УДК 658.15

Chyrva O. H.
Doctor of Economics, Professor,
Pavlo Tychyna Uman State Pedagogical University, Uman, Ukraine;
e-mail: chyrva81@ukr.net
Demchenko T. A.
Ph. D. in Economics, Associate Professor,
Professor of the Department of Finance, Accounting and Economic security,
Pavlo Tychyna Uman State Pedagogical University, Ukraine;
e-mail: demchenko.tanya7@gmail.com
Kovalev L. E.
Ph. D. in Physics and Mathematics, Associate Professor,
Uman National university of Horticulture, Ukraine;
e-mail: leokova60@gmail.com
Mykhailovyna S. O.
Ph. D. in Economics, Associate Professor,
Uman National university of Horticulture, Ukraine;
e-mail: mihailovina@gmail.com

ROLE OF MAIN ACTIVITIES IN FORMATION OF THE CAPITAL OF AN ENTERPRISE, THEIR EVALUATION AND CONTROL

Abstract. The article deals with the problem of valuation and control of non-current assets, in particular of fixed assets, determination of their role in the formation of the enterprise's own capital, their correct and reliable evaluation at the enterprise. The need to study the effectiveness of using non-current assets at the enterprise to make sound management decisions, in particular regarding the composition of fixed assets, their updating and use is defined. The necessity of studying the influence of fixed assets on the amount of gross product is substantiated. It should be noted that non-current assets, in particular fixed assets, have a significant place in the capital formation. Therefore, in the process of managing non-current assets at the enterprise such managerial tasks are decided as substantiation of renewal fixed assets possible forms, determination of possible ways and the need for their growth, formation of necessary financial resources for acquisition of fixed assets and increase the are efficiency. Correct and substantiated non-current assets accounting system at the enterprise has a significant influence on the quality of accounting and control in general. Professionals know that without the ability to proper and quick assess business value it is impossible to get a wide middle class of owners, sustainable and dynamic market development, prevention of financial pyramids, economic lawlessness, investor mistrust and, as a result, creation of a legal and proper micro- and macroeconomic environment. The economies of Germany, France, the United States, Japan and other developed countries are based on this ability. Multi-factor economic and mathematical modeling taking into account microeconomic factors is carried out. It is proved that certain rates of development and increase of production efficiency at Ukrainian enterprises are possible provided the intensification of reproduction and better use of existing fixed assets of the enterprise, finding internal reserves for the growth of production efficiency, such as optimization of the structure of assets and the number of employees.

Keywords: non-current assets, fixed assets, equity, profitability, profit, modeling, optimization, valuation, management.

JEL Classification C61, G32

Formulas: 1; fig.: 2; tabl.: 5; bibl.: 14.

Чирва О. Г.
доктор економічних наук, професор,
Уманський державний педагогічний університет імені Павла Тичини, Україна;
e-mail: chyrva81@ukr.net
Демченко Т. А.
кандидат економічних наук, доцент,
професор кафедри фінансів, обліку та економічної безпеки,
Уманський державний педагогічний університет імені Павла Тичини, Україна;
e-mail: demchenko.tanya7@gmail.com
Ковальов Л. Є.
кандидат фізико-математичних наук, доцент,
Уманський національний університет садівництва, Україна;
e-mail: leokova60@gmail.com
Михайловина С. О.
кандидат економічних наук, доцент,
Уманський національний університет садівництва, Україна;
e-mail: mihailovina@gmail.com

РОЛЬ ОСНОВНИХ ЗАСОБІВ У ФОРМУВАННІ КАПІТАЛУ ПІДПРИЄМСТВА, ЇХНЯ ОЦІНКА ТА КОНТРОЛЬ

Анотація. Розглянуто проблему оцінки і контролю необоротних активів, зокрема основних засобів, визначення їхньої ролі у формуванні власного капіталу підприємства, здійснення їхньої правильної та достовірної оцінки на підприємстві. Визначено необхідність дослідження ефективності використання необоротних активів на підприємстві для ухвалення правильних управлінських рішень, зокрема щодо формування складу основних засобів, їх оновлення та використання. Необоротні активи, зокрема основні засоби, відіграють важливу роль у формуванні капіталу підприємства. А тому у процесі управління необоротними активами на підприємстві вирішуються такі комплекси управлінських завдань, як обґрунтування можливих форм оновлення основних засобів, визначення потреби в їхньому нарощенні та можливих способів розширення, формування необхідних фінансових ресурсів для придбання, підвищення ефективності використання введених у дію основних засобів. Правильна та обґрунтована побудова обліку необоротних активів на підприємстві має значний вплив на якість обліку та контролю в цілому. Кваліфікованому спеціалістові одразу видно, що без уміння правильно і швидко оцінювати вартість будь-якого бізнесу неможливо створення середнього класу власників, стійкого і динамічного розвитку ринкових умов, запобігання фінансовим пірамідам, економічного беззаконня, недовіри партнерів інвесторів, а в кінцевому підсумку створення законного і чесного економічного мікро- і макроклімату. На такому вмінні засновано функціонування економіки Німеччини, Франції, США, Японії та інших розвинутих країн. Обґрунтовано необхідність дослідження впливу основних засобів на обсяг валового продукту. Проведено багатофакторне економіко-математичне моделювання з урахуванням мікроекономічних факторів. Доведено, що забезпечення певних темпів розвитку і підвищення ефективності виробництва на українських підприємствах можливе за умови інтенсифікації відтворення та ліпшого використання наявних основних засобів підприємства, знаходження внутрішніх резервів для зростання ефективності виробництва, таких як оптимізація структури активів і чисельності працівників.

Ключові слова: необоротні активи, основні засоби, власний капітал, рентабельність, прибуток, моделювання, оптимізація, оцінка, управління.

Формул: 1; рис.: 2; табл.: 5; бібл.: 14.

Чирва О. Г.
доктор экономических наук, профессор,
Уманский государственный педагогический университет имени Павла Тычины, Украина;
e-mail: chyrva81@ukr.net
Демченко Т. А.
кандидат экономических наук, доцент,
профессор кафедры финансов, учета и экономической безопасности,
Уманский государственный педагогический университет имени Павла Тычины, Украина;
e-mail: demchenko.tanya7@gmail.com
Ковалёв Л. Е.
кандидат физико-механических наук, доцент,
Уманский национальный университет садоводства, Украина;
e-mail: leokova60@gmail.com
Михайловина С. А.
кандидат экономических наук, доцент,
Уманский национальный университет садоводства, Украина;
e-mail: mihailovina@gmail.com

РОЛЬ ОСНОВНЫХ СРЕДСТВ В ФОРМИРОВАНИИ КАПИТАЛА ПРЕДПРИЯТИЯ, ИХ ОЦЕНКА И КОНТРОЛЬ

Аннотация. Рассмотрена проблема оценки и контроля необоротных активов, в частности основных средств, определение их роли в формировании собственного капитала предприятия, проведение их правильной и достоверной оценки на предприятии. Определена необходимость исследования эффективности использования необоротных активов на предприятии для принятия правильных управленских решений, в частности по поводу формирования состава основных средств, их обновления и использования. Необоротные активы, в частности основные средства, играют важную роль в формировании капитала предприятия. А поэтому в процессе управления необоротными активами на предприятии решаются такие комплексы управленческих задач, как обоснование возможных форм обновления основных средств, определение их наращивания та возможных способов расширения их использования, формирование необходимых финансовых ресурсов для приобретения, повышения эффективности использования введенных в действие основных средств. Верное и обоснованное построение учета необоротных активов на предприятии имеет значительное влияние на качество учета и контроля в целом. Высококвалифицированному специалисту известно, что без умения правильно и быстро оценивать стоимость любого бизнеса невозможно создание среднего класса собственников, стойкого и динамического развития рыночных условий, упреждений финансовых пирамид, экономического беззакония, недоверия партнеров инвесторов, а в конечном результате создание законного и честного экономического микро- и макроклимата. На таком умении основано функционирование экономики Германии, Франции, США, Японии и других развитых стран. Обоснована необходимость исследования влияния основных средств на объём валового продукта. Проведено многофакторное математическое моделирование с учётом микроэкономических факторов. Доказано, что обеспечение конкретных темпов роста и повышения эффективности производства на украинских предприятиях возможно при условии интенсификации воспроизводства и лучшего использования действующих основных средств предприятия, нахождение внутренних резервов для роста эффективности производства, таких как оптимизация структуры активов и численности работников.

Ключевые слова: необоротные активы, основные средства, собственный капитал, рентабельность, прибыль, моделирование, оптимизация, оценка, управление.

Формул: 1; рис.: 2; табл.: 5; библ.: 14.

Introduction. Crisis economic situations in Ukraine have shown that the risk of changing the price of shares and bonds is very difficult to determine. It is because almost impossible to determine the assessment of business assets and the state that financial analysts do not use special methods that allow a certain degree of reliability to assess assets, to increase the efficiency of their use with the help of economic and mathematical modeling.

Research of the issue on capital formation of the enterprise, evaluation of its components, as well as usage of modeling shows that the problem, unfortunately, is that in the economic literature only certain economic and mathematical models can be found on the individual components of assets of enterprises. Particularly, these issues are solved in the works of such foreign and domestic scholars as K. Botoshan and M. Plumley [1], R. Bushman and A. Smith [2], S. Stone [12], S. Fatique [4] and M. Sakhatsky [13]. However, these problems are subject to further thorough research and analysis.

Analysis of the research and problem definition. The main objective of the article is to find means to increase the control level over the formation and use of fixed assets at the enterprise and the efficiency of their use to increase the investment attractiveness of the enterprise using economic and mathematical modeling.

Results of the research. It should be noted that non-current assets, in particular fixed assets, play an important role in the capital formation. Therefore, in the process of managing non-current assets in the enterprise, such managerial tasks as substantiation of possible forms of renewal of fixed assets, determination of the need for their growth and possible ways of expansion, formation of necessary financial resources for acquisition, increase of efficiency of using fixed assets.

Correct and substantiated construction of accounting non-current assets in the enterprise has a significant impact on the quality of accounting and control in general.

A skilled specialist immediately sees that without the ability to assess the value of any business properly and quickly it is impossible to get a middle class of owners, sustainable and dynamic development of market conditions, prevention of financial pyramids, economic lawlessness, mistrust of investor partners and, ultimately, creation of a legitimate and honest economic micro- and macroclimate. Functioning of the economy of Germany, France, the United States, Japan and other developed countries is based on this skill.

It is worthwhile to note that reliability of financial statements of the enterprise should be achieved by systematizing the valuation of assets of the enterprise, in particular, fixed assets provided by current rules and regulatory framework of the state.

From our point of view, the method of evaluation should be chosen depending on tasks that the company solves and priorities of its development, the choice of objective methods of evaluation, possibilities of converting the object of valuation into cash and others.

Economists have always paid a lot of attention to problems associated with the definition and application of valuation of assets, in particular fixed assets. Today, these issues still do not have a single solution, and therefore remain so relevant.

That is why it is expedient to investigate and analyze correctness of the choice of valuation of non-current assets of enterprises that is possible only when creating a system of practical tools. Their use will ensure the disclosure of information on effective functioning of fixed assets and development of directions of attraction or redistribution of resources of the enterprise in favor of more effective its activities on its basis.

The process of organization and selection of evaluation is the most important moment of the enterprise operation. In our opinion, to approach the orientation of the choice of assessment in the enterprise can be based on the following theoretical and practical considerations:

- Systematization of the assessment should indicate the scientific nature of the evaluation process. Regardless of what research is, namely, quantitative or qualitative, it is executed in a clear manner, in accordance with formal rules in the field of economic sciences research;

- The research object is the assessment of fixed assets. Some types of the evaluation focus on studying how to implement it which optimality ensures consistency with established practice (for

example, how much the residual value of fixed assets corresponds to their fair value or simply finds out the ability of an asset to bring an economic benefit to the enterprise);

- The evaluation is carried out in accordance with provision (standards) of accounting. Under the condition of their correct interpretation and comment on the practical activity of enterprises, there is the compliance with the fair value of accounting value. No matter what the focus is on asset valuation, there is always the element for comparison and decision making. Sometimes the criteria for deciding application of appropriate valuation methods, effectiveness of using non-current assets to increase the investment attractiveness of the enterprise, arise from the official list of questions on regulation and economic policy of the state which are determined in advance, before the enterprise starts. However, official goals are not the only source of criteria used in practice;

- The goal should be and for its achieving fixed assets of an enterprise are evaluated to provide information for decision making by internal and external users of financial reporting [6].

The economic activity of domestic enterprises shows significant difficulties in implementing not only their assessment but also control of fixed assets as a specific type of means of work in the enterprise. It should be noted that under the modern conditions, the lack of proper control system deprives managers of reliable information about the actual state of non-current assets. In turn, this can lead to significant abuses by the direct users of these assets (misuse and theft), unreasonable increase in the cost of the enterprise, as well as shifts in the adjusted rhythm of the operation of the enterprise.

The availability of non-current assets is a prerequisite for the production of own products. The studied enterprise SE «DG Zherebkivske» is provided with non-current assets, namely: intangible assets, fixed assets and long-term biological assets.

The dynamics of the average annual value of non-current assets SE «DG Zherebkivske» (initial value) is shown in Fig. 1.
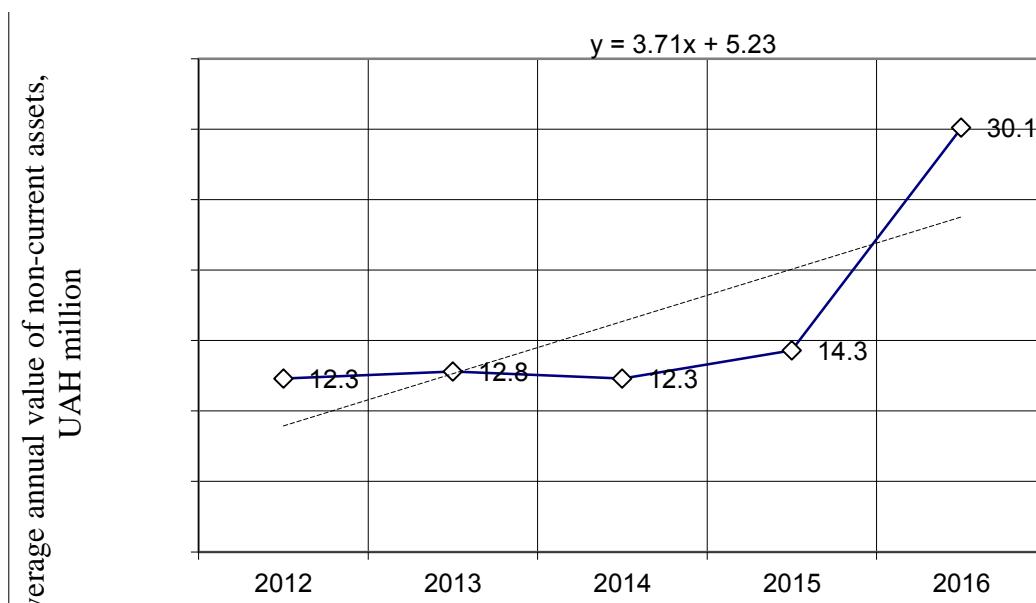

Fig. 1. Dynamics of the average annual value of non-current assets
in SE «DG Zherebkivske» (initial value) in 2012—2016
Source: calculations were performed according to financial statements of the enterprise.

From the data of Fig. 1 it can be seen a tendency to increase the initial value of fixed assets in SE «DG Zherebkivske». The total increase in their value for the studied period amounted to UAH 17.8 million. The positive dynamics has been observed since 2013 when the value of non-current assets increased by 0.5 million UAH and the highest increase in 2016 was up to UAH 30.1 million. The calculated linear regression coefficient of the equation describing the dynamics of the change in the initial value of non-current assets is 3.71, that is, the average annual increase in the initial value

of non-current assets was almost UAH 3.71 million. One of the main reasons for this positive situation is a substantial increase in fixed assets.

The average level of suitability of fixed assets of enterprises allows us to estimate such indicators as the degree of depreciation, the degree of suitability, the total residual value at each particular time point.

Table 1 shows data describing depreciation of fixed assets of SE «DG Zherebkivske» for the last 5 years.

Table 1

Changes in the state of fixed assets in SE «DG Zherebkivske» (the end of year)

Indicator	2012	2013	2014	2015	2016	On average in 2012—2016
Initial value, thousand UAH	12221	13422	12361	14655	15440	3219
Depreciation, thousand UAH	6068	6390	6137	7282	7856	1788
Residual value, thousand UAH	6153	7032	6224	7373	7584	1431
Degree of depreciation, %	49.7	47.6	49.6	49.7	50.9	49.496
Degree of suitability, %	50.3	52.4	50.4	50.3	49.1	50.504

Source: calculations are carried out according to financial statements of the enterprise.

As calculations in Table 1 show, quantitative indicators of the availability and state of fixed assets in 2016 are significantly higher than their average values and maximum over the studied period. From their dynamics, we can draw conclusions about qualitative changes in the state of fixed assets. Qualitative changes in the state of fixed assets are characterized by the degree of depreciation and the degree of suitability. As it can be seen, these mutually reversed indicators in 2012-2016 have slightly worsened, namely by 1.2%. The average depreciation indicator shows that the average depreciation level is almost 50.0%.

Availability and stock of fixed assets in SE «DG Zherebkivske» in the dynamics over the past 5 years are given in Table 2.

Table 2

Stock and structure of fixed assets in SE «DG Zherebkivske» at residual value
(the end of year), thousand UAH

Type of fixed assets	2012	2013	2014	2015	2016	On average in 2012—2016	
						Amount, Thousand UAH	Specific weight, %
Houses, buildings	5281	5152	5311	4751	4582	5015.4	73.0
Machinery and equipment	682	1710	743	2428	2491	1610.8	23.4
Vehicles	10	7	16	15	318	73.2	1.1
Tools, instruments	180	164	154	179	193	174	2.5
Total	6153	7033	6224	7373	7584	6873.4	100

Source: calculations are carried out according to financial statements of the enterprise.

Data of Table 2 shows that main types of fixed assets used by SE «DG Zherebkivske» are houses and buildings which average cost during the studied period amounted to UAH 5.015.4 thousand, as well as machinery and equipment which average annual value fluctuated within the limits of UAH 682.0—2491.0 thousand in 2012—2016. Specific weight of specified groups of assets on average during the studied period was 73% and 23.4% respectively. The third largest kind of fixed assets is tools and instruments which share on average amounted to 2.5 or UAH 6873.4 thousand at the residual value.

Also, the decrease in the cost of houses and buildings was noted in 2016. It indicates that there were no reconstruction and construction of new buildings in SE «DG Zherebkivske» in recent years.

In general, over the last 5 years, there have been significant positive structural changes in fixed assets of SE «DG Zherebkivske». Average indicators of specific weight of each type of fixed assets at the beginning and the end of the period of SE «DG Zherebkivske» are shown by Table 3 and Fig. 2.

Table 3

Dynamics of the structure of fixed assets in SE «DG Zherebkivske» at the residual value (the end of year), %

Type of fixed assets	2012	2013	2014	2015	2016	Change 2016 to 2012, (+; −)
Houses, buildings	85.8	73.3	85.3	64.4	60.4	-25.4
Machinery and equipment	11.1	24.3	11.9	32.9	32.8	21.8
Vehicles	0.2	0.1	0.3	0.2	4.2	4.0
Tools, instruments	2.9	2.3	2.5	2.4	2.5	-0.4

Source: calculations are carried out according to financial statements of the enterprise.

According to the data of Table 3, the smallest in the structure of costs of fixed assets of SE «DG Zherebkivske» in 2012—2016 was the cost of tools and instruments which in 2016 amounted to 2.5%.
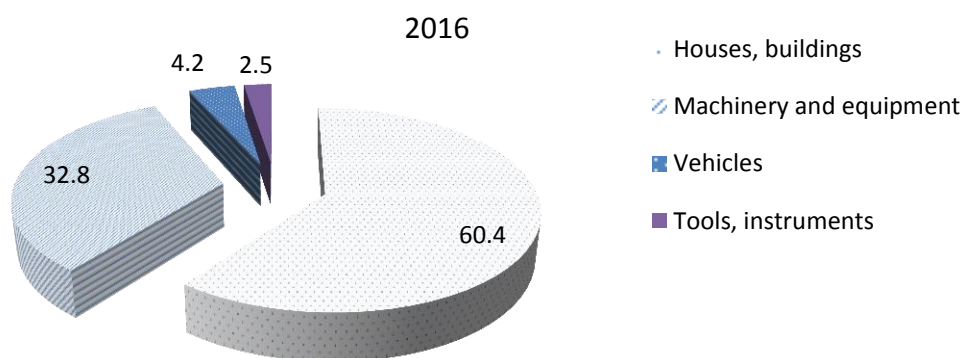

Fig. 2. Dynamics of the structure of fixed assets of SE «DG Zherebkivske» in 2016
Source: calculations are carried out according to financial statements of the enterprise.

As shown in Fig. 2, «Houses, buildings» and «Machinery and equipment» provided the total value of fixed assets by 93.2% in 2016 (60.4% and 32.8%, respectively). Structural changes in other groups of fixed assets did not exceed 5% in 2012—2016.

The system of indicators which can finally characterize the efficiency of fixed assets covers two components:

1. Indicators of the reproduction efficiency of certain types and the whole set of labor means.

2. Indicators of the use level of fixed assets in general and their individual types.

The renewal coefficient of fixed assets shows the share of the cost of funds received during the studied period at their total cost at the end of the reporting period. The depreciation coefficient shows the rate of disposals and the share of the value of funds that have dropped out for a certain period in the total value at the beginning of the relevant period.

Table 4 shows the reproduction efficiency indicators of fixed assets in SE «DG Zherebkivske», in particular, indicators of their movement, such as renewal coefficient and retirement coefficient.

As it can be seen, during the studied period there were certain changes in fixed assets. In particular, it can be concluded that in SE «DG Zherebkivske» fixed assets were written down at a faster pace than replenished. The proof of this is the excess of the average annual loss ratio which is 0.264 or 26.4% annually over the renewal coefficient which average annual value was 0.197 or 19.7%.

The study shows that during the investigated period there were some changes in fixed assets. In particular, it can be concluded that SE «DG Zherebkivske» has written off fixed assets gradually updating the structure of fixed assets. The proof of this is the decrease in the average annual depreciation rate which is 0.086 to the renewal coefficient which average annual value is 0.977.

Table 4

Indicators of renewal coefficient of fixed assets in SE «DG Zherebkivske»

Indicator	2012	2013	2014	2015	2016	On average, in 2012—2016
Cost of fixed assets at the beginning of the year (residual), thousand UAH	6224	6153	7033	6224	7373	6601.4
Proceeds from fixed assets, thousand UAH	72	1202	262	750	771	611.4
Disposal of fixed assets, thousand UAH	143	322	1071	399	560	356.8
Cost of fixed assets at the end of the year (residual), thousand UAH	6153	7033	6224	7373	7584	6873.4
Renewal coefficient	0.012	0.171	0.042	0.102	0.102	0.086
Retirement coefficient	1.986	0.268	4.088	0.532	0.726	0.977

Source: calculations are carried out according to financial statements of the enterprise.

It should be noted that such a significant advantage of renewal over the retirement is primarily due to the fact that in 2012—2016 the total amount of renewal of fixed assets amounted to more than 3057 thousand UAH.

In further production activities, the management of SE «DG Zherebkivske» should take into account that the greatest reserves for improving the economic efficiency of the use of fixed assets are, first of all, in increasing the suitability of fixed assets and their constant and effective renewal.

There are many methods for evaluating a functioning enterprise for modeling. Modeling means the reproduction of characteristics of an object that is being studied and not available for direct study on another object, specially created for the research[14].

The concept of modeling should rely mainly on scientific positions, rather than on practice that does not have a positive practical experience in the market environment [14].

Particular attention is paid to the findings of S. Fatica's study [5] that used models for analyzing capital formation in the enterprise in which the distribution by type of assets and sectors was used, in particular to assess the sensitivity of investment to consumer spending on capital.

We consider it expedient for choosing the right capital formation of the enterprise to analyze the effective use of fixed assets in the enterprise and study the impact of fixed assets on the volume of gross product. To do this, the integral method of deterministic factor analysis is used.

Therefore, a multiplicative model is proposed:

$$ВП = КВ \cdot КОЗ \cdot Ч, \tag{1}$$

In which $ВП$ is gross output; $КВ$ is capital productivity ratio; $КОЗ$ is capital-labor ratio; $Ч$ is an average number of employees.

The integral method allows us to achieve the complete decomposition of the effective indicator by factors and is universal, that is, it can be applied to the multiplicative model [8, 10, 14].

The algorithm for calculating the influence of factors was as follows:

1) $\Delta ВП = ВП_1 - ВП_0$;

2) $\Delta ВП(КВ) = 1/2 \cdot \Delta КВ \cdot (КОЗ_0 \cdot Ч_1 + КОЗ_1 \cdot Ч_0) + 1/3 \cdot \Delta КВ \cdot \Delta КОЗ \cdot \Delta Ч$ is impact of changes in capital productivity ratio on the volume of gross output;

3) $\Delta ВП(КОЗ) = 1/2 \cdot \Delta КОЗ \cdot (КВ_0 \cdot Ч_1 + КВ_1 \cdot Ч_0) + 1/3 \cdot \Delta КВ \cdot \Delta КОЗ \cdot \Delta Ч$ is the impact of changes in capital-labor ratio on the volume of gross output;

4) $\Delta ВП(Ч) = 1/2 \cdot \Delta Ч \cdot (КВ_0 \cdot КОЗ_1 + КВ_1 \cdot КОЗ_0) + 1/3 \cdot \Delta КВ \cdot \Delta КОЗ \cdot \Delta Ч$ is the impact of changes in the average number of employees on the volume of gross output (index 1 factors refer to the reporting year and index 0 factors refer to the previous year).

The results of the conducted factor analysis are shown in Table 5.

The method errors were also evaluated. One of the advantages of the integral method is that the error is evenly distributed over the factors and therefore errors of estimating the impact of each factor do not exceed the corresponding overall one.

Table 5

Factor analysis results

Indicator	2013	2014	2015	2016
$\Delta В П$, thousand UAH	2065.0	255.0	2130.0	576.0
$\Delta В П(К В)$, thousand UAH	1885.1	627.6	664.8	0
$\Delta В П(К О З)$, thousand UAH	646.5	-357.1	1588.9	1531.7
$\Delta В П(Ч)$, thousand UAH	-349.6	0	-163.3	-986.0
Method error	5.7%	6.0%	1.9%	5.3%

Source: is proposed and calculated by the author.

The method errors were also evaluated. One of the advantages of the integral method is that the error is evenly distributed over the factors and therefore errors of estimating the impact of each factor do not exceed the corresponding overall one.

In 2013, compared to 2012, the main factor that influenced the increase in gross output was capital productivity ratio. The impact of capital-labor ratio was about three times smaller. The impact of the number of employees is even less on the change in the volume of gross output with the minus sign.

In 2014, the capital productivity ratio was still very important in the impact of gross output. At the same time, the influence of the capital-labor ratio changes its sign from the «plus» to «minus».

In 2015, the situation in the activity of the studied enterprise significantly changed, as can be seen from the results of calculations. The influence of the capital-labor ratio became more important and the impact of the capital productivity ratio was practically unchanged.

In 2016, the capital-labor ratio was the most important, there was no impact of the capital productivity ratio and the factor of the number was more negative.

Conclusions. Certain rates of development and increase of production efficiency in the Ukrainian enterprises are possible provided the intensification of reproduction and better use of existing fixed assets of the enterprise. On the one hand, these processes will contribute to the continuous maintenance of the appropriate technical level of enterprises, and on the other hand, they will provide an opportunity to increase the volume of production without additional investment resources, reduce the production cost by reducing the cost of servicing production and its management, increase the capital productivity ratio and profitability.

As a result of the factorial analysis, we can say that the enterprise has internal reserves for increasing the efficiency of production, for example, optimizing the structure of assets and the number of employees.

More detailed recommendations on increasing the efficiency of production in the enterprise require further detailed analysis of both internal and external factors.

Література

1. Botosan C. Assessing the Construct Validity of Alternative Proxies for Expected Cost of Equity Capital / C. Botosan, M. Plumlee // The Accounting Review. — 2002. — Vol. 72. — P. 323—349.

2. Bushman R. Financial Accounting Information and Corporate Governance / R. Bushman, A. Smith // Journal of Accounting and Economics. — 2001. — Vol. 32. — P. 237—333.

3. Dhaliwal D. Taxes, Leverage, and the Cost of Equity Capital / D. Dan, S. Heitzman, O. Zh. Li // Journal of Accounting Research. — 2006. — Vol. 44. — Is. 4. — P. 691—723.

4. Holger D. Economic Benefits of Adopting IFRS or US-GAAP — Have the Expected Cost of Equity Capital Really Decreased? / D. Holger // Journal of Business Finance & Accounting. 2006. — Vol. 33. — Is. 3—4. — P. 329—373.

5. Fatica S. Business capital and the user cost Is there a heterogeneity bias / S. Fatica // Journal of Macroeconomics. — 2018. — Vol. 56. — P. 15—34.

6. Бернстайн Л. А. Анализ финансой отчетности: теория, практика и интерпретация : пер. с англ. / [гл. ред. серии проф. Я. В. Соколов]. — Москва : Финансы и статистика, 1996. — 624 с.

7. Діяльність підприємств [Електронний ресурс] / Офіційний сайт Державної служби статистики України. — Режим доступу : http://www.ukrstat.gov.ua/operativ/menu/menu_u/sze.htm.

8. Кожанова Є. Економічний аналіз : навч. посібник / Є. Кожанова, І. Отенко ; Харківський нац. екон. ун-т. — 2-ге вид., дооправ. і доповн. — Харків : ВД «ІНЖЕК», 2005. — 340 с.

9. Ковалев В. В. Финансовый анализ. Управление капиталом. Выбор инвестиций. Анализ отчетности / В. В. Ковалев. — Москва : Финансы и статистика, 1996. — 432 с.

10. Мошенський С. З. Економічний аналіз: підручник для студентів економічних спеціальностей вищих навчальних закладів / С. З. Мошенський, О. В. Олійник. - 2-ге вид., доповн. і перероб. - Житомир: ПП «Рута», 2007. - 704 с.

11. Райан Б. Стратегический учет для руководителя / Б. Райан ; пер. с англ. под ред. В. А. Микрюкова. — Москва : Аудит, ЮНИТИ, 1998. — 616 с.

12. Стоун Д. Бухгалтерский учет и финансовый анализ: подготовительный курс / Д. Стоун, К. Хитчинг ; пер. с англ. Ю. А. Огибина и др. ; под общей ред. Б. С. Лисовика и М. Б. Ярчева. — Москва : Сирин, 1998. — 304 с.

13. Сахацький М. П. Теоретико-методичні засади оцінки результативності управління виробничо-господарською діяльністю підприємства // М. П. Сахацький, А. В. Казанджі // Фінансово-кредитна діяльність: проблеми теорії та практики. — 2017. — № 1. — С. 135—142.

14. Янковий О. Г. Детерміновані моделі факторного економічного аналізу. Методологія статистичного забезпечення розвитку регіону : монографія / О. Г. Янковий ; за заг. ред. А. З. Підгорного. - Одеса : Атлант, 2012. -С. 125-143.

Стаття рекомендована до друку 16.09.2019   © *Чирва О. Г., Демченко Т. А.,*
Ковальов Л. Є., Михайловина С. О.

References

1. Botosan, C., & Plumlee, M. (2002). Assessing the Construct Validity of Alternative Proxies for Expected Cost of Equity Capital. *The Accounting Review, 72,* 323—349.

2. Bushman, R., & Smith, A. (2001). Financial Accounting Information and Corporate Governance. *Journal of Accounting and Economics, 32,* 237—333.

3. Dhaliwal, D., Shane, H., & Li, O. Zh. (2006). Taxes, Leverage, and the Cost of Equity Capital. *Journal of Accounting Research, 44* (4), 691—723.

4. Holger, D. (2006). Economic Benefits of Adopting IFRS or US-GAAP — Have the Expected Cost of Equity Capital Really Decreased? *Journal of Business Finance & Accounting, 33* (3—4), 329—373.

5. Fatica, S. (2018). Business capital and the user cost Is there a heterogeneity bias. *Journal of Macroeconomics, 56*, 15—34.

6. Bernstajn, L. A. (1996). *Analiz finansoj otchetnosti: teoriya, praktika i interpretaciya [Analysis of financial statements: theory, practice and interpretation]*. Ya. V. Sokolov (Ed.). Moscow: Finance and Statistics [in Russian].

7. Derzhavna sluzhba statystyky Ukrainy. (n. d.). Diialnist pidpryiemstv [Activity of enterprises]. *www.ukrstat.gov.ua*. Retrieved from http://www.ukrstat.gov.ua/operativ/menu/menu_u/sze.htm [in Ukrainian].

8. Kozhanova, Ye., & Otenko, I. (2005). *Ekonomichnyi analiz [Economic analysis]*. Kharkiv: VD «INZHEK» [in Ukrainian].

9. Kovalev, V. V. (1996). *Finansovyj analiz. Upravlenie kapitalom. Vybor investicij. Analiz otchetnosti [Financial analysis. Capital management. Choice of investment. Analysis of reporting]*. Moscow: Finansy i statistika [in Russian].

10. Moshenskyi, S. S., & Oliinyk, O. V. (2007). *Ekonomichnyi analiz [Economic analysis]*. Zhytomyr: PP «Ruta» [in Ukrainian].

11. Rajan, B. (1998). *Strategicheskij uchet dlya rukovoditelya [Strategic accounting for the manager]*. (V. A. Mikryukov, Trans.). Moscow: Audit, YuNITI [in Russian].

12. Stoun, D., & Hitching, K. (1998). *Buhgalterskij uchet i finansovyj analiz: podgotovitel'nyj kurs [Accounting and financial analysis: Preparatory course]*. (Yu. A. Ogibina (et al.), Trans.). B. S. Lisovik, M. B. Yarchev (Eds.). Moscow: Sirin [in Russian].

13. Sakhatskyi, M. P., & Kazandzhi, A. V. (2017). Teoretyko-metodychni zasady otsinky rezultatyvnosti upravlinnia vyrobnycho-hospodarskoiu diialnistiu pidpryiemstva [Theoretical and methodical principles of evaluation of the effectiveness of management of production and economic activities of the enterprise]. *Finansovo-kredytna diialnist: problemy teorii ta praktyky — Financial and credit activity: problems of theory and practice, 1*, 135—142 [in Ukrainian].

14. Yankovyi, O. G. (2012). *Determinovani modeli faktornoho ekonomichnoho analizu. Metodolohiia statystychnoho zabezpechennia rozvytku rehionu [Deterministic models of factor economic analysis. Methodology of statistical support for the development of the region]*. A. Z. Pidhornyi (Ed.). Odesa: Atlant [in Ukrainian].

The article is recommended for printing 06.05.2019   © *Chyrva O. H., Demchenko T. A.,*
Kovalev L. E., Mykhailovyna S. O.