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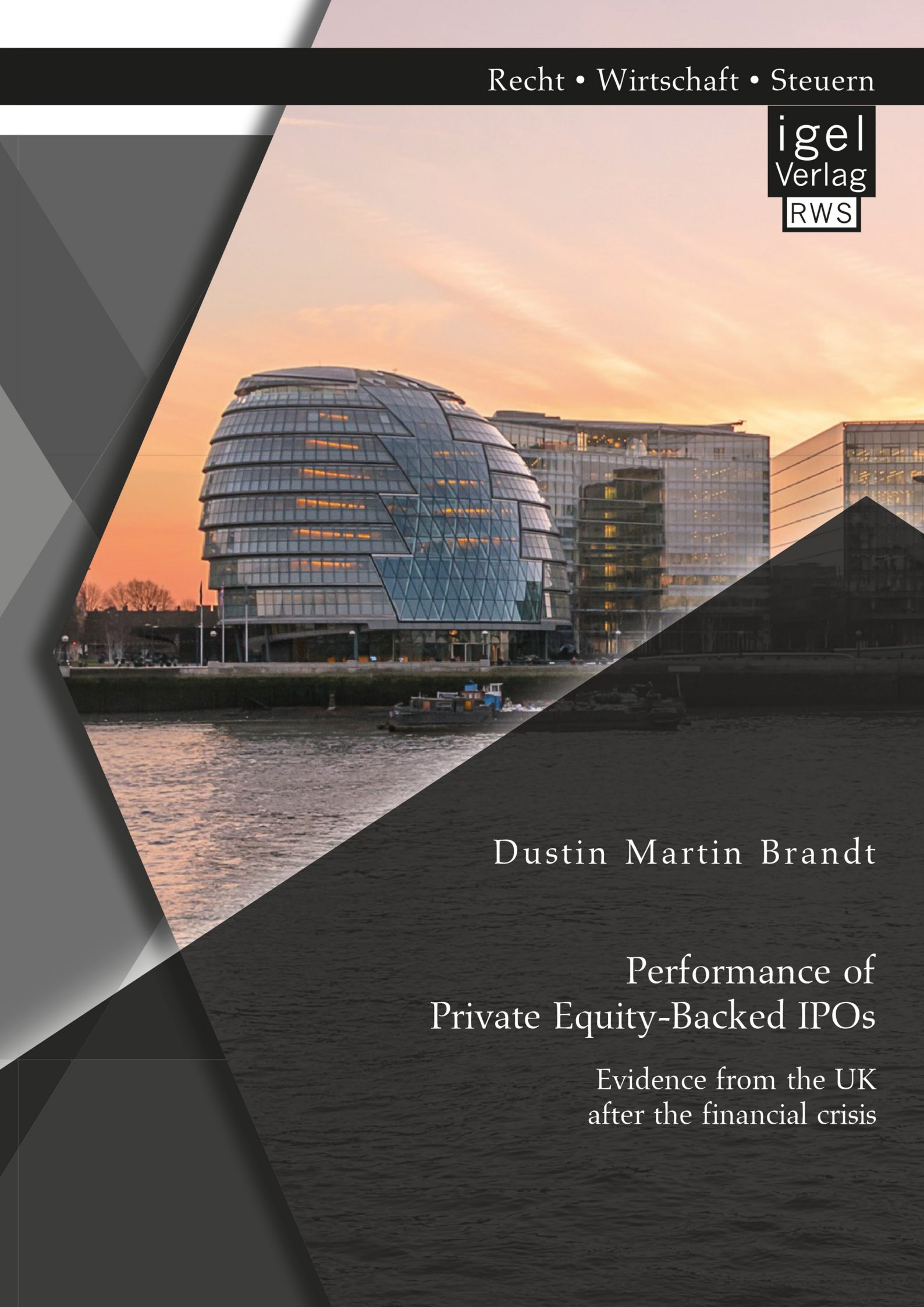

Dustin Martin Brandt

# Performance of Private Equity-Backed IPOs

## Evidence from the UK after the financial crisis

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# Summary

The paper studies the performance of private equity backed initial public offerings between 2013 and 2015 relative to both firms without financial backing on either the London Stock Exchange's Main Market or the Alternative Investment Market, and the stock market, respectively. In particular, since PE-backed IPOs accounted for approximately 55% of the total IPO volume on the LSE and AIM (GBP 27.2 million) from 2013 to 2015, a detailed analysis of the performance of PE-backed IPOs may be of special interest for financial scholars, practitioners and investors.

I find a sample of 238 IPOs on both stock exchanges, however as stock price data is missing for 38 firms due to either delistings, listing cancellations or mergers, the final sample size constitutes 200 IPOs. With regards to different types of financial backing I construct four subsamples consisting of 55 PE-backed, 23 VC-backed, 6 PE/VC-backed and 154 non-backed IPOs by studying financial backing data thoroughly.

I study initial day returns, in particular the phenomenon of underpricing, as well as long-run performances in event-time and calendar-time throughout a 36-months observation period. For the latter purpose different metrics such as buy-and-hold abnormal returns, cumulative abnormal returns and wealth relatives in event-time are used, in addition to CAPM and Carhart's Four-Factor Model estimates in calendar time. Abnormal returns are calculated using raw-adjusted returns as well as benchmark-adjusted returns. To adjust for benchmark returns, data of some major indices that reflect the performance of UK-based companies as set upon specific criteria are being used. Henceforth, I decide to calculate benchmark-adjusted returns using data of the FTSE 100, FTSE 350, FTSE 250, FTSE Small Cap, FTSE All Share, FTSE AIM 100 and FTSE AIM UK 50. Moreover, synthetic equity portfolios are constructed using equally-weighting and value-weighting schemes, respectively to allow for a comparison of results.

I find evidence that offer size of PE-backed IPOs is significantly larger, on average by 2.5 times and with the median by 15 times compared to non-backed IPOs. Besides, consistent with previous research findings, I can successfully show that the majority of PE firms hold a pre-IPO stake of more than 50%, which might be explained with common practice of PE firms in reserving their rights to exercise control over portfolio firms until exit.

Furthermore, I find evidence that consistent with earlier research PE firms tend to acquire firms operating in consumer discretionary, industrials, IT, health care, and since the crisis also such in the financial sector.

Studying initial day returns in the UK after the financial crisis in a market with recovered IPO activity, consistent with previous research for the sample of PE-backed IPOs I find lower underpricing compared to the sample size average and the non-backed IPO portfolio average, which is true for the whole observation period from 2013 to 2015, as well as for each individual calendar year.

Also, I find lower initial day returns in PE-backed IPOs between 2013 and 2015 than documented by past research.

In contrast to previous findings that report higher IPO underpricing in hot market conditions, I find evidence that following the latest financial crisis, underpricing has been higher in periods with relatively high IPO activities (2013 and 2015) than in periods with relatively 'normal' IPO activity (2014). Nevertheless, this finding should be interpreted cautiously as the phenomenon of higher underpricing in hot market conditions is reported for historical years in which IPO activity deviated to greater extent than the difference is between 2014 and both 2013 and 2015, respectively, which might potentially lead to diluted findings.

Studying long-run performances in the aftermarket, I find evidence that in event-time portfolio returns are subject to greater differences with regard to the benchmarks used for return adjustments, return calculation methods and weighting schemes.

Adjusting raw returns for a benchmark shows that the effect of the adjustment is more significant for longer observation periods. Moreover, I report two patterns of portfolio weighting schemes affecting portfolio returns. For non-backed IPOs commencing the 9-months holding period, I find the weighting scheme to have significant impact on portfolio returns as returns depending on the weighting scheme deviate to greater extent until the 36-months period, whereas in case of the PE-backed IPO portfolio the opposite is true as I do not find significant differences between equally-weighting and value-weighting portfolio returns. Furthermore, I find that measurement methods have the least significant impact on portfolio returns.

Studying long-run performances of PE-backed IPOs relative to non-backed IPOs, I find difficulties in drawing clear conclusions as results are not consistently statistically significant. Nevertheless, I can show that consistent with previous research PE-backed IPOs still outperform non-backed IPOs over a 36-months period.

Also, I conclude that PE-backed IPOs outperformed stock market indices such as the FTSE 100, FTSE 350, FSTE 250, FTSE SmallCap, FTSE All Share indices. However, for the latter conclusion ambiguity persists as results are not consistently statistically significant. In contrast, I find statistically significant results for PE-backed IPOs having underperformed

stock markets as reflected by the FTSE AIM 100 and the FTSE AIM UK 50, although underperformance is economically not significant.

In calendar time, and with CAPM estimates I find PE-backed IPO firms to have positive monthly returns for equally-and value-weighted portfolios. Testing for calendar time returns with Carhart's Four-Factor Model, the results show mixed evidence. In case of the equally-weighted PE-backed portfolio, I find superior returns over non-backed IPO firms, whereas the opposite is true for value-weighted portfolios. However, in any case CAPM and Carhart's Four-Factor Model estimates for both positive and negative monthly returns are small and partially lack in statistical significance.

Finally, with the results found in this paper, additional questions arise with regard to the variables that constitute superior performance of PE-backed IPOs, in particular whether there is a positive relationship between the reputation of a PE firm and stock performance of a former portfolio firm.

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# Nomenclature

| | |
|---|---|
| AIG | American International Group |
| AIM | Alternative Investment Market |
| AR | Abnormal Returns |
| ASE | American Stock Exchange |
| BHAR | Buy-and-Hold Return |
| BICS | Bloomberg Industry Classification System |
| bps | basis points |
| c. | circa |
| CAPM | Capital Asset Pricing Model |
| CAR | Cumulative Abnormal Return |
| EBITDA | Earnings before interests, taxes, depreciation and amortisation |
| ECM | Equity Capital Markets |
| EV | Enterprise Value |
| EUR | Euro |
| FCA | Financial Conduct Authority |
| GBP | Great Britain Pound |
| GDP | Gross Domestic Product |
| GP | General Partner |
| ICB | Industry Classifiation Benchmark |
| IPO | Initial Public Offering |
| IRR | Internal Rate of Return |
| LBO | Leveraged Buyout |
| LP | Limited Partner |
| LSE | London Stock Exchange |
| NYSE | New York Stock Exchange |
| OLS | Ordinary Least Squares |
| P2P | Public-to-Private |
| PE | Private Equity |
| RLBO | Reversed Leveraged Buyout |
| SEO | Seasoned Equity Offering |
| SIC | Standard Industry Classification |
| SPD | Social Democratic Party of Germany |

| | |
|---|---|
| UK | United Kingdom |
| UKLA | United Kingdom Listing Authority |
| U.S. | United States |
| USD | United States Dollar |
| VC | Venture Capital |
| WR | Wealth Relative |