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# The shareholder value effects of using value-based performance measures: Evidence from acquisitions and divestments[☆]

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ABSTRACT

Value-based (VB) management is an approach that directs corporate actions toward the objective of creating shareholder value. However, previous studies on the performance and shareholder value effects of VB performance measures have yielded inconsistent evidence. This inconsistency is at least partially attributable to the failure of corresponding studies to investigate the effect of VB measures on specific decisions that affect performance. This paper focuses on mergers and acquisitions (M&As) as important managerial decisions to analyze the performance effects of VB measures by comparing the users and non-users of such measures. Based on a sample of 235 acquisition and divestment announcements of listed German firms between 2003 and 2012, we provide evidence that market reactions to acquisition announcements are more positive for firms that have implemented VB metrics. Conversely, the use of VB measures is not significantly associated with market reactions to divestments. We also investigate firm performance in accounting measured over a long term but find no conclusive differences between users and non-users of VB measures for either acquisitions or divestments.

## 1. Introduction

This study investigates the shareholder value effects of using value-based (VB) performance measures for mergers and acquisitions (M&As).[1] VB management (VBM) systems are integrated management frameworks that encourage managers to engage in actions that maximize shareholder value (Rappaport, 1998; Scheipers et al., 2003). VB performance measures are central components of VBM systems that operationalize the abstract goal of shareholder value creation. The aim of using VB metrics is to mitigate agency problems and facilitate decision making.

One key question for practitioners and researchers is whether using VB performance measures positively affects shareholder value (Ittner and Larcker, 2001; Lueg and Schäffer, 2010). Although VB performance measures have received much attention from managers and researchers, empirical evidence of their effects on firm success remains both limited and inconclusive (Ittner and Larcker, 2001; Lueg and Schäffer, 2010; Rapp et al., 2011). Previous research has typically examined performance effects from one to five years after a VBM system is adopted. However, it is difficult to determine or unanimously agree upon a well-defined event date or adoption period because the implementation of a VBM system takes months or even years and typically involves multiple phases (Wallace, 1997). Furthermore, the effects of VB performance measures are difficult to isolate from the effects of other confounding events over long event windows (McWilliams and Siegel, 1997). Therefore, Lueg and Schäffer (2010) suggest conducting short-window event studies of clearly defined events to complement previous research that has investigated whether VBM affects performance.[2]

We answer that call and adopt an event-study methodology to

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[1] We define M&A activities as strategically motivated purchases and sales of property rights in firms or in parts of firms to third parties.

[2] Our argument in favor of short-window event studies is not intended to disregard long-window event studies and their important results. The two approaches offer different opportunities to investigate the effects in question. The strength of the short-window event studies with a clearly defined event is that confounding events can be largely eliminated. Thus, the observed effects can be attributed to the hypothesized cause with greater probability. However, those effects could revert within a short period, casting doubt on their economic significance; the absence of this risk is a clear advantage of long-term event studies. We focus on the short-window methodology to add a new perspective to the literature. Our robustness checks use long-window analyses to challenge our short-window results.

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investigate whether using VB performance measures positively affects shareholders' valuation of the firm, which is the ultimate objective of VBM. We focus on the effects of VB performance measures in terms of M&A activities for two reasons. First, M&As involve important management decisions in the pursuit and implementation of corporate goals. Second, the precise announcement dates[3] of M&A activities can be obtained from databases and verified by press releases, thus allowing us to conduct a short-window analysis.

We distinguish between acquisitions and divestments because the level of information asymmetry concerning the transaction object and the level of agency problems likely differs based on the type of M&A activity studied. On the one hand, *acquisitions* entail a wide range of growth opportunities for firms. However, they are accompanied by new risks and more severe agency problems.[4] We argue that investors react more positively to announcements of acquisitions when firms employ VB metrics for at least two important reasons. First, the use of VB metrics can facilitate the development and implementation of M&A strategies that increase shareholder value because VB metrics clearly reveal the net shareholder value effect of acquisitions. Second, research suggests that acquisitions can be motivated not only by increasing a firm's economic value but also by managerial self-interest (Morck et al., 1990; Haleblian et al., 2009). Because VBM systems seek to align the interests of management and shareholders by encouraging actions that maximize shareholder value, managers are more likely to make decisions that are congruent with shareholder interests when firms employ VB metrics.

In contrast, *divestments* enable firms to focus on core business and/or sell off unprofitable divisions (Kaplan and Weisbach, 1992; Gibbs, 1993; Lang et al., 1995). In divestments, decisions can be based on comprehensive and in-depth information. Furthermore, divestments are likely less prone to agency conflicts because they are often associated with managerial disadvantages. Empirical studies support the notion that managers do not have their own agendas in divestments, and these studies also generally find positive market reactions to divestment announcements (e.g., John and Ofek, 1995; Alexandrou and Sudarsanam, 2001; Lee and Madhavan, 2010). When shareholders' and managers' interests diverge less—as we assume is the case for divestments, in contrast to acquisitions—congruent decision making is more likely to occur regardless of whether a firm uses VB performance measures. Therefore, we predict that market reactions are not associated with using VB performance measures in divestment announcements.

We exploit a sample of 235 acquisitions and divestments involving listed German firms that were announced and completed between 2003 and 2012. We compute abnormal returns surrounding the acquisition or divestment announcements and analyze their association with the use of VB measures while controlling for certain transactional characteristics, the firms involved (e.g., corporate governance and firm strategy), and the transactional environment. As predicted, we find that the short-window market reaction upon the announcement of acquisitions is positively associated with the use of VB measures. In the case of divestments, the use of VB measures is not associated with significant short-window market reactions. Furthermore, we consider the sophistication of the VBM system by determining whether firms use VB performance metrics only for their control systems or also to set compensation levels. We do not find significant differences with respect to VBM system sophistication for either acquisitions or divestments.[5]

We conduct numerous additional analyses to test the robustness of our findings and to shed light on longer-term effects. In particular, we validate our choice of the dependent variable and consider that our inferences might be affected by sample selection and endogeneity caused by firms' deliberate choice both to engage in M&As and to use VB metrics. These robustness tests support our inferences. Although long-window event studies have certain challenges, we complement our analysis by investigating longer-term performance implications. When we use longer-term stock-based performance measures, we find that the short-term capital market effects are persistent over the longer term. However, we do not find conclusive evidence of an association between the use of VB metrics and accounting-based performance measures. This lack of an association implies that the use of VB measures is positively associated with the capital market reaction to acquisition announcements but does not lead to better post-acquisition performance. Instead, the use of VB metrics is likely to reduce the general risk to investors that an acquisition is not in the shareholders' interest. Overall, our results reveal that using VB measures has positive stock performance effects in situations in which important and complex management decisions must be made and greater agency problem will likely arise. Thus, VBM helps mitigate the agency problem; however, its incremental value is greater in acquisitions than in divestments because agency problems are more severe in acquisitions than in divestments.

Our study makes several contributions to the literature. We contribute to the literature on the performance effects of VBM systems. We provide evidence for how the use of VB performance measures affects shareholder value in terms of specific management decisions, particularly in M&A activities. Acquisitions and divestments are potentially characterized by different levels of uncertainty and agency conflict. Thus, this setting is unique for investigating the importance of VB metrics as instruments to mitigate agency problems and facilitate decision making in different contexts. Our use of a clearly defined event helps us shed light on the question of whether VB metrics lead to increased shareholder value. Because we show that VBM systems are a powerful device to reduce agency problems and to align the interests of shareholders and management, our study also contributes to the literature on management control systems. Furthermore, we add to the literature on the success of M&A activities. Our study shows that the capital markets react positively to the use of VB performance measures. Therefore, our results support researchers and practitioners who attempt to find management accounting instruments that increase the probability of M&A success. Finally, previous VBM research has largely focused on Anglo-Saxon markets. However, these markets are typically characterized by high degrees of capital market orientation and different corporate governance structures (Goergen et al., 2008). In line with the notion that previous results on the performance effects of a VBM system cannot be transferred to other markets (Brück et al., 2016), we extend scholarly research to a setting in which the imputed cost of capital already plays an important role in traditional cost accounting and thus potentially reduces the advantages of implementing VBM.

The remainder of the paper proceeds as follows. Section 2 outlines the relevant findings of the related literature and presents our hypothesis development. Section 3 describes the sample and research design. Section 4 presents our results, and Section 5 concludes.

[3] We took great care to verify all announcement dates via press releases. We also considered whether an announcement was disclosed after the close of trading. However, many of the activities involved in the M&A process occur before the public announcement date. Thus, we acknowledge as a potential limitation of our approach that the announcement date of an M&A might not be the date upon which the market becomes aware of M&A activities.

[4] In this respect, several studies indicate that acquisitions frequently destroy the acquiring firm's shareholder value; these studies also estimate that acquisitions have a mean failure rate of approximately 50–70% (Bruner, 2002; Haleblian et al., 2009).

[5] On the one hand, this "no finding" might cast doubt on whether our dichotomous operationalization of VBM sophistication is appropriate. On the other hand, one might speculate that investors view the signal that a firm uses VB measures to act in the investors' interest as credible regardless of whether the firm uses VB performance metrics simultaneously for compensation purposes. Thus, we conclude both that the introduction of a VBM system is costly and that management's reputation hinges on the development of VB performance metrics even when VB performance measures are not used to determine compensation.