

The role of private equity/venture capital investors on portfolio firm earnings management

Brian K. Baik*
MIT Sloan School of Management

May 25, 2020

*I thank Nemit Shroff and Rodrigo Verdi for providing invaluable guidance for this paper. I am also grateful to Natalie Berfeld, John Core, Jacquelyn Gillette, Michelle Hanlon, Suzie Noh, Georg Rickmann, Eric So, Andrew Sutherland, Joe Weber, Rachel Yoon, and seminar participants at MIT for their helpful comments. All errors are mine. Email: kbaik@mit.edu.

1 Introduction

I study whether private equity (PE)/venture capital (VC) fund managers (hereafter GPs) induce their portfolio firms to manage earnings, during GPs' fundraising periods. The question is motivated by prior PE/VC literature that some GPs manipulate their existing fund values during fundraising periods,¹ and/or time their fundraising periods when the funds are at their peak performance.² Meanwhile, most of the analyses in these studies focus on fund-level net asset values (NAVs), and do not discuss whether the superior performance is from better portfolio firm performance (i.e. earnings),³ or from higher multiples used to value the firms. This distinction is important because earnings management has implications for both performance peak and valuation manipulation hypotheses. Under the performance peak hypothesis, portfolio firm earnings management implies that performance peak itself is not as naive as it seems; under the valuation manipulation hypothesis, earnings management suggests that GPs tend to inflate portfolio firm performance. In this paper, I intend to fill this gap.

There are two reasons why GPs may influence portfolio firms to engage in earnings management during fundraising periods. First, theory predicts current fund performance matters for future fundraising success (e.g. Berk and Green, 2004; Chung et al., 2012), providing an incentive for the GPs to manage portfolio firm earnings. Second, GPs possess the ability to influence their portfolio firms because of the following non-mutually exclusive PE/VC investment characteristics: PE/VC funds (i) take majority stake ownership, (ii) take board memberships, and (iii) replace existing management with managers directly hired by the GPs.

Conversely, there are two reasons why portfolio firms would not engage in earnings man-

¹For instance, Jenkinson et al. (2013) find abnormal valuations in quarters immediately before the GPs' fundraising periods, whereas Barber and Yasuda (2017) and Brown et al. (2019) show the effect is constrained to low reputation GPs.

²e.g. Barber and Yasuda (2017).

³Exceptions are Chakraborty and Ewens (2018) and Hüther (2019); however, both studies do not particularly discuss portfolio firm earnings. Rather, they focus on portfolio firm level valuation (Hüther, 2019) and portfolio firm write-offs and reinvestments (Chakraborty and Ewens, 2018).

agement. The first reason is that, portfolio firms are under greater scrutiny when their parent GP is fundraising. For instance, Da Rin and Phalippou (2017) survey the Limited Partners (LPs)⁴ and find that they spend from seven to 31 days for due diligence when deciding to invest in a PE/VC fund. GPs may choose not to manage earnings anticipating the possibility that LPs may look through the managed earnings. Moreover, GPs are repeat players in the financial market, and therefore face reputational concerns (Cotter and Peck, 2001); detection of earnings management could deteriorate a GP’s ability to raise funds in the future. The second reason is because there may be other factors in fundraising that are more important than earnings of the existing fund’s portfolio firms. Some examples may be the decision of existing fund LPs to participate in the new fund (Hochberg et al., 2014), or the value of *realized* investments rather than the value of existing investments (Da Rin and Phalippou, 2017).⁵ If these factors dominate, GPs would focus on enhancing their soft skills (i.e. skillsets that are not quantifiable) or exiting their portfolio firms prematurely. Ultimately, whether GPs would manage earnings during their fundraising periods remains an open empirical question.

A challenge in testing my hypothesis is that financial statements are unavailable for US private firms. To address this challenge, I use a sample of firms in the UK, where both public firms and private limited liability firms are required to disclose financial statement information, subject to some size threshold.⁶ Furthermore, UK is the second largest PE/VC market in the world, and the largest in Europe, representing 22% of total PE/VC transactions in 2018 (Invest Europe, 2019). To create a sample of portfolio firm-years, I retrieve a list of PE/VC transactions in the UK, as well as information about the GP that invested in the portfolio firm, from Preqin. Then, I merge this dataset with Financial Analysis Made

⁴LPs are investors of PE/VC funds, and typically are institutional investors such as pension funds or college endowments. They do not have decision rights in PE/VC funds.

⁵If the GPs focus on realizing their investments rather than manage existing investment performance, GPs would inflate earnings immediately before they exit portfolio firms, which would not necessarily coincide with fundraising periods.

⁶Note that, most of the previous studies focus on US funds, and one concern may be that the results reported in these studies may not be generalizable to UK funds. To address this concern, in Appendix X, I show that higher NAV performance during fundraising periods exists in UK funds.

Easy (FAME), a Bureau van Dijk database that records financial statement information of both public and private companies in the UK. I ultimately create a sample of 5,339 portfolio firm-years that consists only of observations that are under PE/VC ownership.

To test my hypothesis, I estimate a model that examines whether a portfolio firm with at least one of the portfolio firm owner GPs are in the fundraising period exhibits higher degrees of earnings management. To measure earnings management, I use both real earnings management (REM) and accruals earnings management (AEM).⁷ Specifically, to proxy for REM, I use Roychowdhury (2006)’s REM measures, abnormal production costs and abnormal discretionary expenses. Abnormal production costs proxy for sales manipulation and overproduction,⁸ and abnormal discretionary expenses represent excessive value-destroying cost-cuts, such as reductions in R&D expense and training costs. To proxy for AEM, I use Kothari et al. (2005)’s performance-matched modified Jones abnormal accruals, to reduce concern that the results may stem from extreme firm performance, rather than from earnings management. To further control for time-varying portfolio firm fundamental characteristics, I include size (natural log of total assets), firm performance (ROA), leverage, and firm growth (changes in sales and natural log of portfolio firm age).⁹ In addition, as prior studies have identified that hiring better quality auditors may affect earnings management, I control for audit quality by including big four audit firm indicator. Last, I include transaction fixed effects and year fixed effects to address any time-invariant transaction-specific characteristics and time-varying investment characteristics, respectively.

⁷REM involves manipulating firm’s *real* activities, such as overproduction and aggressive cuts in R&D and has a negative effect on firm’s future cash flows; AEM, on the other hand, is defined as changes in accounting methods/estimates used to record a transaction in a firm’s financial statements, and does not incur much cash flow consequences.

⁸According to Huang et al. (Forthcoming), abnormal production can temporarily increase firm earnings in two scenarios. First, if a firm overproduces and increases inventory (without selling the product), fixed production costs are allocated to the overproduced inventory and inflate net income. Second, firms can sell overproduced products with heavy discounts. I explain the concept more in detail in section **X.X**.

⁹Dechow et al. (2010) summarizes why each firm fundamental characteristics may motivate firms to manage earnings. Poor firm performance can motivate managers to manage earnings. Firms with higher leverage may be induced to manage earnings to avoid violating debt covenants. For firms with high growth, earnings management proxies can be associated with measurement error. Last, firm size and earnings management may be negatively correlated, because larger firms would be under greater political/regulatory scrutiny.

Consistent with my hypothesis, I find that portfolio firms engage in overproduction (i.e. higher abnormal production costs) during the owner GP’s fundraising event, suggesting REM at the portfolio firm level. Economically, portfolio firm-years with a GP fundraising event is associated with 2.6% point higher abnormal production costs than firm-years without any fundraising event.¹⁰ This is consistent with Gompers et al. (2016) in the sense that operational improvements is one of important drivers of PE value creation. In contrast, I do not observe evidence of earnings management by reducing discretionary expenses, and of AEM. I conjecture that the lack of relationship between abnormal discretionary expenses and fundraising periods may occur because PE/VC ownership is associated with long-term innovation projects (Bernstein et al., 2016; Lerner et al., 2011) and GPs are unable to unwind these ongoing projects. On the other hand, based on prior evidence (e.g. Zang, 2012), I interpret that the high level of scrutiny during fundraising periods discourages GPs from engaging in AEM during fundraising periods.

Notwithstanding, two alternative explanations can justify the above findings. One interpretation is that abnormal production costs may simply occur due to better firm performance. To mitigate this story, I examine and show that earnings management is stronger for unsuccessful portfolio firms which GPs are more likely to write off (hereafter write-off firms). If the results are driven by firm performance, one should expect to observe stronger results for normal firms, rather than for write-off firms with weak financial performance (proxied by firm-years with negative shareholder equity). Indeed, my results demonstrate that write-off firms show greater REM. Specifically, write-off firms have 6.5% point higher and 9.9% point lower abnormal production costs and abnormal discretionary expenses, respectively, during fundraising periods. The results are also consistent with Chakraborty and Ewens (2018), who document that GPs (VCs in particular) delay writing off their portfolio firms until they close their subsequent fund. GPs may engage in earnings management to justify write-off firms’ going concern to the LPs.

¹⁰This is economically significant, given the median abnormal production costs without a fundraising event is approximately 41.5% of total assets.

Another explanation is that stronger REM is not necessarily value-destroying to the portfolio firms, but rather value-enhancing. In particular, GPs could enhance firm operating performance (e.g. Guo et al., 2011; Kaplan, 1989), and the main test results may be capturing the effects of PE/VC ownership. To address this interpretation, I compare the pre-post effects of PE/VC ownership and find that GPs *lower* REM once they invest in the portfolio firms. I show a positive relation between abnormal discretionary expenses and PE/VC ownership, indicative of lower REM. Interestingly, I find a *positive* association between PE/VC ownership and AEM. Overall, when augmented with the main test results, the findings suggest that GPs initially exploit AEM, but ultimately increase REM in order to support AEM, consistent with Kothari et al. (2016). In addition to the above test, I demonstrate that REM reverses once fundraising is finished, and portfolio firm profitability deteriorates post REM.

In my final test, in light of Brown et al. (2019)’s argument that LPs ultimately look through fund valuation management and GPs fail to fundraise, I examine whether higher average earnings management leads to worse fundraising outcomes for the GPs. I demonstrate that GPs with higher earnings management is associated with smaller subsequent fund size, consistent with Brown et al. (2019). However, the findings are conditional upon a GP’s successful fundraising; I intend to further test whether higher earnings management is related to lower fundraising probability in future drafts.

My findings contribute to the literature in three ways. First, I extend the PE/VC literature with respect to PE/VC fund reporting behavior during fundraising periods (Barber and Yasuda, 2017; Brown et al., 2019; Chakraborty and Ewens, 2018; Gompers, 1996; Hüther, 2019; Jenkinson et al., 2013), by identifying portfolio firm-level PE/VC fund performance/valuation manipulation. While prior research has shown that some GPs strategically time their fundraising periods or manipulate their fund performance, I show that PE/VC funds can influence their portfolio firm earnings to inflate PE/VC fund performance.

Second, I contribute to the accounting literature by demonstrating a case where institutional shareholders demand earnings management from portfolio firms. Past studies (e.g.

Bushee, 1998; Katz, 2009; Lisowsky and Minnis, 2020; Minnis, 2011; Morsfield and Tan, 2006; Roychowdhury, 2006; Zang, 2012) show that the presence of institutional ownership, regardless of public/private firm status, prohibits earnings management. In this paper, I demonstrate an example of institutional ownership being related to *higher* earnings management, under certain circumstances.

Finally, I contribute by documenting earnings management behavior of private firms with concentrated institutional equity ownership (i.e. PE/VC ownership). Prior studies that investigate private firm earnings management/quality (e.g. Ball and Shivakumar, 2005; Burgstahler et al., 2006) or financial reporting (e.g. Kausar et al., 2016; Minnis, 2011; Minnis and Sutherland, 2017) have focused on either comparing the behavior of private firms against that of public firms, or the relation between debt contracting and private firm financial reporting quality. My study enhances understanding of the relationship between private firms and their *equity* investors (i.e. GPs), and in particular, how the equity investors of these firms can influence the firms to alter their earnings management behavior. Understanding this relationship is important not only because they are economically large,¹¹ but also because recent findings suggest that equity investors of private firms are important users of financial statements (Lisowsky and Minnis, 2020).

The paper is organized as follows. Section 2 provides institutional details on private equity fundraising. Section 3 provides a literature review and develops my hypothesis. Section 4 illustrates my research design. Section 5 describes my data, sample selection process, and descriptive statistics. Section 6 presents the main test results of my hypothesis. Section 7 reports additional test results. Section 8 concludes.

¹¹For example, Kaplan and Strömberg (2009) report that PE funds took approximately 3% of the US stock market private; Metrick and Yasuda (2010) posit that PE/VC funds manage \$1 trillion capital worldwide.

References

- Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: Comparative loss recognition timeliness. *Journal of Accounting and Economics*, 39(1), arXiv arXiv:1011.1669v3, 83–128. <https://doi.org/10.1016/j.jacceco.2004.04.001>
- Barber, B. M., & Yasuda, A. (2017). Interim fund performance and fundraising in private equity. *Journal of Financial Economics*, 124(1), 172–194. <https://doi.org/10.1016/j.jfineco.2017.01.001>
- Berk, J. B., & Green, R. C. (2004). Mutual fund flows and performance in rational markets. *Journal of Political Economy*, 112(6), 1269–1295. <https://doi.org/10.1086/424739>
- Bernstein, S., Giroud, X., & Townsend, R. R. (2016). The Impact of Venture Capital Monitoring. *Journal of Finance*, 71(4). <https://doi.org/10.1111/jofi.12370>
- Brown, G. W., Gredil, O., & Kaplan, S. N. (2019). Do Private Equity Funds Manipulate Reported Returns? *Journal of Financial Economics*, 132(2), arXiv, 267–297. <https://doi.org/10.1016/j.jfineco.2018.10.011>
- Burgstahler, D. C., Hail, L., & Leuz, C. (2006). The importance of reporting incentives: Earnings management in European private and public firms. *The Accounting Review*, 81(5), 983–1016. <https://doi.org/10.2308/accr.2006.81.5.983>
- Bushee, B. J. (1998). The influence of institutional investors on myopic R&D investment behavior. *The Accounting Review*, 73(3), 305–333.
- Chakraborty, I., & Ewens, M. (2018). Managing performance signals through delay: Evidence from venture capital. *Management Science*, 64(6), 2875–2900. <https://doi.org/10.1287/mnsc.2016.2662>
- Chung, J.-w., Sensoy, B. A., Stern, L., & Weisbach, M. S. (2012). Pay for Performance from Future Fund Flows : The Case of Private Equity. *Review of Financial Studies*, 25(11), 3259–3304. <https://doi.org/10.1093/rfs/hhr141>
- Cotter, J. F., & Peck, S. W. (2001). The structure of debt and active equity investors: The case of the buyout specialist. *Journal of Financial Economics*, 59(1), 101–147. [https://doi.org/10.1016/S0304-405X\(00\)00083-0](https://doi.org/10.1016/S0304-405X(00)00083-0)
- Da Rin, M., & Phalippou, L. (2017). The importance of size in private equity: Evidence from a survey of limited partners. *Journal of Financial Intermediation*, 31, 64–76. <https://doi.org/10.1016/j.jfi.2016.07.001>
- Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, 50(2-3), 344–401. <https://doi.org/10.1016/j.jacceco.2010.09.001>
- Gompers, P. A. (1996). Grandstanding in the venture capital industry. *Journal of Financial Economics*, 42(1), 133–156. [https://doi.org/10.1016/0304-405X\(96\)00874-4](https://doi.org/10.1016/0304-405X(96)00874-4)
- Gompers, P. A., Kaplan, S. N., & Mukharlyamov, V. (2016). What do private equity firms say they do? *Journal of Financial Economics*, 121(3), 449–476. <https://doi.org/10.1016/j.jfineco.2016.06.003>
- Guo, S., Hotchkiss, E. S., & Song, W. (2011). Do Buyouts (Still) Create Value? *Journal of Finance*, 66(2), 479–517. <https://doi.org/10.1111/j.1540-6261.2010.01640.x>
- Hochberg, Y. V., Ljungqvist, A., & Vissing-Jørgensen, A. (2014). Informational holdup and performance persistence in venture capital. *Review of Financial Studies*, 27(1), 102–152. <https://doi.org/10.1093/rfs/hht046>

- Huang, S., Roychowdhury, S., & Sletten, E. (Forthcoming). Does litigation deter or encourage real earnings management? *The Accounting Review*. <https://doi.org/10.2308/accr-52589>
- Hüther, N. (2019). *Do private equity managers raise funds on (sur)real returns? Evidence from deal-level data*, Indiana University Working Paper. <https://doi.org/10.2139/ssrn.3144179>
- Invest Europe. (2019). *2018 European Private Equity Activity*. <https://www.investeurope.eu/media/2585/invest-europe-2018-european-private-equity-activity.pdf>
- Jenkinson, T., Sousa, M., & Stucke, R. (2013). *How Fair are the Valuations of Private Equity Funds ?* Oxford University Working Paper.
- Kaplan, S. N. (1989). Management buyouts: Evidence on taxes as a source of value. *Journal of Finance*, 44(3).
- Kaplan, S. N., & Strömberg, P. (2009). Leveraged Buyouts and Private Equity. *Journal of Economic Perspectives*, 23(1), 121–146. <https://doi.org/10.1002/9781119228899.ch17>
- Katz, S. P. (2009). Earnings Quality and Ownership Structure: The Role of Private Equity Sponsors. *The Accounting Review*, 84(3), 623–658. <https://doi.org/10.2308>
- Kausar, A., Shroff, N., & White, H. (2016). Real effects of the audit choice. *Journal of Accounting and Economics*, 62(1), 157–181. <https://doi.org/10.1016/j.jacceco.2015.10.001>
- Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163–197. <https://doi.org/10.1016/j.jacceco.2004.11.002>
- Kothari, S. P., Mizik, N., & Roychowdhury, S. (2016). Managing for the moment: The role of earnings management via real activities versus accruals in SEO valuation. *The Accounting Review*, 91(2), 559–586. <https://doi.org/10.2308/accr-51153>
- Lerner, J., Sørensen, M., & Strömberg, P. (2011). Private equity and long-run investment: The case of innovation. *Journal of Finance*, 66(2), 445–477.
- Lisowsky, P., & Minnis, M. (2020). The Silent Majority: Private U.S. Firms and Financial Reporting Choices. *Journal of Accounting Research*, 58(3), 547–588. <https://doi.org/10.1111/1475-679x.12306>
- Metrick, A., & Yasuda, A. (2010). The Economics of Private Equity Funds. *Review of Financial Studies*, 23(6), 2303–2341. <https://doi.org/10.1093/rfs/hhq020>
- Minnis, M. (2011). The Value of Financial Statement Verification in Debt Financing: Evidence from Private U.S. Firms. *Journal of Accounting Research*, 49(2), 457–506. <https://doi.org/10.1111/j.1475-679X.2011.00411.x>
- Minnis, M., & Sutherland, A. (2017). Financial Statements as Monitoring Mechanisms: Evidence from Small Commercial Loans. *Journal of Accounting Research*, 55(1), 197–233. <https://doi.org/10.1111/1475-679X.12127>
- Morsfield, S. G., & Tan, C. E. (2006). Do venture capitalists influence the decision to manage earnings in initial public offerings? *The Accounting Review*, 81(5), 1119–1150. <https://doi.org/10.2308/accr.2006.81.5.1119>
- Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42(3), 335–370. <https://doi.org/10.1016/j.jacceco.2006.01.002>

Zang, A. Y. (2012). Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review*, 87(2), 675–703. <https://doi.org/10.2308/accr-10196>