Enterprise performance management in context of economic development in the beginning of 21st century

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Abstract—The development of world economy raises changes in enterprise financial management focus. Still more attention is devoted to enterprise value creation and management for shareholders. The target of the paper is to present the results of the research focused on mapping, identification, analysis and summary of main aspects and significance of two aspects – approaches to value-based management of an enterprise – specifically Economic Value Added concept (EVA) and Balanced Scorecard (BSC) within enterprise performance measurement and management. The strengths and weaknesses of Economic Value Added are analyzed and discussed in the context of economic development paradigm changes in the beginning of the 21st century. A part of the research outputs is a case study which practically documents EVA concept use in enterprise practice.

Keywords—Balanced Scorecard, Economic Value Added, Financial Performance, Shareholder Value, Value Based Management.

I. INTRODUCTION

In the last few decades we could observe changes whose importance, influence and impact were so significant that they resulted in globalized world development paradigm change. Reformulation of development economy paradigm reflects the dynamic development in business environment as well as in all society (Drucker, [1]). Not only business sphere but also public sector and academic community all over the world intensively perceive the challenges which are brought by the transfer from industrial to knowledge (sometimes also called post-industrial or innovative) economy and the continuous diversion from globalization tendencies. The accelerating speed of development in all areas of human activities and the movement of production factors flow, hypercompetition, business activities deglobalization and localization bring new possibilities to enterprises.

Businessmen and their managers „should not miss the imaginary train“ (Zelený, [2]) and „should not be dragged by events regardless of their will“ (prof. Mikoláš, [3]). The changes in social and economy system which are systematized by e.g. Kisligerová, [4], Mikoláš, [3], Drucker [1] or Souček [5], should be caught by the business entities not only as quickly as possible but should be followed by suitable reconsideration, reformulation of present business strategies, targets, operations, activities and processes (e.g. offered range of goods, preferred target markets and customers segments), if needed. Only those business entities, companies and public institutions with well stated, implemented and corrected vision and there from deducted strategies and targets will not weaken their market position, will keep their prosperity, will still be successful with their core business and will be competitive in comparison with local and international competitors [6], Souček [5].

Also small and middle-size enterprises must deal with arose changes impact, turbulences and dynamic development, as professor Mikoláš [3] states. Currently small and middle-size enterprises often face serious problems in following areas:

- top target (usually of strategy manner) if it is set it is not exactly, clearly and sufficiently comprehensively formulated and quantified;
- top target of business activities is insufficiently transferred into partial business targets which should help individual divisions, branches, sectors, workplaces, workers to complete the final (top) target – there is absence of connection and continuity of strategic, tactic and operational targets or business strategy;
- partial business targets do not comply the rule SMART which leads to not completing the set top targets or the partial business targets lead to completing another target of a higher level, different to what was planned;
- targets are correctly formulated but regular and timely monitoring, checking and feedback to higher level targets are missing;
- absence of planned operations of business targets, strategies, unclear future vision.

And - not exceptionally - there are cases of so-called „war of targets“, when an enterprise plans in such way that it adds further goals to existing sufficient set of business targets. At the same time there appears severe criticism of owners and managers actions who are strongly focused on profit and do not consider other groups’ interests (so-called stakeholders).
Despite the dispute about suitability of business targets alternative concepts applicability within the firm theory the target of business activity is still reaching maximal profit, not only in business entities which were founded for such purpose but also in non-profit organizations where the profit variables are not the primary goal. In the long term one of the ways how to achieve meeting the customers’ needs and how to reach maximal (or optimal) profit level as corresponding reward for businessmen (owners) for their risk-taking is to improve the enterprise financial management. On the operating level it corresponds for example with stabilization of enterprise cost level, making the enterprise processes, operations and activities more effective, keeping balanced budgets. On the tactical level of business management it is achieving sustainable performance and success, supplying the customers with as high added value as possible and on the strategic level the target is long-term competitiveness of the enterprise.

II. PROBLEM FORMULATION

The end of the 20th century and the beginning of the 21st century are in the sign of changes not only on macro-level, also the enterprise micro-level has been through changes in a lot of ways. The development and modern trends in measurement, evaluation and management enterprise performance issue, mainly methods, tools and measures of financial (economic) performance are referred to by many professionals from academic and business sectors. In the Czech Republic this topic is researched by e.g. Burešová, Dvořáková [6], [7], Kislíngerová [8], Dluhošová [9], Neumaier, Neumaierová [10], Mařík, Maříková [11], Vochozka [12], Wagner [13], Pavelková, Knápková [14], in international scope e.g. Burkette, Headley [15], Chen, Dodd [16], Deakin [17], Marinič [18], McLaren [19], Otley [20], Chiu, Wang [21], Badau, Camarda, Serbanoiu, Virgil, Bondoc-Ionescu [22] and many others.

At first the authors aim to point out some of the problems which the business entities currently face the most often regardless the legal form, size or operating area or sectors which they influence. Further the authors suggest solutions which can eliminate the weaknesses and mistakes in financial management of enterprise. The paper focuses on enterprise financial management because this area has also been strongly influenced by the changes mentioned in the introduction. Specifically the research focuses on use and application of two selected concepts – Economic Value Added and Balanced Scorecard in the area of financial management value-based approach of enterprise. The paper also points out the disunity of enterprise performance definition, summarizes the existing development of methods and tools used for enterprise financial performance measurement and predicts the future directions in their use. Then it describes, identifies, analyses and summarizes the main aspects and importance of Economic Value Added (EVA) and Balanced Scorecard (BSC) concept within the enterprise performance measurement and management. The strengths and weaknesses of Economic Value Added and Balanced Scorecard are analyzed and discussed in the context of economic development paradigm changes in the beginning of the 21st century. A case study which documents the use of EVA concept in business practice is a part of the research outputs.

A critical literature search of local and foreign sources – book publications (monographies), papers and review articles in professional magazines, international conferences proceedings and information on www sites and mainly available scientific databases were used as the basis for completing the paper targets. The targets and results of the paper are achieved by qualitative research of literary and electronically processed sources of authors from and also out of the academic sector. Specifically they are mainly research reports, professional studies, papers and review articles in professionals’ magazines and professional databases published to the enterprise financial and economic performance topic, specifically to Value Based Management (VBM) and Economic Value Added (EVA) in national and international frame. The practical application of EVA concept and its use in financial management within the value based management of enterprise is illustrated by the case study processed in the application part of the paper. The data and information about economic development of a selected business entity which works in industrial production in the Czech Republic were taken from internal and external sources of this enterprise.

A. Financial performance of enterprise and its measurement and management methods and tools

The first problem which appears in context with the analysis of enterprise performance issue is its concept and content definition. The academic and the private sectors see the enterprise financial (economic) performance in different ways. The fragmentation of terminology has been undoubtedly influenced by the wide range of users (inside and outside the enterprise) evaluating enterprise performance. Whether the enterprise performance is viewed as “the amount of results achieved by individuals, groups, organization and its processes” (Nenadáš [23]), as “the ability of a business entity to make the most of investments put in its business activities” (Šulák a Vacík [24]) or “characteristic which describes the way or process how the researched subject does a certain activity based on the similarity to the reference method of executing (processing) this activity“ (Wagner [13]), the enterprise performance always has two interrelated dimensions. They are to do the right things in the sense of effectiveness („do the right things“) and to do the things right in the sense of efficiency („do the things right“). Enterprise performance is generally characterized by better measurability than competitiveness of an enterprise, similarly as effectiveness and success of an enterprise (Burešová, Dvořáková [6]).

In the last few decades a significant upturn of methods and tools for enterprise performance measuring and management has been documented by many updates of existing conceptions, methods and tools and formation of brand new ones. The list of the currently most used of them and the development of their use in enterprise practice in time are stated for example in the overview of Bain&Company [25]. On the basis of further research (e.g. Matyška [26]) Balanced Scorecard by authors Kaplan and Norton, methods and tools of Controlling and Management Accounting (e.g. Direct Costing,
Variable Costing), Total Quality Management, Kaizen, Lean Management including Just-In-Time concept, Benchmarking, Six Sigma etc. belong to the most often applied conceptions, methods and tools for enterprise performance measuring and management. Business entities in the Czech Republic see a great potential in modern methods, Management Accounting tools (Activity Based Management), Continuous Improvement concept (CI), processes reengineering, etc. (Matyska [26]).

B. Value Based Management

Although the profit maximization is still seen as the enterprise economy primary target, the world economy development and associated phenomena (e.g. internationalization tendency and capital markets deregulation, progress of information and communication technologies, increasing liquidity of securities markets, changes in attitudes to savings and investments etc.) lead to still more intensive enforcing and emphasis on targeting the effort to value making for the enterprise shareholders within the enterprise financial management. Not only (but especially) the owner or shareholders of an enterprise expect that the value of their investment in the enterprise will be at least preserved considering the inflation or in a more favorable case it will be correspondingly increased (considering the taken risk and alternative possibilities they could have chosen and which they had given up because of the certain investment).

Considering the historical development of the Czech economy where the financial and capital markets so far have not significantly developed as in other (mainly west countries), the Value Based Management (VBM) concept has not spread much yet. Mainly because of the need to increase the competitiveness of Czech enterprises on the financial markets and the success compared to massive foreign competition it can be supposed that VBM concept will be more significantly used in the following decade.

The target to maximize the enterprise value formation for the involved groups in the enterprise (mainly shareholders, owners), should be achieved not only in short term but mainly in a long-term horizon. The financial theory has a lot of indicators in this regard (Market Value Added – MVA, Cash Flow Return on Investment – CFROI, Shareholder Value Added – SVA, etc.) Although each of them is specific the fact in common is that the enterprise creates value added and therefore it enhances the shareholder value (wealth of enterprise owners) if the investment return (profitability of invested capital) exceeds this capital costs (Young, O’Byrne [27], Shil [28]). The further processed Economic Value Added concept is based on this idea, „rediscovery“ of residual income concept Sarbapriya [29], Chen [16].

C. Economic Value Added

The measurement and evaluation of enterprise performance was for many years in the trend of using and liking the traditional indicators based on profit and variables derived from profit (see traditional financial analysis indicators). However in the last few years there has been a noticeable trend to reconsider existing used methods and tools, compare benefits and effectiveness of existing indicators, methods and conceptions with the modern ones. The cause can be found in learning the lesson from fall of big enterprises which deceived their shareholders as appeared afterwards – see ENRON case and others. The selection of suitable indicators for enterprise performance measurement is not an easy matter and currently it belongs to the most discussed issues in enterprise financial management area.

The classical indicators of traditional enterprise financial position and performance evaluation methods (such as receipts growth, profit growth, accounting rentability of capital and share profit etc.) are often criticized because they:

1. evaluate the capital income return regardless the time cash value and the risk level for investors;
2. do not correlate with shareholders value creation;
3. are based (are monitored and derived) on data from financial accounting (considering and decision-making on the bases of data and their trends in the past). The disadvantage of accounting reports is especially the possibility to influence (also significantly) the result by legal accounting processes; they do not consider time cash value or risk.

The essential difference and benefit of Economic Value Added concept compared to traditional indicators of enterprise performance measurement lies in two points:
- it introduces the idea of so-called opportunity costs (costs of a missed opportunity) into performance measurement which appear in the form of price, or capital costs (Weighted Average Costs Capital, WACC),
- it works with operating economic result (Net Operating Profit After Tax, NOPAT).

Despite the decreasing interest in residual income use as the indicator of economic performance of business in the second half of the last century in the business sector, on the contrary in the 90's there was „renaissance“, resurrection of this idea – practically the same concept with a different name – Economic Value Added. Tully [30] described the Economic Value Added as „currently the hottest idea which becomes still hotter“. The number of companies using the Economic Value Added has risen significantly [30].

The following Table 1 illustrates the alternatives to Economic Value Added which are more or less known and more or less supported by current scientific theory and enterprise practice.

Table 1 Economic Value Added alternatives  (Source: own processing, 2013)
The above stated modern indicators of enterprise economic performance measurement were analyzed in detail and compared with EVA values. Very different results were not proved in company evaluation according to „created value“. In current enterprise practice the Economic Value Added is used as a tool, method, concept of enterprise economic performance management, in enterprise evaluation within financial analysis, and also in inter-enterprise comparison (Value spread, Relative EVA according to London Business School). The use of Economic Value Added seems to be a good tool also in enterprise pricing and material incentives of management area.

D. Balanced Scorecard

Disparity and unsufficiency of enterprise targets and defined strategies also try to remove the Balanced Scorecard concept ([32]-[34]) – balanced card of results. This concept together with other concepts application, e.g. mentioned EVA [35] or ABM (Activity Based Management) and their synergetic effects helps business entities to maintain their effectivity, success, economic performance and therefore also long-term competitiveness. This idea is indirectly supported by Arnold [36] besides the authors of Balanced Scorecard concept Kaplan and Norton. In the context of problem analysis in enterprise financial management area Arnold states that „integrated value management systems influence strategy, structure, processes, analytical techniques and enterprise performance measures“. Bauch, Hunoldt, Matysiak [37] add the areas where exactly the enterprise value based management concept (VBM) can be applied.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Title</th>
<th>Author(s)</th>
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<tbody>
<tr>
<td>CFROI</td>
<td>Cash Flow Return On Investment</td>
<td>Boston Consulting Group (BCG)</td>
</tr>
<tr>
<td>CVA</td>
<td>Cash Value Added</td>
<td>Boston Consulting Group</td>
</tr>
<tr>
<td>Do not use</td>
<td>Economic Profit</td>
<td>Copeland, Keller, Mum (Copelan [31])</td>
</tr>
<tr>
<td>SVA</td>
<td>Shareholder Value Added</td>
<td>AlfRED Rappaport, LEK/Alka Consulting Group</td>
</tr>
<tr>
<td>AEVA</td>
<td>Adjusted Economic Value Added</td>
<td>Academic sphere</td>
</tr>
<tr>
<td>REVA</td>
<td>Refined Economic Value Added</td>
<td>Academic sphere</td>
</tr>
<tr>
<td>MVA</td>
<td>Market Value Added</td>
<td>Stewart</td>
</tr>
<tr>
<td>NEVA</td>
<td>IN Economic Value Added</td>
<td>Neumaiers</td>
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The importance of strategic management, creation and following the strategies by all enterprise segments is also mentioned by Morin & Jarrell [38]. According to them it is suitable to use VBM tools for long-term effect and significant influence of strategies on enterprise value creation potential. The authors of this paper on the basis of performed literature search, analysis and discussion consider the Balanced Scorecard concept to be an integral part of enterprise Value Based Management concept.

Balanced Scorecard does not focus just on financial indicators and enterprise financial performance (Kozena, Striteska, Svboda [39]), although financial indicators are the most important ones for evaluation of economic results of all performed actions. BSC is a method, concept focused on strategic management of all enterprise. It processes and transfers the enterprise vision into specific targets and into set of financial and non-financial performance indicators in four basic perspectives – financial, customer, internal processes and potentials. A suitable financial perspective indicator is EVA which is channeled for the enterprise to complete the main long-term target of enterprise BSC thus to create value and make the enterprise owners satisfied.

For an enterprise as a whole and also for its internal sectors the BSC, within the four basic performance perspectives which the concept works with, requires to set:

- strategic targets, i.e. what the enterprise strategy wants to accomplish within given perspective,
- indicators which define how to measure the completed strategic targets,
- individual indicators target values which the enterprise wants to achieve,
- activities which have to be done to achieve the set target.

Thanks to a set of exact indicators – suitable measures and actions it is assessed and evaluated whether the enterprise strategy is achieved, whether the enterprise management leads successfully to completing the business vision, economic performance and long-term competitiveness.

BSC brings a few advantages to the enterprises which implemented this strategic management tool:

- BSC offers a clear idea about future direction of an enterprise, about activities determining successful future operation which have to be done at present and near future and about how interconnected they are. The
enterprise employees see how their work contributes to defined targets of the enterprise. BSC provides an overall idea about enterprise activities in the past but also at present and in the future.

- BSC helps to focus better on completion of vision and mission of an enterprise.
- Four BSC perspectives enable wider and more complex view on an enterprise – planning of financial sources, their evaluation in favour of better assets use of an organization.

![The Balanced Scorecard link between strategy and measurement (Source: Bruggeman [40])](image)

**III. PROBLEM SOLUTION**

Economic Value Added as an old-new concept of enterprise economic performance evaluation of authors G. Bennett Stewart III and Joel Stern has come and still is coming through the verification process (Grant [41]), assessing its suitability and benefits but also weaknesses Fernández [42]. Especially the weaknesses of EVA concept are pointed out by e.g. Beranová, Basovníková, Martinovičová [43], Keys, Azamhuzjaev Mackey [44], McLaren [19], McIntyre [45], Burkette, Hedley [15], and others. As the most negative aspect of using and spreading EVA concept in enterprise practice is seen the necessity to perform a lot of adjustments of information and data which were obtained from financial management reports and therefrom a considerable risk of result manipulation. The maximal amount of adjustments was numbered to 164 adjustments Stewart [46], and these were done for operative conversion reasons, financial sources conversion, tax conversion and shareholders conversion. All these were done with the target to:

- support decisions which will increase the enterprise value,
- adjust the data distort which was caused by legal accounting processes,
- adjust the financing structures by items undetected in the enterprise balance sheet,
- define operating assets and related costs and revenues.

Institutions which monitor Economic Value Added in conditions of the Czech Republic are:

1. Ministry of Industry and Trade of the Czech Republic which issues financial analysis of business sector where it uses „experimental calculation of Economic Value Added“. MPO ČR [47] divides enterprises according to Economic Value Added (EVA) in four categories:
   - enterprises which create EVA, i.e. their Return on Equity (ROE) is higher than alternative capital cost,
   - enterprises do not create EVA but their ROE is higher than risk-free rate,
   - enterprises have positive their Return on Equity (ROE) but it is lower than risk-free rate,
   - enterprises in loss, their Return on Equity (ROE) is lower than 0.

2. Czech Capital Information Agency of the Czech Republic (ČKIA).

According to the annual list TOP 100 EVA in the Czech republic [48] made by this agency for owners and shareholders it has been the most profitable in long term to invest in stakes in companies in telecommunication area (mobile operators, Telefonica O2 a T-Mobile, energy sector (e.g. ČEZ) or in industry (e.g. ŠKODA AUTO, OKD, Continental HT Tyres etc.

As Sarbapriya [29] states the managerial control system based on Economic Value Added has been implemented by tens large, publicly trade-able companies including AT&T, Coca-Cola, Quaker Oats Eli Lilly, Siemens and others.

The researched sample is formed by data and information of a selected company. According to CZ NACE classification the researched enterprise belongs among middle-size enterprises, it employs more than 50 but fewer than 250 employees. Since its establishment the enterprise has operated in industrial production. The headquarters of the enterprise is in West Bohemian region. It belongs among one of the most significant employers in the Czech Republic.

Table 2 summarizes economic results of the selected enterprise in 2008 – 2012. There are quantified the values EBIT (Earnings Before Interest And Taxes), WATT (Weight Average Costs of Capital), indicators EVA (Economic Value Added) and ROE (Return on Equity).

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
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<tbody>
<tr>
<td>EBIT (thousands CZK)</td>
<td>76 984</td>
<td>77 380</td>
<td>38 531</td>
<td>12 207</td>
<td>62 078</td>
</tr>
<tr>
<td>WACC (%)</td>
<td>10,57</td>
<td>11,18</td>
<td>8,73</td>
<td>8,49</td>
<td>7,20</td>
</tr>
<tr>
<td>EVA (thousands CZK)</td>
<td>-43 547</td>
<td>-69 581</td>
<td>-46 400</td>
<td>-61 008</td>
<td>64 73</td>
</tr>
<tr>
<td>ROE (%)</td>
<td>9,29</td>
<td>5,78</td>
<td>3,53</td>
<td>0,94</td>
<td>5,51</td>
</tr>
</tbody>
</table>

The size of Weighted Average Cost of Capital (WACC), thus cost of capital corresponding with the level of income which investors expect for their investment in the enterprise (it is not real income but missed opportunity costs) and
corresponding risk has been quantified according to a generally accepted formula:

\[ WACC = r_d \times (1-t) \times \frac{D}{C} + r_e \times \frac{E}{C} \]  \hspace{1cm} (1) 

where:
- \( r_d \) foreign capital costs, i.e. average interest rate of foreign capital
- \( t \) income tax rate
- \( D \) foreign capital (Debt)
- \( C \) overall capital (E + D, Equity + Debt)
- \( r_e \) Cost of own capital (Return on Equity), i.e. shareholders required revenue
- \( E \) Size of own capital (Equity)

The basic model often used in Anglo-Saxon countries – Capital Asset Pricing Model (CAPM) will not be used for quantification of costs of own capital. But for the reasons of insufficiently liquid and allocation ineffective capital market of Czech economy, it will be used the Neumaiers’ method. Idea of the Neumaiers’ method quantification of costs of own capital is supported also by the Ministry of Industry and Trade of the Czech Republic (MPO ČR). The calculated interest rate is then just simple total of non-risk securities revenue [49] and risk surcharge.

\[ WACC = r_f + r_{LA} + r_{prod} + r_{finstab} \]  \hspace{1cm} (2) 

where:
- \( r_f \) non-risk asset revenue
- \( r_{LA} \) enterprise size characterizing indicators function
- \( r_{prod} \) production force creation characterizing function
- \( r_{finstab} \) assets and liabilities relation characterizing indicators function

Results development of Economic Value Added concept application into financial management of the selected enterprise is practically illustrated in Figure 3 [50]. Development of Earnings Before Interest and Taxes (EBIT) values is shown in contrast with Economic Value Added (EVA) values, which testifies the creation or damage of enterprise value.

Fig. 3 Development of economic performance indicators in a selected company 2008-2012

IV. CONCLUSION

Current conditions of globalized economy request to develop and improve enterprise financial management. Although in the conditions of the Czech Republic there still prevails the classical approach to enterprise performance evaluation which is based on monitoring the traditional financial analysis indicators, continuously there has been a shift towards enterprise performance evaluation through value creation. These are new value criteria of value based management concept which emphasizes maximization of value added for owners/shareholders. At present there are a lot of methods how to measure this value.

In recent years the Economic Value Added (EVA) indicator has succeeded as its wide range of enterprise performance measurement has been „discovered“ by still higher amount of business entities in the Czech Republic and abroad. The results of EVA values long-term monitoring by business entities in the Czech Republic show that higher economic value added is generated by business entities of manufacturing industry and energetics.

At present in enterprise practice economic value added (EVA) is applied as:
- an enterprise economic performance management tool, method and concept,
- an enterprise evaluation tool and method within financial analysis,
- a tool, method and concept used in inter-company comparison,
- enterprise pricing tool,
- management material incentives tool.

All activities (including investment) which the enterprise carries out in a certain period are assessed in relation with the enterprise value for owners (Shareholder Value). Therefore the enterprise should develop its activities so as EVA or MVA values increase in long-term (are positive) or equal zero.

The results of the performed research including the results of the case study prove that enterprise performance evaluation on EVA basis takes the time factor and market risk into account and therefore provides a more accurate image about the enterprise financial performance. At the same time it is also necessary to consider disadvantages and limitations connected with Economic Value Added. The most often discussed weakness of EVA, its setting and quantification in enterprise practice is especially the absence of standardized adaptation process of input accounting parameters to economic model which brings unwanted element of subjective evaluation into enterprise evaluation concept according to EVA.

Although the traditional financial performance indicators (EBIT, ROE) show positive values currently they do not grasp the shareholder value creation and present a distorted image of the enterprise performance.

The Balanced Scorecard concept - balanced results card - tries to remove disunity and insufficiency of enterprise targets and defined strategies. This concept together with other concepts application, e.g. EVA or ABM (Activity Based Management) and their synergetic effects help business entities to maintain their effectiveness, success, economic performance and therefore also long-term competitiveness.
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