Journal of Banking & Finance 37 (2013) 2378–2391

Contents lists available at SciVerse ScienceDirect

Journal of Banking & Finance

journal homepage: www.elsevier.com/locate/jbf

Drivers of holding period firm-level returns in private equity-backed buyouts

Petri Valkama [a,b], Markku Maula [b,*], Erkki Nikoskelainen [c,d], Mike Wright [e,f]

[a] McKinsey & Company, Lönnrotinkatu 5, FI-00120 Helsinki, Finland
[b] Aalto University, School of Science, Department of Industrial Engineering and Management, PO Box 15500, FI-00076 AALTO, Finland
[c] Hanken School of Economics, PO Box 479, FI-00101 Helsinki, Finland
[d] 3i Group plc, PO Box 7847, 103 99 Stockholm, Sweden
[e] Center for Management Buy-out Research, Imperial College Business School, Imperial College, Exhibition Road, London SW7 2AZ, United Kingdom
[f] Ghent University, Dept. Management, Innovation and Entrepreneurship, Tweekerkenstraat 2, B-9000 Ghent, Belgium

ARTICLE INFO

Article history:
Received 10 February 2011
Accepted 27 January 2013
Available online 11 February 2013

JEL classification:
G24
G34

Keywords:
Private equity
Management buyout
Systematic risk

ABSTRACT

We extend the research on the drivers of holding period firm-level returns in private equity (PE)-backed buyouts by examining deal-, industry-, and macroeconomic-level drivers and their interaction. To conduct our study, we use a comprehensive and hand-collected dataset covering exited buyouts in the UK between 1995–2004, and we control for sample selection and investment risk. Our study shows that governance variables generally have a limited role in driving value creation but that use of a ratchet is positively related to both equity and enterprise value returns; we also find that leverage has a positive impact on median and top-quartile equity returns. Moreover, returns are driven by the size of the buyout and the acquisitions made during the holding period. With respect to macroeconomic and industry level factors, industry growth particularly drives buyout returns. However, the effect of industry growth is not uniform; its influence is particularly strong in insider-driven and divisional buyouts, in addition to top-quartile transactions.

1. Introduction

Leveraged buyouts and private equity (PE) play a significant role in modern financial markets (Kaplan and Strömberg, 2009; Cumming and Zambelli, 2010, forthcoming). Many studies have examined the corporate governance, productivity, and operating performance implications of buyouts and PE during the first and second waves of buyout activity since the late 1980s (Cumming et al., 2007; Jensen, 1993; Thompson and Wright, 1995; Renneboog and Simons, 2005; Guo et al., 2011). These studies are distinct from the literature relating to the drivers of value creation for equity holders in PE, which fall into the following three categories: returns on the announcement of the buyout, holding period target-firm returns, and fund-level investment returns. There is a substantial and established literature on the drivers of returns to pre-buyout shareholders on buyout announcement (Renneboog et al., 2007). Extensive studies have also examined the drivers of fund-level returns (Ewens et al., 2012; Ljungqvist and Richardson, 2003; Kaplan and Schoar, 2005; Diller and Kaserer, 2009).

Until recently, however, scant research had focused on the drivers of holding period target-firm returns or the risk-return performance of buyouts because post-transaction data are confidential. During recent years, several new studies on portfolio firm-level returns have been conducted (e.g., Nikoskelainen and Wright, 2007; Groh and Gottschalg, 2008, 2011; Acharya et al., 2013). However, even these recent studies of the deal-level determinants of buyout returns have suffered from data availability and methodological limitations. Furthermore, these studies have paid little attention to the combined effects of deal-, industry, and macroeconomic-level drivers on portfolio firm-level returns.

Although several previous studies have examined the effect of macroeconomic factors on fund-level returns (Phalippou and Zollo, 2005; Ljungqvist et al., 2008; Cumming and Walz, 2010; and Diller and Kaserer, 2009), the impact of macroeconomic and industry factors on portfolio firm level returns largely remains unclear. Recently, Groh and Gottschalg (2008, 2011) and Acharya et al. (2013) developed a methodology for measuring the risk-return performance of buyouts at the portfolio firm level. However, both studies used small samples (133 and 110 transactions, respectively), and these studies had limited corrections for sample selection biases because useful economic variables and whole-population samples were not available. Additionally, these studies do not examine return drivers and are limited to larger transac-

* Corresponding author. Tel.: +358 40 556 0677; fax: +358 9 4702 3095.
E-mail addresses: petri_valkama@mckinsey.com (P. Valkama), markku.maula@aalto.fi (M. Maula), erkki.nikoskelainen@iki.fi (E. Nikoskelainen), mike.wright@imperial.ac.uk (M. Wright).

0378-4266/$ - see front matter
http://dx.doi.org/10.1016/j.jbankfin.2013.01.042

tions. Nikoskelainen and Wright (2007) extended the analysis to include the effects of governance variables, but employ a less-developed methodology and do not examine macroeconomic factors. Guo et al. (2011) studied the impact of operational improvements and changes in market valuations on investment-level returns; however, they also exclude the majority of important macroeconomic variables and use a small and size-limited sample with limited adjustment for selection bias. Thus, there remains no accurate picture of the drivers of holding period returns in buyouts at the firm level that considers the impact of firm-level, industry-level and macroeconomic-level factors.

Previous efforts to examine the drivers of buyout returns have employed linear regression analyses and have therefore focused exclusively on average returns. However, for limited partners, performance persistence in PE makes it important to understand the drivers of high-performance buyouts (Kaplan and Schoar, 2005). Outliers are a recognized issue in PE research (Cochrane, 2005), but no studies thus far have employed a methodology that thoroughly accounts for them. Furthermore, although buyouts may be driven by either insiders or outsiders (Lichtenberg and Siegel, 1990) and may involve the purchase of full firms or divisions (Muscarella and Vetsuypens, 1990), these differences and their effects on returns have attracted little empirical interest. Studies of buyout returns have focused solely on either equity or enterprise value return (an exception is Nikoskelainen and Wright (2007)); this narrow focus may have resulted in significant information gaps.

This study addresses these limitations and makes five main contributions. First, we build on the studies of investment-level risk-return performance of buyouts by Groh and Gottschalg (2008, 2011) and Acharya et al. (2013) by employing the largest sample to date; we also utilize advanced methodologies to control for sample selection and to choose the most beta-similar peers for each buyout. Second, we extend the findings of prior fund-level studies by presenting the first examination of the impact of macroeconomic- and industry-level factors on investment-level returns. Third, we provide methodological extensions to prior studies on buyout returns by employing a more developed regression approach and improved correction for sample-selection biases. Fourth, we present the first study of the differences in return drivers between high- and low-performing deals. Finally, we add to the research on buyout heterogeneity (Lichtenberg and Siegel, 1990; Muscarella and Vetsuypens, 1990; Halpern et al., 1999) by providing evidence that shows that return characteristics and drivers are different for insider-driven buyouts and outsider-driven buy-ins, in addition to being different for divisional buyouts and whole-company buyouts.

Our results are based on the analysis of a unique hand-collected dataset of PE-backed leveraged buyouts in the United Kingdom; these buyouts were closed in 1994 or later and were exited between 1995 and 2004. The results show that buyout returns are driven by GDP growth, industry growth, and stock market returns. Industry growth has a disproportionately strong effect on top performers, indicating that industry allocation is a central performance driver. Governance variables play a limited role in driving value creation. However, the use of a ratchet – a performance-contingent equity stake for managers based on convertible securities – is positively related to both equity and enterprise value returns when contained in the terms of a transaction. Leverage has a positive impact on median and high-quantile equity returns, indicating that buyout investors efficiently use debt to improve the equity returns of successful transactions. In addition, returns are related to the size of the buyout target and to acquisitions made by the portfolio company during the holding period. Acquisitions made during the holding periods are particularly important in divisional buyouts, which supports the argument that buyouts create value through a shift to a more entrepreneurial approach in portfolio companies. Insider-driven buyouts achieve higher returns than outsider-driven buy-ins, and the influence of industry growth on returns is particularly strong in insider-driven and divisional buyouts. These differences are likely explained by information asymmetries that cause insider-driven MBOs to benefit from a general uplift in their sector or the economy because management has identified opportunities to exploit or reinvigorate when free from the former owners (Wright et al., 2000). Furthermore, insiders in buyouts are better able to avoid pitfalls and false promises of growth opportunities because they have insider knowledge.

2. Prior studies

2.1. Drivers of announcement returns to shareholders in public to private deals

We first review research examining the drivers of the returns to pre-buyout shareholders on the announcement of public to private (PTP) buyouts (see Cumming et al., 2007 for details). Pre-buyout shareholders obtain a higher price for their stock if outside acquirers compete for control with the proposed MBO (Easterwood et al., 1994). Renneboog et al. (2007), studying the second PE wave that began in the late 1990s, find that incentive realignment is one of the main sources of shareholder gains on the announcement of a PTP buyout. Although there is some debate about whether free cash flow (FCF) drives announcement returns, the balance of evidence for the UK, including Renneboog et al. (2007), finds that an expected reduction of FCF does not determine premiums. The tax benefits hypothesis does not appear to be supported. The higher premiums paid for firms with low pre-buyout leverage (Renneboog et al., 2007; Engel et al., 2007) suggests that there may be some benefit to be had from taking up unused debt capacity in this respect; however, it may also reflect the potential for performance benefits from the greater pressure to service debt post buyout. The share of debt in PE buyout financing structures is primarily related to debt availability conditions and contributes to increasing premiums paid to acquire firms (Axelson et al., forthcoming).

The undervaluation and under-performance of target share prices in the prior year drive announcement premiums (Renneboog et al., 2007), and these appear to be stronger if the acquirers are management buyouts (MBOs) or PE investor led buyouts (IBOs) but not if the acquirers are management buy-ins (MBIs). In continental Europe, while undervaluation is important, transactions promoted by family owners register higher abnormal returns (Geranio and Zanotti, 2012). The timing of the bid (in terms of whether it took place after the dot.com boom) was not a significant driver of shareholder returns (Renneboog et al., 2007); however, other evidence suggests that premiums during the second wave of buyouts were lower than during the first wave (Oxman and Yildirim, 2007). Oxman and Yildirim (2007) find that greater capital availability for PTP deals drives larger deals and higher returns and that current interest on long-term debt has a significant positive impact on the deal premium.

2.2. Drivers of fund level returns

With respect to fund-level returns, the evidence from more experienced funds suggests a learning effect (Kaplan and Schoar, 2005; Phalippou and Gottschalg, 2009), which is, in turn, associated with raising larger funds (Metrick and Yasuda, 2009). Fund returns are also influenced positively by syndicating investments (Cumming and Walz, 2010), by holding investments for shorter