M&A Performance and Economic Impact: Integration and Critical Assessment of Methodological Approach

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Abstract

Purpose of the article: Existing methodologies employed within the M&A performance framework are investigated and critically discuss.
Methodology/methods: The research has been carried out as a structured assessment of past literature. The findings from scientific articles and studies by various scholars have been categorized, grouped and summarized to discern a meta-analytic view of the work carried out to date.
Scientific aim: The conducted research seeks to ascertain and evaluate theoretically existing methodologies used in empirical studies that would allow proper and critical understanding of the results of various findings in the holistic and global M&As area.
Findings: The research elaborates on several key developments in M&A methodology and performance studies carried out in empirical works during the last two decades. The findings help to independently and objectively assess performance of M&A from a holistic perspective.
Conclusions: Each methodology measuring either M&A performance on a corporate level or effects of M&A on the economy level shall be interpreted and relied on with caution as each of them dispose their limitations whereas application of these methodologies is subject to data availability and case specific.

Keywords: M&A, methodology, M&A performance, event study, accounting study, case study, strategic management, trends, economic growth

JEL Classification: G34, N1, D2, O1
Introduction

Over the last century there have been six merger and acquisitions (henceforth M&As) waves. The common characteristics of each wave differ. Hauser (2015) observes and identifies the last (sixth) merger wave to have occurred during 2003–2008. Hauser (2015) describes that the sixth merger wave was circumstances and initiated by the Federal Reserve introducing low interest rates with the aim to counteract the economic recession. By lowering interest rates the speculative bubble in real estate grew rapidly. This created worldwide additional demand for mortgage backed securities and other debt securitization. It shall be remarked that purely cash financed M&A deals was common characteristic of the sixth merger wave. Private equity buyers bought firms with the covert goal to divest them as soon as the market pushed the value of the firm. The sub-prime crisis caused that it was not possible anymore to have access to cheap debt and equity investors by 2007. Subsequently, M&A transactions were withdrawn which circumstanced uncertainty and caused a domino effect that ended the sixth merger wave in 2008. Despite the explosion of the sixth merger wave in 2008, currently economists, scholars and business practitioners share their insights and awareness that global M&A market is squarely in the middle of a seventh wave. Despite the challenges and uncertainties brought by political shockwaves, Brexit negotiations, the nature of Trump’s Presidency, French and German elections, the total number of M&A deals sought 16,194 transactions while total value of these deals in 2016 exceeded 3,1 trillion USD. It is the third highest deal value since 2007.

Considering prevalence and significance of the M&As deals, these corporate events have long attracted interest from academics trying to justify and foresee outcomes of the transactions. Meglio, Risberg (2010) remark that despite the existing research and existing studies, scholars and business practitioners do not dispose solid foundations of the M&A’s outcomes. Today there exists a large amount of empirical research analyzing M&As from the perspectives of different paradigms (although the functionalist one prevails), using different methods and studying different units of analysis. The ability to say anything meaningful about the profitability and expediency of M&As depends critically on confidence in the methods and measures from which insights are extracted (Bruner, 2004).

This theoretical paper reflects on M&A field from the perspective of existing methodology used to determine M&As performance (i.e. how M&As affect shareholder wealth), to measure how M&As are affected by economic variables, to measure how M&As affect macroeconomic variables. It is sought to properly structure theoretical background, identify new trends and base itself on most relevant academic theories. While findings are well structured review of the existing and most current literature rather than based on original dataset, conceptual model of the article foresee a methodological framework integrating methodologies measuring M&A performance on a corporate level and methodologies measuring consequences and effects of M&As on the economy.

M&As represent massive asset reallocation within and across industries, often enabling firms to double in size in matter of months on a microeconomic level. On a macroeconomic level, as mergers tend to occur in waves and cluster by industry, it is easily understood that such transactions may radically and swiftly change the competitive architecture of affected industries.

It is appropriate to consider the latest findings along with earlier studies to synthesize some insights from the literature. Over the years, several studies have been done by researchers and practitioners to understand the significance of adopting M&A strategy by organizations. The motivation has been to understand whether the perceived benefits
from this strategy have accrued or not. They have studied whether these acquisitions are value enhancing or destructive strategies for acquiring organizations.

The purpose of the paper is to investigate and critically discuss existing methodologies employed within the M&A performance framework. Following objectives are being raised:

1. Identify and critically discuss existing methodologies measuring M&As performance on a corporate level;
2. Identify and critically discuss methodologies measuring consequences and effects of M&As on the economy;
3. Integrate methodologies measuring M&As performance on a corporate level and methodologies measuring consequences and effects of M&As on the economy into theoretical methodological framework enabling scholars and practitioners to evaluate M&A performance from a holistic perspective.

The research has been carried out as a structured assessment of past literature. The findings from scientific articles and studies by various scholars have been categorized, grouped and summarized to discern a meta-analytic view of the work carried out to date. While interpretations and conclusions are not statistically evaluated, they arise by taking integrative and synergic concepts of various studies.

The research elaborates on several key developments in M&A methodology and performance studies carried out in empirical works during the last two decades. The findings help to independently and objectively assess performance of M&A from a holistic perspective.

1. Methodologies measuring M&As performance on a corporate level

Sedláček et al. (2011) conclude the well prevalent practice and remark that studies dealing with analyses of the development in the M&A market are predominantly based on global database systems, such as Mergerstat or Thomson Reuters, which largely contain data on combinations of enterprises traded in public markets. To measure activities in the M&A market these studies use time series reflecting the number of company combinations implemented in the investigated period and the value of the total equity entering a combination.

Meglio, Risberg (2010) sought understanding and investigated the variety of meanings M&A scholars attribute to the definition of „M&A performance“. Authors support that inconsistent findings relative to M&A performance research are subject to common practices of the existing studies that they compare different measures as if they were measuring the same feature of the organization. Figure 1 summarizes findings of Meglio, Risberg (2010) and depicts that M&A performance is an ambiguous construct with common lack of consensus on how to measure it.


Zollo, Meier (2008) acknowledge existence of massive amount of research done and little or no agreement on across and within the disciplines (e.g. strategic management, corporate finance, and organizational behavior literature) on how to measure acquisition
performance. Researchers introduce approaches varying along several dimensions, from subjective (e.g., qualitative assessments of degrees of synergy realization, of integration process efficacy, and of strategic gap reduction) to objective measurement methodologies (e.g., financial and accounting figures), from short-term (e.g., a few days before and after the acquisition announcement) to long term (up to five years after the closing) time horizon, from an organizational level of analysis (e.g., improvement of...
Table 1. Classical methodologies measuring M&A performance.

<table>
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<tr>
<th>Measure</th>
<th>Definition of failure and methodology, metrics</th>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>Accounting based measures</td>
<td>Failure exists when the adjusted (for industry and size effects) post-merger returns of the combined firm are lower than the average size and industry adjusted pre-bid returns of each of the merging firms. Examples of accounting metrics include ROA, return on investment, cash flows <em>etc.</em></td>
<td>Synergies obtained from an acquisition are reflected in long-term accounting measures. Measure direct effects as opposed to CARs which measure investors’ expectations for the future.</td>
<td>Narrowest measure as they gauge only economic performance. Reflect past performance of the Firm. Aggregate data and not information for specific acquisitions. Should be avoided in cross border acquisitions due to the different accounting standards from country to country.</td>
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<td>Short term stock market based measures</td>
<td>Researchers compare the returns to shareholders of both bidders and targets during a period surrounding the takeover announcement (usually some days), to “normal” returns from a period (<em>e.g.</em> from 120 to 30 days) unaffected by the event. The acquisition is considered to be successful if the CARs are positive.</td>
<td>Direct measure of stockholder value. Data are easily accessible for all publicly traded firms.</td>
<td>Short-run studies they measure investors’ expectations and not realized performance. Cannot be used for privately held firms. Fail to take into account that acquisitions have multiple motives.</td>
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<td>Long term stock market based measures</td>
<td>In long-term studies, based on the premise that an acquisition may have a negative impact on the long-run wealth of shareholders researchers evaluate post-merger performance of acquirers usually some years after the deal closure (<em>e.g.</em> 5 years).</td>
<td>Direct measure of stockholder value (<em>Lubatkin, Shrieves, 1986</em>). Data are easily accessible for all publicly traded firms (<em>Campa, Hernando, 2004; Lubatkin, Shrieves, 1986; Schoenberg, 2006</em>).</td>
<td>Cannot be used for privately held firms. Fail to take into account that acquisitions have multiple motives.</td>
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<td>Managers subjective assessments</td>
<td>Executives of the acquiring firm are asked to rate the extent to which the original goals set before the acquisition are effectively materialized or not. Questions refer to both financial (<em>e.g.</em> ROA, return on investment, sales growth, growth in profits) and nonfinancial factors (<em>e.g.</em> managerial prestige, competitive position, personnel development possibilities). Failure exists when expectations are higher than their materialization.</td>
<td>Suitable when researchers encounter problems obtaining objective measures of performance. M&amp;A performance is captured as a multidimensional phenomenon. Takes into consideration that M&amp;As have multiple motives.</td>
<td>Responses may be subject to managerial bias. Need for multiple respondents.</td>
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*Source: modified by author, Papadakis, Thanos (2010).*
firm performance or competitive position) to a process or transaction level (e.g., quality of execution of the post-acquisition plans, magnitude of premium paid, etc.). Similarly, Papadakis, Thanos (2010) summarize existing empirical literature and conclude with respect to the measurement of the performance of M&A that finance and economic scholars have often relied on objective criteria such as accounting returns and stock-market-based measures while strategic management and organizational behavior scholars have often employed managers’ personal assessments regarding the materialization of the objectives set before the M&A.

After conduction of a review of 88 empirical articles published in top management and finance journals during the period between 1970 and 2006 utilized in M&A research, Zollo & Meier (2008) identified 12 significantly different approaches to the problem of measuring M&A performance. Figure 2 identifies each approach and presents corresponding popularity measured in total number and percentage of the sample. It becomes evident that the largest group of studies (35, or 40% of the total) used the short-term window event study method. The use of long-term accounting measures, which is found almost entirely in strategic management and organization studies journals, comes in a strong second, with 25 studies (28%). Long-term window event studies, a measure growing in popularity in finance journals, were used in 17 articles (19%).

Papadakis, Thanos (2010) elaborate further on the study by Zollo, Meier (2008) who concluded that the vast majority of the published research on the performance of M&A can be classified into three research streams. Firstly, researchers have relied on accounting-based measures for evaluating the performance of M&As (e.g. Kusewitt, 1985; Lu, 2004; Ramaswamy, 1997; Zollo, Singh, 2004). Secondly, scholars have employed stock market based measures (e.g. Agrawal et al., 1992; Haleblian, Finkelstein, 1999; Markides, Oyon, 1998; Sudarsanam, Mahate, 2006). Finally, researchers have relied on managers’ personal assessments regarding the effective materialization of the original goals set before the M&A (e.g. Angwin, 2004; Capron, 1999; Homburg, Bucerius, 2006; Papadakis, 2005).

Considering literature review above and numerous scientific studies with respect to methodologies employed to measure M&As performance on a corporate level, Table 1 summarizes the approach, strengths, and weaknesses of most popular and applicable methodologies measuring M&As performance on a corporate level, namely accounting based measure, short- and long term stock market based studies, managers’ subjective assessments.

2. Methodologies measuring consequences and effects of M&A on the economy

When assessing methodologies measuring consequences and effects of M&As on the economy, it is noticed that while there are numerous relatively well established and examined methodologies to measure M&As performance on a corporate (e.g. firm) level, a scarce and significantly lower amount of studies dispose the scope of analyzing and measuring consequences and effects of M&As on the economy and society. This is primarily due to the fact that M&A and Greenfield investments are entry modes of the foreign direct investment. Subsequently, it is being inferred throughout the literature that effects and methodologies to measure effects of M&A on economy are similar to those of FDI. Furthermore, it shall be kept in mind that M&As are corporate events significantly affected by macroeconomic developments and only the largest and only significant M&As impact economies on a considerable and measurable scale. For instance, Noordin et al. (2015), Trevino et al.
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(2002), Billington (1999), Schneider, Frey (1985) argue that M&As are determined by favorable foreign economy, which is reflected by the size of the potential market, economic growth, and stability of macroeconomic environment. Despite these obstacles and limitations, herewith below follows a summary of the identified trends and practices in the methodologies measuring consequences and effects of M&A on the economy and society.

Morley, Ward (2009) explored consequences of M&A for companies and employees involved, as well as for the wider economy, on the basis of in-depth company case studies in 25 EU Member States and Norway. Authors acknowledge that M&A are a major feature of market economies which have potentially conflicting effects on competition. According to conventional economic theory, M&A deals tend to increase degree of monopoly power and so reduce competition and its beneficial effects on economic efficiency. However, in reality, in a monopolistic world where size matters, they can increase the effective degree of competition. Morley, Ward (2009) examined particular merger or acquisition cases in the different EU Member States that have occurred in recent years and considering these various aspects. The invoked case study approach enabled Morley, Ward (2009) to evaluate wider effects of M&A on the economy, with regard to the extent to which the merger led to an improvement of the performance of the sector concerned in the country, or region, in question, and how far this benefited the national or local economy.

Maček (2012) remarks that due to problems with obtaining data there are not many studies dealing with effects of M&A on the economy level. Furthermore, Maček (2012) remarks that existing studies mostly focus on the analysis of individual macroeconomic or financial consequences or relate to a group of sectors or companies. The author proposes to use and employ the total analysis (Walras) in her study in order to be able to recognize stylized facts and eventual differences among groups of countries. Furthermore, the author joins empirical facts about experiences of individual microeconomic units or countries. Finally, Maček (2012) acknowledges relevance of and performs questionnaire consisting of questions in the fields of effects of M&As, government reactions and the media relation to these processes in European countries. Employment of a questionnaire is not a new approach to measure M&As effects on the economy and society. For instance, Vaara et al. (2001); EGIP (2005); GFC/Net (2007) have also employed questionnaires in order to replace the lack of data on M&A with interviews of government officials or journalists from individual countries.

Neto et al. (2008) investigated whether aggregate foreign direct investment (FDI), cross border mergers and acquisitions (M&A) and Greenfield investments affect economic growth based on a panel data of 53 countries over the period 1996–2006. Researchers created a growth model and examined the contemporaneous correlation of FDI, cross border M&A, Greenfields and GDP growth. Furthermore, the authors employed both Granger causality tests between each of the three investment series and growth and single growth equations with the aim to examine this relationship. The retrieved evidence by Neto et al. (2008) suggests that there is bidirectional causality between FDI, M&A and growth. Furthermore, Neto et al. (2008) conclude that economic growth Granger causes Greenfields, but the reverse is not true. The estimation of the growth equation enabled authors to conclude that FDI through M&As has a negative effect on the economic growth of developing countries, but insignificant on developed countries.

Krstevska, Petrovska (2012) elaborated on economic impacts of foreign direct investments (FDI) on the case of Macedonian economy by employing a panel regression technique. The performed research enabled
authors to conclude that while on the one hand FDI inflows were an important factor for GDP growth and ex-port performances of the Macedonian economy, on the other hand, the FDI impact over employment is negative mainly due to the low level of green field investments and non-attractiveness of the labor intensive industry for the foreign investors.

Doytch, Cakan (2011) analyzed the impact of mergers and acquisitions (M&A) sales on economic growth in the primary, manufacturing and services sectors by applying Generalized Method of Moments (GMM) estimator, which controls for endogeneity of M&A, and found no support of the hypothesis that M&A activity contributes to economic growth, except for growth of the services sector. The neoclassical Solow-Swan, Ramsey-Coopmans-Kass growth model was utilized by Doytch, Cakan (2011).

3. Methodological framework integrating methodologies measuring M&As performance on a corporate level and methodologies measuring consequences and effects of M&As on the economy

Considering findings of the literature review and research presented in the first and second sections of this paper, a methodological framework integrating methodologies measuring M&A performance on a corporate level and methodologies measuring consequences and effects of M&As on the economy is created and presented in Figure 3.

On a corporate level, there are three levels of analysis (task, transaction and firm level) which are linked by a causal, unidirectional, logical chain. Similarly, it can be argued that task-, transaction- and firm level analyses are necessary, but not sufficient, condition to the following level of analysis. Task level integration process performance does positively

Figure 3. Methodological framework integrating M&A performance methodologies and methodologies measuring economic impact of M&As. Source: created by authors.
influence the likelihood of creating value through the entire transaction. At the same time, the value created through the acquisition will have a positive effect on the overall firm performance, since the exploitation of synergies, cost and revenue improvements are clearly included in consolidated accounting statements, which in turn will be reflected in stock price movements and consequent returns. Short-term event studies allow to measure M&A performance during the event of M&A announcement. Continuing M&A performance measurement with professionally and methodologically performed accounting based studies, long term event studies and managers’ subjective assessments allows to conduct a broad and valid M&A performance analysis on a corporate level.

When expanding the corporate M&A performance measurement model and introducing dimension of national economies, methodological framework is supplemented with the recommendations to include total analysis (Walras), case study (questionnaire) and economic growth model (including Granger causality and single equations). The proposed methodologies allow grasping and measuring bi-directional M&A performance on a corporate and national level.

4. Discussion and conclusions

This paper identified and critically discussed existing methodologies measuring M&A performance on a firm level, and methodologies measuring consequences and effects of M&As on the economy. Furthermore, the last paragraph of the article introduced a new theoretical framework which integrates methodologies measuring M&A performance on a corporate level and methodologies measuring consequences and effects of M&A on the economy. When discussing the paper, one can argue that research shall focus either on the micro- or macroeconomic dimension. However, it shall be weighted that M&A are corporate events on the one hand, while they are significantly circumstanced by macroeconomic developments on the other hand. Therefore, they can’t be discussed isolated. By discussing various methodologies, approaches and integrating framework it is sought to increase awareness and importance of critical evaluation in assessing M&A performance. It is recommended to improve the proposed theoretical framework by constructing mathematical relationships enabling to examine applicability and feasibility of each method.

Following conclusions can be drawn from the extensive literature review and structured assessment of past literature and studies:

1. Definition of a term “M&A performance” varies between scholars from financial- to non-financial perspectives and approaches.
2. Short term and long term event studies, accounting studies and surveys of executives (case studies) are most frequently used and best established methodologies measuring M&As performance on a corporate level.
3. There are not many studies dealing with the effects of M&A on the economy level due to the problems with obtaining data.
4. Total analysis (Walras), case study (questionnaire), economic growth model (including Granger causality and single equations), panel regression technique, Generalized Method of Moments (GMM) estimator and neoclassical Solow-Swan, Ramsey-Coopmans-Kass growth model are recommended to be invoked when measuring consequences and effects of M&As on the economy.
5. The initiated methodological framework integrating M&A performance methodologies and methodologies measuring economic impact of M&As supports recommendations to consider holistic perspective when assessing determinants and impact of M&A.
6. Each methodology measuring either M&A performance on a corporate level or
effects of M&A on the economy level shall be interpreted and relied on with caution as each of them dispose their limitations whereas application of these methodologies is subject to data availability and case specific.

Future research and further conceptualization shall be directed to empirical investigation in this field and direction. It is recommended to perform an actual and case specific study elaborating on all the methodologies discussed in the paper. The findings regarding methodological limitations raise awareness of applicability of the publicly presented results of M&A performance and implications. Therefore, scholars, business practitioners and policy makers shall be careful when making decisions.

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