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#### **ANALYSIS OF BUSINESS ENTITIES' FINANCIAL AND OPERATIONAL PERFORMANCE UNDER SUSTAINABLE DEVELOPMENT**

**Abstract.** Every year the number of users interested in non-financial reporting grows. Their aim is to assess company activity including not only their financial performance but also their contribution to social and economic development of society. However, non-financial reporting cannot provide full information to users in order to satisfy all their requirements. It is upon Integrated Reporting (IR), which refers to financial and non-financial indexes. In the article disclosure the analysis of financial and business performance technique for national entities (private as well as public sectors of economy) that would include using financial and non-financial indexes.

To standardize financial and operating performance indexes, their possible comparison, macro and micro modeling, it is proposed to identify Index of performance, which is defined by the system of complex indexes: index (indicator) of reaching business entity economic indicators, index (indicator) for ecological efficiency, index (indicator) for social efficiency. It was grounded the necessity to calculate Quality coefficient assessment to avoid declarative achievement of ecological and social efficiency indexes, the quality of their performance.

**Keywords:** sustainable development, non-financial reporting, integrated reporting, analysis, financial and operating performance indexes.

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## **АНАЛІЗ РЕЗУЛЬТАТІВ ФІНАНСОВО-ГОСПОДАРСЬКОЇ ДІЯЛЬНОСТІ СУБ'ЄКТІВ ГОСПОДАРЮВАННЯ В УМОВАХ СТАЛОГО РОЗВИТКУ**

**Анотація.** Досліджено масштаби і перспективи впровадження нефінансової звітності в сучасних умовах соціально-економічного розвитку. Обґрунтовано необхідність аналізу результатів фінансово-господарської діяльності вітчизняних суб'єктів господарювання приватного і державного секторів економіки з використанням фінансових і нефінансових показників. Представлено методику розрахунку Індексу результативності фінансово-господарської діяльності, який визначається системою комплексних показників: індексу досягнення економічних показників, індексу показників екологічної ефективності, індексу показників соціальної ефективності суб'єкта господарювання.

**Ключові слова:** сталий розвиток, нефінансова звітність, інтегрована звітність, аналіз, показник результативності фінансово-господарської діяльності.

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## **АНАЛИЗ РЕЗУЛЬТАТОВ ФИНАНСОВО-ХОЗЯЙСТВЕННОЙ ДЕЯТЕЛЬНОСТИ СУБЪЕКТОВ ХОЗЯЙСТВОВАНИЯ В УСЛОВИЯХ УСТОЙЧИВОГО РАЗВИТИЯ**

**Аннотация.** Исследованы масштабы и перспективы внедрения нефинансовой отчетности в современных условиях социально-экономического развития. Обоснована необходимость анализа результатов финансово-хозяйственной деятельности отечественных субъектов хозяйствования частного и государственного секторов экономики с использованием финансовых и нефинансовых показателей. Представлена методика расчета Индекса результативности финансово-хозяйственной деятельности, которая определяется системой комплексных показателей: индекса достижения экономических показателей, индекса показателей экологической эффективности, индекса показателей социальной эффективности хозяйствующего субъекта.

**Ключевые слова:** устойчивое развитие, нефинансовая отчетность, интегрированная отчетность, анализ, показатель результативности финансово-хозяйственной деятельности.

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**Introduction.** The 18<sup>th</sup> World Congress of Accountants, 2010, declared the concept of synergy between accounting principles and sustainable development principles, which stipulates integral use of accounting potential for economy development [1; 2, p. 1].

These days, the tendency to increased disclosure to company activity and developments becomes more and more noticeable. The major feature of a modern business entity is public reporting not only financial performance but also the mission and values, corporate management system, development strategy and its implementation, achievements and problems, anti-corruption regulations, company's contribution to staff and social development, environmental protection methods as well as company's resources use.

It is clear that, the number of companies which produce non-financial reports is continuously growing: 93% out of 250 largest world corporations presented their reports about sustainable development in 2017 [3, p. 9]. Although such reporting has not been standardized, and it stipulates creative management approach, business companies producing it use recommendations developed by such well-known companies as: United Nations Global Compact, Global Reporting Initiative, Climate Disclosure Standards Board, and International Integrated Reporting Council.

The largest international initiative is United Nations Global Compact; its activity is focused on attracting business entities to the area of providing world sustainable development, partnership between public and private sectors of economy.

In 2017 United Nations Global Compact united 9413 business entities located in 163 countries, with 30% of non-profit organizations out of the total 3056 participants [4, p. 16-17].

In non-financial reporting it is common to use the framework of "triple bottom line" within the system of Global Reporting Initiative (GRI), which includes the disclosure of three parts: financial, ecological (environmental) and social. The GRI standards are used not only in business structure. For example, in Great Britain there is a legal obligation to produce non-financial reports, within GRI standards, by public entities which are socially important.

Global Reporting Initiative data base contains 33828 registered reports of 30<sup>th</sup> June, 2016 [5, p. 8].

Every year the number of users interested in non-financial reporting grows. Their aim is to assess company activity including not only their financial performance but also their contribution to social and economic development of society. However, non-financial reporting cannot provide full information to users in order to satisfy all their requirements. It is upon Integrated Reporting (IR), which refers to financial and non-financial indexes. It represents analysis and assessment of physical indicators for physical and labour resources efficiency, informing the users about the owners and top-managers' corporate social responsibility.

Wide implementation of integrated reporting stipulates the importance of introducing changes into present methodology, managing and computer implementation of accounting for not only business activities, but also business operations – representation of managerial decisions performance shown in value and/or physical indexes, as well as development and quality changes in labour resources, index of green production, etc.

**Recent research and problem definition.** In business activity of national entities, the concepts "non-financial reporting" and "integrated reporting" have been introduced quite recently. Thus, there are no fundamental scientific research works in integrated reporting, particularly in methodology and principles of its development, analysis and audit of its indexes. Specific problems and perspectives of integral reporting development have been studied in the works of T.Davydiuk, N. Ostapiuk, N.Petrenko, A.Malakhova, N.Lokhanova, S.Lehenchko, D. Hrytshyna, R.Kostyrko, K.Bezverkhyi, P.Atamas, M.Vakhrushyna, N. Malynovska, etc.

However, there are no scientific works which research analysis of financial and business performance technique for national entities (private as well as public sectors of economy) that would include using financial and non-financial indexes.

**Research results.** In 2013 International Integrated Reporting Council introduced a project which, after a public discourse, became the basis for International Integrated Reporting Framework. According to the framework, the understanding of the category «financial performance» as increase or decrease of owner's capital value has already become an axiom. But as the entity develops its values, the performance is generated in six different areas, since increase or decrease of six types of capital occur, such as: 1. financial; 2. industrial; 3. intellectual; 4. human resource; 5. social and communicative; 6. natural [7, p. 12-13; 8, p. 37].

As a result of integrated reporting implementation, common concept of financial performance can transform, considering new approaches to the assessment of company performance, its economic substance and accounting content, such as: industrial activity performance; intellectual activity performance; human resource activity performance; social and communicative activity performance; natural activity performance. What is more, some of them will characterize not only monetary values but also physical indexes as well as quality descriptions.

Modern accounting system has been formed focusing on the needs of Industrial Age. As a result it is often inefficient when solving the tasks of contemporary information technology society. The aim of theoretical and practical accounting scientists is to integrate non-financial information (particularly social and ecological indexes) into accounting system and into a new value calculation by means of engaging new accounting entities, new techniques and new accounting practices, new approaches to accounting and analytical work in general.

One of the main conditions for efficient decision-making is full and objective assessment of company's financial condition, fiscal situation, performance.

The list of approaches to the performance assessment stipulates the variety of applying relevant technique, like system and complex analysis, scientific abstraction method, standard cost method, ratio and economic and mathematic modeling approach, induction and deduction methods, Delphi (expert analysis) approach, etc.

Within expert analysis, insufficient data may cause misjudgment: the problem of uncertainty influence does not always justify application of swot analysis (based on the acceptable economic situations).

The example of performance assessment under sustainable development is GRI Index computation, disclosed by the World Bank. When computing GRI Index the activity of all its branches is taken into account: International Bank for Reconstruction and Development (IBRD), International Development Association (IDA), International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA) and International Centre for Settlement of Investment Disputes (ICSID). GRI Index is defined by the assessment of external factors influence on the bank activity, and its business activity influence on social sustainable development. Under this analysis possible risks for the reputation of the World Bank are assessed along with the importance of its activity to other interested parties, and interconnection between practical activity and defined mission as well as objectives [9, p. 1].

Unfortunately, sustainable development reporting in Ukraine is produced by a small amount of companies (the most famous are "Metinvest", DTEK, PJSC "Obolon", PJSC "Concern Galnaftogaz", group of companies "Foxtrot"). We believe that at present difficult national social and economic conditions, it is quite possible to identify business entity performance results, which would include fiscal indexes as well as its contribution to a sustainable development of society, being based on financial reporting along with the indexes retrieved from internal (managerial) reporting.

To standardize financial and operating performance indexes, their possible comparison, macro and micro modeling, it is appropriate to identify *Index of performance (Ip)*, which is defined by the system of complex indexes:

1. index (indicator) of reaching business entity economic indicators – target-performance comparison:

$$I_s^1 - \frac{z_r^1}{z_{pr}^1} \quad (1)$$

$$I_s = \sum_{i=1}^n w_i^1 \times I_i^1 \quad (2)$$

when  $I_s^1$  is index (indicator) performance of  $i$  economic indicator (for business entities it can be absolute indicator ratio – real and projected rate of return, expenditure, profit and loss, as well as relative returns – profitability, return on assets ratio, liquidity; for publicly-funded institutions it is appropriate to analyze such absolute ratios as approved budget for profit from common and special fund accounts, approved budget for expenditure from common and special fund accounts, fiscal performance (budget surplus or budget deficit) from common and special fund accounts, relative economic indexes – cash disbursements and actual expenditure ratio, financial stability index, leverage ratio, etc.);



$z_{r}^i, z_{pr}^i$  – real and projected value of  $i$  economic indicator of business entity;  
 $n$  – number of economic indicators, that are considered when calculating;  
 $w_s^i$  – weight coefficient of  $i$  economic indicator.

It is produced by Delphi (expert analysis) approach. They should also meet the requirement:

$$\sum_{i=1}^n w_s^i = 1 \quad (3)$$

2. index (indicator) for ecological efficiency of business entity – real indicators, characterizing positive environmental effect, and projected indicators ratio ( $I_{ecol}$ ). Calculation technique is similar to the previous index. Ecological indexes that show business performance include: implementation and realization of environment protection programs costs, environmental protection operating costs, increase of ecological value, waste product profitability, pollution-prone manufacture index, coefficient of «ecological ballast».

3. index (indicator) for social efficiency of business entity – real indicators, characterizing positive social effect, and projected indicators ratio ( $I_s$ ). Social indexes that shoe efficiency include: personnel income, personnel professional training costs, labour protection expenses in business operating costs, labour intellectualization costs, percentage of employees suffering from occupational diseases, the number of booking documents for treatment, etc.

To avoid declarative achievement of ecological and social efficiency indexes, the quality of their performance should be considered when calculating Index for performance:

$$I_Q^i = \frac{Q_r^i}{Q_{pr}^i} \quad (4)$$

$$I_Q = \sum_{i=1}^n w_Q^i \times I_Q^i \quad (5)$$

when  $I_Q^i$  is index of quality coefficient of  $i$  indicator for ecological/social efficiency;

$Q_r^i, Q_{pr}^i$  – real and projected quality of ecological/social efficiency performance indicator.

Quality coefficient assessment for ecological and social efficiency is identified by expertise according to specific quality categories. We recommend to use the grade from 0 (unsatisfactory quality) to 1 (the highest quality category).

Thus, Index of performance is determined by the equation:

$$I_p = I_e \times (I_{ecol} \times I_{Q_{ecol}}) \times (I_s \times I_{Q_s}) \times 100\% \quad (6)$$

Due to the research of foreign scientists-economists, we can obtain the results of financial and operating activity assessment almost accurately, using Saifullin-Kadykov model. In financial condition assessment rating number  $R$  is used in this model [10, p. 86]:

$$R = 2Rd + 0,1Rbl + 0,08Rca + 0,45ROS + ROE \quad (7)$$

when  $Rd$  is debt ratio;

$Rbl$  – bank-liquidity ratio;

$Rca$  – current assets ratio;

$ROS$  – return on sales index (sales margin);

$ROE$  – return on equity.

Undoubtful reliability of the given analysis is proved by the reasonable selection of business entities, which performances are compared. The main criterion is identity of: business features of the entities, main types of realization, target markets, investment and innovation activity.

To obtain business performance taking into account possible factors of influence on entities activity in the nearest future we will use fuzzy analysis.

The benchmark (Index of performance,  $I_p$ ) depends upon calculated rates, this is the correlation relationships resulting from interaction of factors that influence its meaning under external and internal socio-economic tendencies, which is the base of dividing fuzzy sets into subsystems.

We will divide fuzzy sets of  $I_p$  into five subsets, each given its number value:

*Ip1* – fuzzy subset of «marginal inefficiency»: production resources do not sustain operating activity, the entity is at the reorganization/liquidation stage ( $I_p \approx 30\%$ );

*Ip 2* – fuzzy subset of «factor inefficiency»: to sustain operational activity, subordinate debt capital is used, adjustments are made to managerial decisions as response to main activity indexes changes ( $30\% \leq I_p \leq 50\%$ );

*Ip 3* – fuzzy subset of «relative efficiency»: to sustain operational activity, subordinate debt capital is used ( $50\% \leq I_p \leq 75\%$ );

*Ip 4* – fuzzy subset of «stable efficiency»: production resources sustain operational activity processes, fulfilling statutory tasks ( $75\% \leq I_p \leq 100\%$ );

*Ip 5* – fuzzy subset of «maximum efficiency»: production resources sustain extension of operational activity, fulfilling statutory tasks ( $I_p = 100\%$ ).

**Conclusions.** Efficiency of this analysis depends on the target goal: identifying better results in order to generalize them, sustaining such entity (branches, structural division, etc.); defining areas of the biggest concern; evaluating contingency reserve provision and finding ways to implement it. Finally, proving competitiveness under present sustainable development tendencies and developing market relations.

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