is 11.81% in 2010, 11.67% in 2011, 8.36% in 2012 and 3.86% in 2013. This situation is duet o the fact that the decreasing rate of value added is faster compared with the decrease rate of tangible assets.

Regarding the share of tangible assets in total assets, it is found that this it increases from 0.09% in 2010-2011 to

0.83% in 2012-2013. A detailed analysis of this indicator reflects the following: the share of tangible assets in total assets is an average of 72%; the share of current assets in total assets is low, below 25%

In conclusion, analyzing the influence of the three factors and the reduction of economic rate of return we propose the following measures: increasing the adding value; reducing the raw materials costs; increasing the return of tangible assets by their superior utilization in creating added value; better utilization of assets; increasing the share of current assets (especially the available funds) in total assets.

4. Analysis of the return on equity by specific models

Return on equity (Rf) express the correlation between net profit and equity, ie the capacity of the organization to emit net profit (http://www.biblioteca-digitala.ase.ro/biblioteca/pagina2.asp?id=cap4). This indicator is of particular importance because it expresses the net remuneration of shareholders representing thus support their strategic decisions.

ROE has the following features (Pavaloaia, 2010):

– measure the return on equity, ie the financial investment of capital;

    – it is influenced by the depreciation policy and provisions as well as the way of obtaining capital, their structure and indebtedness situation;

    – the financial return rate must be higher than interest rate in order the organization shares to be attractive.

It is calculated as the ratio between the net result of the financial year and equity.

$$Rf = \frac{Pn}{Kp} x100 \qquad (12)$$

***Table 2.* Return on equity**

No	Indicators	UM	Period			
			2010	2011	2012	2013
1	Net profit	lei	58.540	59.767	29.764	12.644
2	Equity	lei	3.588.634	3.648.400	3.764.213	3.776.857
3	Return on equity 1:2	%	1,63	1,64	0,79	0,33

Source: author projection based on the farm data

Financial rate of return have lower values that the interest rate, experienced a significant decrease from 1.63% in 2010 to 0.33% in 2013, ie about 79%, which indicates an unfavorable situation of the return on equity. It was founded that the net profit it is significantly decrease (by 78.4% in 2013 compared to 2010), while the equity it is increasing (5.2% in 2013 compared to 2010).

The change of the financial return can be explained on the basis of two economic models (Burja et al, 2008).

Model 1 refers to the influence of the comercial rate of return and capital rotation speed on the equity return.

$$R_f = \frac{PN}{CA} x \frac{CA}{Kpr} x100 \qquad (13)$$

where PN/CA = net comercial rate of return; CA/Kpr – rotation speed of equity.

According to this model the factors that are influencing the retrun of equity are:

    – net comercial rate of return

$$\Delta Rf\left(\frac{PN}{CA}\right) = \frac{PN_1}{CA_1} x \frac{CA_0}{Kpr_0} x100 - \frac{PN_0}{CA_0} x \frac{CA_0}{Kpr_0} x100 \qquad (14)$$

$\Delta Rf_{2010-2011} = -0,23\%$

$\Delta Rf_{2012-2013} = -0,49\%$

    – rotation speed of equity

$$\Delta Rf\left(\frac{CA}{Kpr}\right) = \frac{PN_1}{CA_1} x \frac{CA_1}{Kpr_1} x100 - \frac{PN_1}{CA_1} x \frac{CA_0}{Kpr_0} x100 \qquad (15)$$

$\Delta Rf_{2010-2011} = 0,24\%$

$\Delta Rf_{2012-2013} = 0,03\%$

Analysis and interpretation of results

From the above model we can observe that the decrease of the comercial rate of return (from -0.23% to -0.49%, ie negative growth of 113%) and the rotation speed of equity reduction (0 24% to 0.03%, ie a reduction of 85.7%) led to the diminish of the return of equity.

Net commercial rate express the comerciala efficiency of the farm, in our model it has negative values, so we consider that the situation is unfavorable and can have serious consequences for the entity. In our opinion the decrease of return equity is duet o the influencebof the factors: significant reduction of net profit; increasing of turnover.

Regarding the rotation speed of equity, this reflects the agricultural holding capacity to use their own resources to generate a turnover as high as possible. The reduction of the rotation speed of equity it is explained by the fact that the rate of growth of turnover is higher than growth rate of equity.

Model 2 of the analysis of the return on equity it is based on the influence of the following factors: net comerciale rate of return, rotation speed of capital invested, share of invested capital in equity.

$$Rf = \frac{PN}{CA} * \frac{CA}{CI} * \frac{CI}{Kpr} *100 \qquad (16)$$

where PN/CA = net comerciale rate of return; CA/CI = rotation speed of capital invested; CI/Kpr = share of invested capital in equity.

According to this model the factors that are influencing the retrun of equity are:

    – net comerciale rate of return

$$\Delta Rf\left(\frac{PN}{CA}\right) = \left(\frac{PN_1}{CA_1} - \frac{PN_0}{CA_0}\right) x \frac{CA_0}{CI_0} x \frac{CI_0}{Kpr_0} x100 \qquad (17)$$

$\Delta Rf_{2010-2011} = -0,23$

$\Delta Rf_{2012-2013} = -0,49$

    – rotation speed of capital invested

$$\Delta Rf\left(\frac{CA}{CI}\right) = \left(\frac{CA_1}{CI_1} - \frac{CA_0}{CI_0}\right) x \frac{PN_1}{CI_1} x \frac{CI_0}{Kpr_0} x100 \qquad (18)$$

$\Delta Rf_{2010-2011} = 0,23$

$\Delta Rf_{2012-2013} = 0,01$

    – share of invested capital in equity

$$\Delta Rf\left(\frac{CI}{Kpr}\right) = \left(\frac{CI_1}{Kpr_1} - \frac{CI_0}{Kpr_0}\right) x \frac{PN_1}{CI_1} x \frac{CA_1}{CI_1} x100 \qquad (19)$$

$\Delta Rf_{2010-2011} = -0,08$

$\Delta Rf_{2012-2013} = 0,01$

Analysis and interpretation of results

Based on the model presented above it is founded that the return on equity it is significantly influenced by fluctuation (especially downward) of the commercial rate of return, rotation speed of capital invested, share of invested capital in equity.

The rotation speed of capital invested shows the number of uses in a reporting period. To increase the rotation speed of capital it is necessary to increase the use of capital, respective the turnover (Burja, 2006).

In our opinion the measures that should be taken in order to increase te return on equity are:

• enhancing the activity of the farm, namely the operating activity while reducing operating costs;

• high capitalization of amounts borrowed from banks (bank loans and long-term) which must lead to business growth and diversification of agricultural holdings;

• increased turnover by increasing production sold which can be achieved through several actions: diversification of markets, diversification of production sold, increase market share, etc;

• accelerating the rotation of equity;

• superior utilization of agricultural holding assets that increase the performance of the organization;

• increasing the share of equity in the capital invested;

• superior utilization of capital employed to determine the increase farm income.

5. Analysis of the relationship between financial and economic profitability using Pearson correlation coefficient

Pearson correlation coefficient is a statistical model that determines the intensity of the relationship between two variables in the distribution of data. The formula is as follows:

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{\left[n\Sigma x^2 - (\Sigma x)^2 \right]\left[n\Sigma y^2 - (\Sigma y)^2 \right]}} \qquad (20)$$

where n = number of elements/variables; x, y = elements/variables taken into account.

In terms of interpreting the value of r, the situation is as follows:(https://statistics.laerd.com/statistical-guides/pearson-correlation-coefficient-statistical-guide.php)

- r ε [0; 0.2] → very weak correlation
- r ε [0.2; 0.4] → weak correlation
- r ε [0.4; 0.6] → reasonable correlation
- r ε [0.6; 0.8] → high correlation
- r ε [0.8; 1] → very high correlation

Table 3. Correlation between variables using Pearson model

No.	Indicators	Value
1	Rata rentabilitatii economice-Rata rentabilitatii financiare	0,988
2	Rata rentabilitatii economice-Rata rentabilitatii comerciale	0,936
3	Rata rentabilitatii financiare-Rata rentabilitatii comerciale	0,970

Source: author projection based on the farm data

Analyzing the data from table no. 3 results the following:

– The correlation between the variables considered is very high, values very close to 1;

– The strongest correlation is registered between economic and financial profitability, 0.988 for the following reasons: there are common factors that influence both rate- such as commercial rate, both rates of return have as numerous the profit

– Between economic profitability and commercial profitability there is a correlation of 0.936 because the economic profitability is influenced by the commercial profitability- according to equation no. 2 and 5;

– Also a strong correlation is between financial profitability and commercial profitability because financial profitability it is influenced by the commercial profitability – according to equations no. 13, 14, 16, 1

Conclusion & Discussion

The objective of any organization is to develop a profitable activity. Given that Romania is on the last places in the EU in terms of economic development and taking into account Romania's agricultural potential, it is necessary to analyze the profitability of farms using different models.

In this research we analyze the economic and financial profitability using a series of specific models, models who were applied to a successive period of four years. From the results obtained by applying these models it was found that each model leads to different results, so it is verified research hypothesis no. 1.

The objective of any organizations is that the rates of return to be as high as possible. In our case these values are very low which shows an inappropriate management of resources and a significant gap between the effects obtained and committed efforts.

Analysis of the correlation between financial rate of return (Rf), economic rate of return (Re) and commercial rate of return (Rc) was performed using Pearson coefficient, observing that there is a very high correlation (over 0.9) between Rf-Re, Rf -Rc, Re-Rc, si it was verified research hypothesis no. 2.

In the research conducted can be identified some limiting aspects: reduced number of farms considered which can influence the results of the survey, there are a number of other models of profitability analysis which were not taken into account.

In terms of future research, this work represents the beginning of an extensive research which refers to determining the correlation between profitability indicators considering all farms in Romania who meet certain conditions, expanding research by performing a multiple regression equations.

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АНАЛІЗ МОДЕЛІ РЕНТАБЕЛЬНОСТІ В СІЛЬСЬКОМУ ГОСПОДАРСТВІ

У цій статті ми розробили синтетичну теоретичну основу аналізу рентабельності через економічні та фінансові норми прибутку з використанням різних моделей, а також зробили тематичне дослідження подібностей та відмінностейміж різними моделями швидкостей зворотного аналізу в сільському господарстві. Мотивація вибору цієї теми – визначення взаємозв'язку між фінансовою та економічною рентабельністю, використовуючи коефіцієнт кореляції Пірсона. Проведене дослідження, приводить до двох основних

категорій результатів: з одного боку, проводиться якісний теоретичний синтез моделей оцінки темпу окупності, з іншого боку, це визначається співвідношення між фінансовою та економічною рентабельністю в сільському господарстві.

Ключові слова: економічні темпи повернення, фінансові ставки прибутковості, коефіцієнт кореляції Пірсона, сільського господарства.

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АНАЛИЗ МОДЕЛИ РЕНТАБЕЛЬНОСТИ В СЕЛЬСКОМ ХОЗЯЙСТВЕ

В этой статье мы разработали синтетическую теоретическую основу анализа рентабельности через экономические и финансовые нормы прибыли с использованием различных моделей, а также сделали тематическое исследование сходств и различий между различными моделями скоростей обратного анализа в сельском хозяйстве. Мотивация выбора этой темы – определение взаимосвязи между финансовой и экономической рентабельностью, используя коэффициент корреляции Пирсона. Проведенное исследование, приводит к двум основным категориям результатов: с одной стороны, проводится качественный теоретический синтез моделей оценки темпа окупаемости, с другой стороны, это определяется соотношением между финансовой и экономической рентабельностью в сельском хозяйстве.

Ключевые слова: экономические темпы возвращения, финансовые ставки доходности, коэффициент корреляции Пирсона, сельского хозяйства.

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ANALYSIS OF BUDGET DEFICIT AND ITS PROBLEMS IN LITHUANIA

Budget deficit is one of the most important parts of macroeconomics. Since 1990, the government of the Lithuanian Republic has been faced with problems in balancing the budget deficit; most of the years, the country's budget was deficit with the lack of incoming money flow. The budget deficit value in Lithuania has been a significant theme since 2004, when Lithuania became part of the European Union, and one of the liabilities was to insure the litas replacement with euro currency and the budget deficit was one of the Maastricht's criteria. Also it is very important to maintain effective management of public finances. The government is responsible for managing the country's budget in respect to various economical parameters, for example, GDP, inflation rate, unemployment rate, etc., in order to plan income level and distribute it to the relevant economic areas. Also, the budget deficit's problems are revealed in this article.

Keywords: budget deficit, macroeconomic parameters, budget, convergence criteria.

Introduction. The budget deficit would be optimal, because it is very important in stabilizing the economy and promoting its development. Response to 2008. crisis in many countries, including Lithuania pay more attention to fiscal deficit reduction. Economics is a constant variable, for this reason balancing the budget deficit is a very complicated process. Due to the fact that all developing countries are faced with a lag in their fiscal policy, Lithuania is not the exception. Lithuania had difficulties managing the budget deficit during the world financial crisis in 2009. Public debt had increased to its highest levels; the lack of income in the public budget brought problems to different sectors due to instability in financial sectors. Budget deficit is often explored in research as one of the variables in macroeconomics' situation in the country.

Budget deficits' analysis is presented in this article, including internal and external variables for budget deficit. Internal factors' analysis, public budget income collection problems and expenditures distributions problems are analysed in this article. Calculation is made to measure the impact of budget deficit redemption methods. The importance of effective and sustainable public finances is revealed in this research.

Purpose. To make Lithuania's budget deficit and its problems analysis, evaluating internal (public income and expenditures) and external (macro economical parameters) factors.

Methods of research: Systematic analysis of scientific literature, statistical analysis, logical comparative analysis, meta-analysis, graphical data analysis and comparison, correlation analysis, using one-regression model, multivariable regression model, the expert forecast, prognosis using regression model.

Theoretical Analysis of Budget Deficit and It's Problems. Budget deficit exists when, during a certain period of time, public expenditures become higher than the public income. According to Buskeviciute (2008), budget deficit exists when income is lower than the expenditures. To widen the description of budget deficit Rakauskiene (2006) says that there are two types of budget deficits: active and passive. Active budget deficit can be recognised when public expenditures are above public income whereas passive budget deficit can be seen when taxes are not collected due to economic growth decrease, public debt is not honoured, taxes privileges. The more detailed budget deficit conception is prepared by Sineviciene ir Vasiliauskaite (2010): fiscal policy can be contra-cycled in developing countries; this fact is explained by non-discrete fiscal policy (self-contained economic stabiliser). This theory explains that having an increase of public income, collected taxes amounts grow together and public expenditures decrease – the public budget is surplus. On the other hand, when the economy is decreasing, public budget does not collect enough income to cover expenditures (social welfare) in this case budget is deficit.

Furthermore, the budget deficit value depends on its calculation method. The possible calculation methods presented below:

Conventional fiscal balance (also known as the absolute position). This balance is calculated as follows: consolidated government revenues to and non-repayable transfers minus costs and net borrowing.

Current balance is calculated from current income minus current expenditure.

Liquidity balance. It is calculated as follows: from the conventional balance subtracted by foreign borrowing and