

A REVIEW OF THE APPLICATION OF THE CONCEPT OF ECONOMIC AND SUSTAINABLE VALUE ADDED (SVA) IN INDUSTRIES PERFORMANCE EVALUATIONS AND HUMAN RESOURCES MANAGEMENT

Nikolai SINIAK, Ninoslav MARINA, Daniela KOTESKA LOZANOSKA, Karol KRAJČO

Abstract.

In today's global digital world, smart sustainable development, value and wealth creation are among the most important goals of society. Industry performance entails the incorporation of the objectives of smart sustainable development, namely social and territorial cohesion, economic efficiency, innovation, digital and environmental performance, into a company's operational practices. Companies that compete globally are increasingly required to commit to and report on the overall smart sustainability performances of operational initiatives. The current indicator frameworks that are available to measure overall business sustainability do not effectively address all aspects of sustainability at operational level, especially in developing countries such as Slovakia, Belarus and Macedonia. For the sake of achieving these goals and objectives, the corporation, investor and government need some instruments in order to measure the potential value of each investment opportunity. It is clear that these instruments are not capable of predicting the exact future, they just provide some piece of information and advice that help the investor and government in the decisions he makes. Among these criteria, the most common types are Return on Investment (ROI), economic and sustainable value added (EVA and SVA). These criteria follow the performance assessment with regard to the changes in the sustainable value and alongside maximizing the long-term shareholder and society returns. In this paper, one of the most important criteria; i.e. EVA, is investigated from several viewpoints. First, it is demonstrated the attempt to calculate EVA at the industry level using aggregate indicators according to the common business methodology. For this we generally assume that economic value is created by investment in excess return compared to its cost. We adopted EVA indicator to Belarusian and Macedonian general economic conditions and specifics of available aggregate sector data by adjusting return on investment and cost of capital. Human assets is an important input while generating profits vis-a-vis maximizing organizational and industry wealth, now the termed could as EVA and SVA in the study.

Keywords:

Performance Evaluation; performance analysis, value Creation, economic value added, sustainable value added

JEL Classification: O25, O14, O18

Introduction

The main current strategy of development Europe 2020 (A strategy for smart, sustainable and inclusive growth) puts forward three mutually reinforcing priorities:

- Smart growth: developing an economy based on knowledge and innovation.
- Sustainable growth: promoting a more resource efficient, greener and more competitive economy.
- Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion.

But growth itself does not create value. Economic value is created by investment in excess return compared to its cost. This statement is one of the central in microeconomic theory and drives the development of a single firm through an industry to a country's economy. Principle of economic value added to invested capital is directly employed in Economic Value Added (EVA) indicator.

Industry performance entails the incorporation of the objectives of smart sustainable development, namely social and territorial cohesion, economic efficiency, innovation, digital and environmental performance, into a company's operational practices. Companies that compete globally are increasingly required to commit to and report on the overall smart sustainability performances of operational initiatives.

The objective of the paper is to propose a modified and more accurate model for measuring the industry economic and sustainability performance. The model integrates environmental, social, economic and corporate governance indicators. It aggregates different indicators from different frameworks and allows the industries to compare their performance effectively. Two main factors of sustainability assessment (EVA and SVA) are depicted. It is demonstrated the attempt to calculate EVA at the industry level using aggregate indicators according to the common business methodology [i].

Then, materials and methods used for sustainability assessment is described. This is done by presenting an overview about the used indicators. The method of sustainability value added calculation is suggested as the main indicator of industry performance.

1. EVA - Basic value indicator

All value indicators calculations respect the neoclassical theory of the behavior of market subjects (The theory of rational expectations ...) from microeconomics, suggesting the basic premise that the purpose of company is to maximize profits [ii].

The idea behind EVA is rooted in economic income as opposed to accounting income. The concept of economic profit appeared a long time ago, around 1890 (Marshall). As economic income moves up or down, so goes the value of the business.

The theory of Economic Value Added has traditionally suggested that every company's primary goal is to maximize the wealth of its shareholders, which should be a given since it is the shareholders that own the company and any sensible investor expects a good return on his or her investment. In the past, however, other methods such as Return on Investment (ROI) and Earnings per Share (EPS) have been the most important performance measurement systems and have been used in determining bonus-based incentives even though they do not correlate well with shareholder value creation.

Economic Value Added (EVA) is probably the most widely used approach to measuring value-creation. The analytical tool called EVA, for Economic Value Added, was commercially developed in 1982 by the corporate advisory team from Stern Stewart & Co. of Joel M. Stern and G. Bennett Stewart [iii].

The first person who used the term EVA in publication was Finegan in 1989, after him it was Walter in 1992, but the attention of the wider economic public EVA received after the publication of related article in Fortune magazine in 1993 (Tully) when it started to be used as a metric of business performance. Consequently, this issue handled a number of experts

Large firms like Coca Cola, Diageo, Lilly (Eli), Guidant, and SPX have used EVA as a guide to creating economic value for their shareholders [iv]. Bonuses and incentive pay schemes at these firms have been built around the manager's ability (or lack thereof) to generate positive EVA within the firm's operating divisions. Positive payments accrue to managers having divisional operating profits that on balance exceed the relevant "cost of capital," while

negative incentive payments may occur if the longer-term divisional profits fall short of the overall capital costs. Thus, by accounting for both the cost of debt and equity capital, EVA gives managers the incentive to act like shareholders when making corporate investment decisions.

EVA is also gaining popularity in the investment community. Since June 1996 Conference on "Economic Value Added" at CS First Boston "buy side" investment firms like Global Asset Management and Oppenheimer Capital use EVA in their stock selection, portfolio construction, and risk control processes.

Economic Value Added is most generally calculated as the difference between net operating profit after tax (NOPAT) less market money value of capital invested (MVC):

$$EVA = NOPAT - MVC \quad (1)$$

The crucial point of EVA estimating is calculating the market money value of invested capital:

$$MVC = \text{Weighted Average Cost of Capital (\%)} * \text{Capital Invested} \quad (2)$$

Since firms use both private equities (E) and debt (D) to finance their investment projects, it is important to use the weighted structure of cost of capital:

$$WACC = \%D * \text{Cost of Debt} + \%E * \text{Return on Equity} \quad (3)$$

where %D – share of debt invested in project; %E – share of equities invested in project; and %D + %E = 1

The calculation of EVA gives the same mathematical results as Discounted Cash Flow (DCF) or Net Present Value (NPV), both of which have historically been deemed the best analysis tools for determining shareholder value. However the equivalence with EVA and NPV/DCF holds only in valuation and not in performance measurement.

EVA is expressed as money value in currency of operation of a certain company. It estimates what amount of value is added to the invested capital. This value usually results in higher net economic profit of a firm and higher dividends. Negative EVA indicates that either i) cost of capital is higher than return on capital (the firm is currently earning less than expected giving the its cost cost of capital) or ii) capital invested does not create enough of value for specific investment projects.

EVA indicator of a firm is even more informative when considered in dynamic over certain period of time. Increasing EVA indicates either lower cost of capital, or higher returns (provided invested capital is the same over considered period). Diminishing EVA points to higher cost of capital or lower profit (if invested capital is the same over considered period).

EVA can be used as a qualitative indicator of growth at the level of industries and economy at general. EVA results are logically connected to specific operating conditions for a firm or an industry by considering debt and equity share in capital structure as well as specific risk premium for each industry.

Calculating EVA for industries, the structure of economy can become clearer revealing best performing and worst performing sectors in terms of their economic value added. In practice one can break down the economy into sectors with high EVA and little EVA for both positive and negative indicators. After close look at each of the best or worst performing sector taking into account their specifics recommendations for using high potential or improving sector's conditions might be drawn.

EVA allows to watch development of industries and a country's economy in dynamic over chosen period of time. For instance, growing EVA for a country's economy might indicate its growing potential of further development and sustainability. Alternatively, diminishing EVA in chosen industry might be a signal for poor quality of investments, inadequate structure of capital invested or poor management.

Using EVA as performance indicator of economic sectors defined according to industrial classification system as opposed to traditional Soviet Union type division we get a possibility to make international comparisons.

Finally, economic value added (EVA) indicator calculated for Belarusian industries provides us with objective information about current situation at the market when no stock exchange information is available.

Basic indicators for Belarusian industries according to NACE are presented in [1]. A few important conclusions can be drawn according to EVA estimation results for Belarusian industries:

1. six industries created more than 2/3 of economic value added in Belarusian economy: manufacture of chemicals, wholesale trade, transport and communication, agriculture, construction and

manufacture of refined petroleum products and coke.

2. almost 1/4 of the entire economic value was added in chemical industry (manufacture of chemicals, chemical products and man-made fibres).
3. four sectors created no economic value and have negative EVA indicator: education, health, community, social and personal services, and real estate activities. and, suprisingly, real estate activities.
4. The most striking finding of estimations was that the lowest EVA indicator showed the division called „Real estate activities“.

Ranking of industries. Finding the “best” companies and industries in the marketplace is of primary importance to investment managers. With the proper financial tools, portfolio managers may be able to enhance their active performance over-and-above the returns available on similar risk indexed-passive strategies.

The ranking shows that top-10 investor attractive sectors in Belarusian economy were:

- Manufacture of coke and refined petroleum products;
- Manufacture of chemicals, chemical products and man-made fibres;
- Sale, maintenance and repair of motor vehicles and motorcycles;
- Wholesale trade and commission trade;
- Manufacture of leather and leather products;
- Computer and related activities;
- Mining and quarrying;
- Manufacture of basic metals and fabricated metal products;
- Manufacture of transport equipment.

The least attractive sectors are „social“ ones: education, health, community, social and personal services, and real estate activities.

Industries with higher rank can attract more foreign investors.

2. Sustainable Value Added (SVA)

Sustainability Value Added (SVA) is an effective method for sustainability assessment. It plays a strategic role in decision making [v]. It encourages the companies and industries to deal with resources more effectively and efficiently. Sustainable Value Added represents the extra value created as a result of using economic, environmental and social resources, compared to a benchmark. It expresses in absolute monetary terms. According to the method published

¹ See case-belarus.eu/wp-content/uploads/2011/07/EVA-FINAL-Naurodski_Valetka.pdf (accessed 1 February 2018)

by [vi] the SVA value calculation can be expressed as follows: The gross value added of the company should be calculated (in unit €). After that, the amount of each environment or social resources should be determined (e.g. t, m³, ..etc). Then efficiency computed by dividing the gross value added on the amount of resources (unit €/t, €/m³). The same steps should be done for the benchmark. Finally, the last two values are subtracted from each other and the result multiplied by the amount of considered indicator.

Whereas the improvements should include several modifications, in order to achieve the following factors:

- **Comprehensive sustainability assessment:** we focused our efforts on developing a comprehensive smart sustainability assessment. Therefore, digital, environmental, social, economic and corporate governance indicators should be integrated. In this case, the proposed model won't only deal with financial indicators but should also include nonfinancial ones.
- **Simplicity and suitability:** The assessment should be done for different industries in Belarus and Macedonia to compare results. However, the model can't be universal, because the indicators should reflect the specifics of the industry in which the country operates. Therefore, different available sustainability frameworks are used and specific set of indicators is chosen for each sector (e.g. agriculture, manufacture ...).
- **Applicability:** The modified model should be easy, simple, suitable and accurate. It reflects not only three dimensions (digital, economic, environment, and social), but also the corporate governance pillar is added. As mentioned above, EVA is the most important and measured indicator which combines all the basic components required to describe the economic situation of the industry. For this reason, the gross value added (VA) is replaced by Economic Value Added to describe the financial situation of the companies more efficiently.

Human assets is an important input while generating profits vis-a-vis maximizing organizational and industry wealth, now the term could be as EVA and SVA in the study. EVA is gain or loss that remains after assessing a charge for the cost of all types of capital employed and also it is helpful in formulation of strategy so as to make a return greater than the cost of capital of the firm and hence it is useful tool for the management in decision making.

EVA and SVA is also a motivating measure to create shareholder value as well as to compute management compensation [vii]. Generation of huge profits can be achieved through EVA and SVA human capital can act as an important variable for achieving corporate sustainability and industry performance.

Conclusion

Industry performance entails the incorporation of the objectives of smart sustainable development, namely social and territorial cohesion, economic efficiency, innovation, digital and environmental performance, into a company's operational practices. Companies that compete globally are increasingly required to commit to and report on the overall smart sustainability performances of operational initiatives.

The data obtained in both SVA, EVA and foreign investor attractiveness rankings may be helpful for both foreign investors and government.

Sustainability assessment is a comprehensive process to achieve the best performance and determine the weak points of the studied industries performance. The smart sustainable development and inclusive growth system is a model used for smart sustainability assessment.

This paper aims to propose an improved method of investment industry performance sustainability assessment. It employs important and widely used financial value (e.g. SVA, EVA) for evaluating the efficiency of industries development. This work can be extended by making it reflect the specifics requirements of the country and industry in which the company operates. This can be implemented by calculating the weights and benchmark values for each sector (e.g. agriculture, bio-gas plants, manufacture, breweries ...). Finally, the results visualization can be presented in the case study for specific sector.

While making internal decisions related to human resource management, a company and industries should consider human asset valuation. The company should look at the parameters such as return on human resource value, ratio of total income to human asset value. All these parameters give a clear picture of efficiency of human resources employed by the company. There is a proper pathway to reach financial gains and smart sustainable development goals by operational improvement in human resource.

References

- Berzakova, V., Bartosova, V., Kicova, E. (2015). Modification of EVA in Value Based Management, *Procedia Economics and Finance*, vol. 26, 317-324
- Dash, S. (2012). Role of Human Capital Management in Economic Value Addition of Large Scale Organizations: A Literature Re-view. *International Journal of financial Management*, vol. 2. 63-74.
- Figge, F., Hahn, T. (2004). Sustainable value added-measuring corporate contributions to sustainability beyond eco-efficiency. *Ecological economics*, 48(2), 173-187.
- Grant, J. L. (2003). *Foundations of Economic Value Added* - 2nd ed. New Jersey: John Wiley & Sons, 324 p.
- Kassem, E., Trenz, O., Hřebíček, J., Faldík, O. (2016). Sustainability Assessment Using Sustainable Value Added, *Procedia - Social and Behavioral Sciences*, vol. 220, 177-183,
- Stern, J. M. (2001). *The EVA Challenge: Implementing Value Added Change in an Organization*. New Jersey: John Wiley & Sons. 240 p.
- Valetka, U., Nikolai Siniak, N., Naurodski. S. (2010). Measuring economic value added in real estate sector in Belarus. In. *17th Annual European Real Estate Society Conference. ERES: Conference*. Milan, Italy, 2010.
- Vojtovic, S., Krajnakova, E. (2013). Trends in Economic Growth and Unemployment in Slovakia. In: *Advances in Intelligent Systems Research : International Conference on Education, Management and Social Science (ICEMSS)*.: Aug 22-23, p.188-191. Tianjin,
- Vojtovic, S., Tupa, M. (2016). Evaluation of economic benefits from migrated labour force. In: *International Multidisciplinary Scientific Conferences on Social Sciences and Arts: 3rd International Multidisciplinary Scientific Conference on Social Sciences and Arts, SGEM 2016: Aug 24-30, p.229-236*. Albena, BULGARIA.
- Vojtovič, S. (2015). Creative industry as a sector of the new economy. Actual problems of modern economy development. Melbourne: Thorpe-Bowker®.
- Vojtovič, S., Karbach, R. (2014). New economy and the development of creative industry. *Vadyba Journal of Management*, 2(25), 139-144.

Contacts

Nikolai Siniak PhD.,
 Ninoslav Marina, PhD, Professor,
 Daniela Koteska Lozoska M.Sc.,
 University of Information Science and Technology “St. Paul the Apostle”,
 Republic of Macedonia
 e-mail: siniakn@mail.ru,
 daniela.k.lozoska@uist.edu.mk

Ing. Karol Krajčo
 Department of Economy and Economics
 Faculty of Social and Economic Relations
 Alexander Dubček University of Trenčín
 Studentska 2, 944050 Trenčín
 Slovak Republic
 e-mail: karol.krajco@tnuni.sk