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Plundered or profitably pumped-up? The effects of private equity takeover

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Abstract

We study the effects on firms that are acquired by private equity firms in a leveraged buyout, using detailed Swedish registry data covering 1998-2022. Acquired firms see a large increase in their debt and debt related variables, but no significant change in productivity. This suggests that, on average, private equity firms target profitable firms and increase their size through the addition of leverage.

Keywords: Private Equity, LBOs, Firm Performance

JEL: G34, L25

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1 Introduction

Private equity (PE) takeovers have proven to be highly profitable and in the US they have outperformed the S&P 500 net of fees on average by approximately 20% over the life of the fund (Kaplan & Sensoy, 2015). However, the source of these super-normal profits remains unclear. Consequently, debate regarding the overall impact of private equity takeovers - both in the public sphere and in the research literature - has been heated. Politicians and the media have accused PE firms of plundering the 'portfolio' firms that they invest in (Ballou, 2023). In contrast, proponents of private equity investment have focused on how it can improve portfolio firms' productivity and solve agency problems (Bloom et al., 2015; Olsson & Tåg, 2017). Evidence for either argument has been mixed, and has been hampered by information scarcity (Kaplan & Schoar, 2005; Harris et al., 2014; Acharya et al., 2013; Phalippou, 2009; Gupta et al., 2024).

In this article, we use annual income and balance sheet data covering the universe of Swedish firms, combined with data on LBO activity, to study the effects of LBOs on the productivity and financial health of portfolio firms. The richness of the data allows us to include private-to-private takeovers, which are less well studied due to data limitations but represent the vast majority of LBOs. Using a difference-in-differences regression with a matched control group, we show that firms that are acquired by a PE firm differ significantly from their peers prior to the LBO. Portfolio firms tend to out-perform their peers in the lead-up to takeover, demonstrating significantly higher profits and smaller debt ratios. After the LBO, debt levels increase significantly, consistent with previous results (Hotchkiss et al., 2021). However, labor productivity does not increase whereas the portfolio firms EBITDA, net profits and tax payments decline following the LBO. Sales and employee numbers are stable at a high level. Together, this suggests that PE firms neither plunder nor make their portfolio firms more productive. Rather, they appear to select profitable firms and increase their size using financial leverage.

2 Data

We use registry data on key financial data from the Swedish Serrano database, covering the universe of all Swedish firms from 1998-2022. PitchBook data allows us to identify a subset of these firms - roughly 4000 - that were acquired in an LBO over the same period. One caveat to our results could be that our results are mainly from a period with low interest rates and easy access to funding, and the behavior could differ over the business cycle.

3 Empirical Approach

Private equity companies spend considerable time and resources analyzing and selecting their targets (Gompers et al., 2016). It is therefore difficult to argue that a randomized control trial could be approximated. Rather, we use a simple matching method to create a control group of peer firms, but allow for variation in trends prior to takeover. More specifically, we use a coarsened exact matching to create a one-to-one control group of similar firms (Blackwell et al., 2009), based on sales, total assets, number of employees and two digit industry code. The post-matching distribution is plotted in Figure A1b and summary statistics for the matched and control group is presented in Table A1. We run a simple difference-in-difference regression where we estimate the following model

$$Y_{it} = \alpha_0 + \beta \mathbf{X}'_{it} + \lambda_{it} + \sum_{-5}^6 \theta_{it} + \delta_i + \gamma_i + \tau_t + \epsilon_{it}$$

where α_0 is a constant, \mathbf{X}'_{it} is the vector of control variables, λ_{it} are the treatment year fixed effects, θ_{it} are the pre- and posttreatment dummies, δ_i are firm fixed effects, γ_i is an industry fixed effects, τ_t is a calendar year fixed effects, and ϵ_{it} is an error term. The firm fixed effects account for all systematic time-indifferent differences between the control and treatment groups. θ_{it} is defined 5 years before LBO, during this year and the subsequent 6 years¹.

4 Results

We first plot the effects of LBOs on portfolio firms' debt and assets in Figure 1. After an LBO, a portfolio firm's debt increases by about 20 percent (a), leading to an increase in leverage (d). There is little change in long term debt, while short term debt grows substantially (b, c). Total assets (e) and equity (f) increase directly after an LBO, but decline afterwards. Debt to equity (d) becomes similar to the control group, having previously been lower.

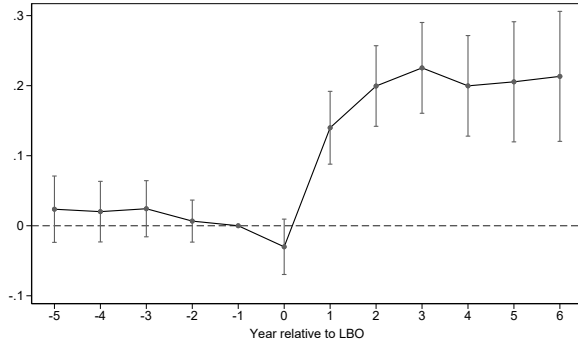
Figure 2 shows the effects of LBOs on portfolio firms' profits and real economic outcomes. Employees (a) and sales (b) are growing both before and after, whereas labor productivity (c) is not different from the control group. EBITDA (d) is growing for portfolio firms than their peers prior to an LBO, but declines afterwards. There is suggestive evidence that the increase in debt may offer tax shielding advantages (Myers, 1977), as net profit (e), and paid taxes (f) fall by more than EBITDA after an LBO. The increased leverage, in addition to possible financial engineering, leads to a drastic reduction in net profit and paid taxes.

¹PE firms typically hold portfolio firms for around 7 years before divesting them.

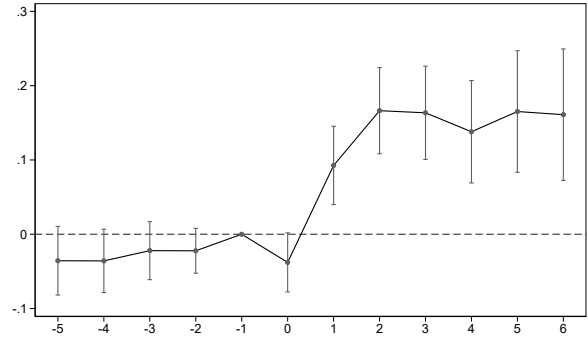
5 Conclusions

We study the economic effects of LBOs on portfolio firms. The results suggests that PE firms are skilled at finding good firms to acquire, in line with their own assessments of what they do ([Gompers et al., 2016](#)). Following an LBO, they increase the total assets and leverage of the acquired firm, but do not make them more productive. Sales and the number of employees stabilize at higher values than those for peer firms. We conclude that there is limited evidence for either plunder or productivity enhancements on average. Instead, PE firms increase the size of the portfolio firms, assisted by the addition of financial leverage.

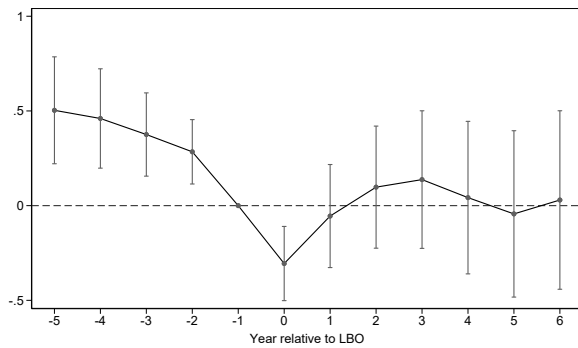
Figure 1. Debt and assets after LBO



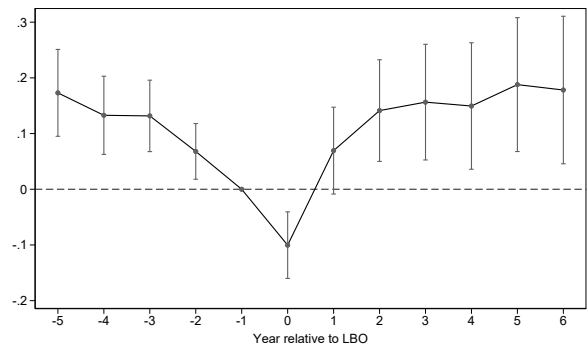
(a) Total debt



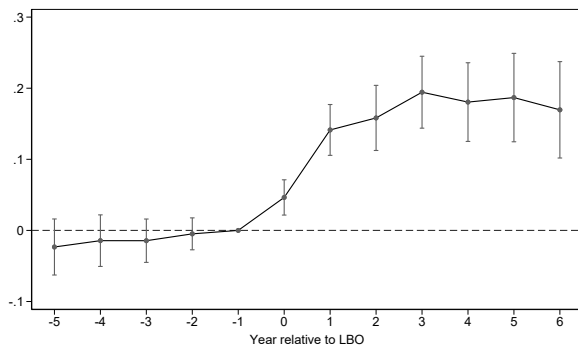
(b) Short term debt



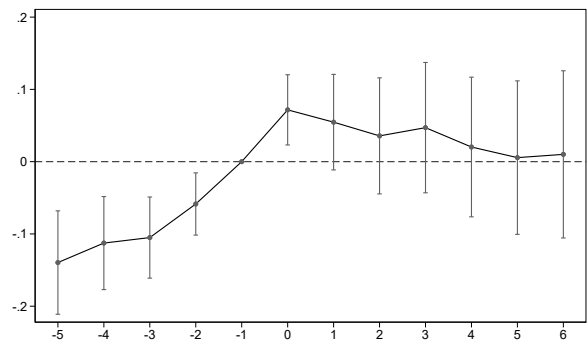
(c) Long term debt



(d) Debt to equity

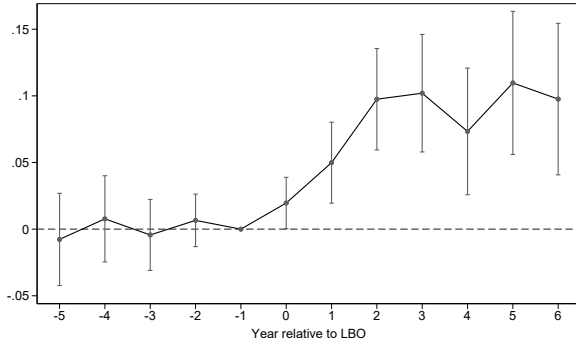


(e) Total assets

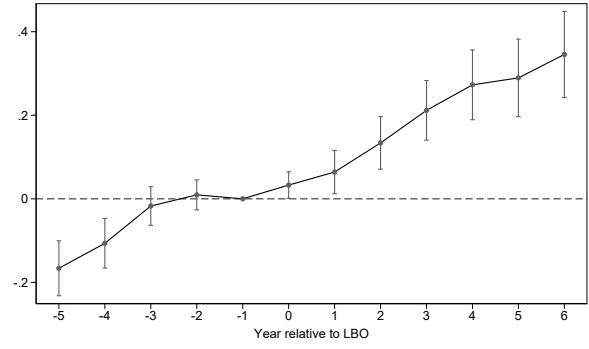


(f) Total equity

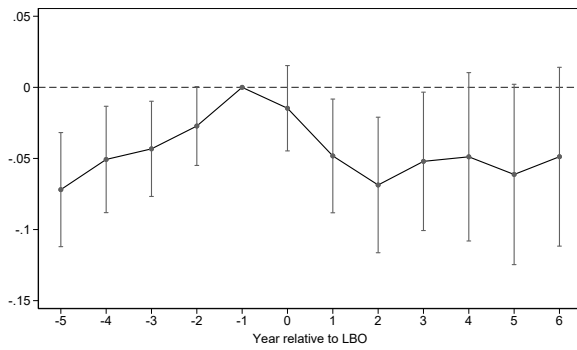
Figure 2. Profit and real economy



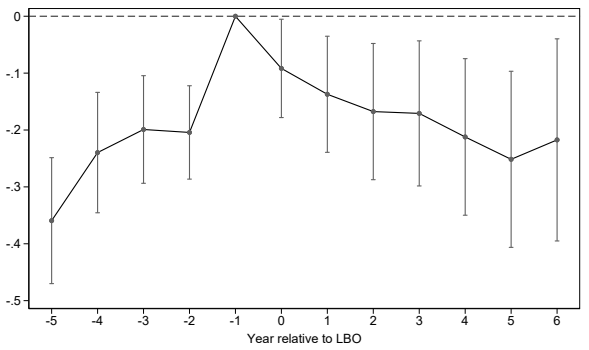
(a) Employees



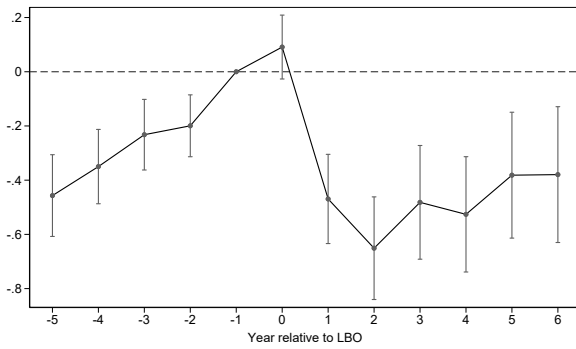
(b) Sales



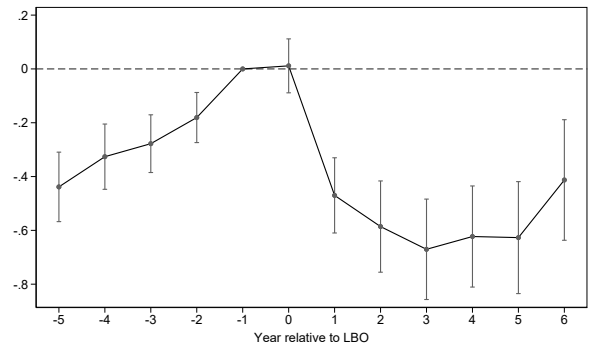
(c) Labor productivity



(d) EBITDA



(e) Net profit



(f) Taxes

References

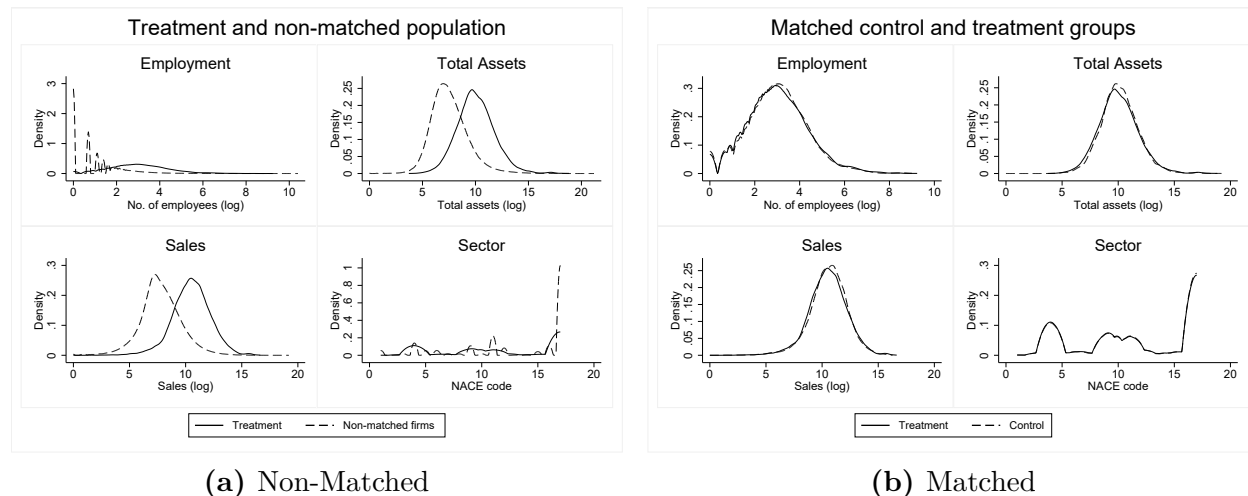
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Appendix

Table A1. Summary statistics

| | Observations | Mean | Median | Std. Dev. | Min | Max |
|---------------------|--------------|--------|--------|-----------|---------|---------|
| Control | | | | | | |
| No. employees | 32503 | 60 | 20 | 248 | 1 | 8087 |
| Labor cost per emp. | 32503 | 570 | 507 | 497 | 0 | 42624 |
| Total debt | 32544 | 125887 | 12546 | 1705525 | 0 | 1.4e+08 |
| Sales | 32503 | 134867 | 41687 | 397627 | 0 | 1.2e+07 |
| Capital stock | 32496 | 233378 | 23420 | 3104907 | 1 | 2.2e+08 |
| Return on equity | 32090 | .11 | 0 | 25.9 | -4125 | 534 |
| Labor productivity | 32503 | 821 | 648 | 2259 | -209466 | 150694 |
| Treatment | | | | | | |
| No. employees | 32451 | 64 | 19 | 253 | 1 | 10247 |
| Labor cost per emp. | 32451 | 590 | 528 | 446 | 0 | 25750 |
| Total debt | 32503 | 160334 | 11125 | 2021821 | 0 | 9.1e+07 |
| Sales | 32451 | 155173 | 37342 | 597596 | 0 | 1.7e+07 |
| Capital stock | 32446 | 277868 | 21110 | 3248037 | 41 | 1.5e+08 |
| Return on equity | 32100 | .28 | 0 | 15.1 | -436 | 1301 |
| Labor productivity | 32451 | 898 | 672 | 3544 | -70192 | 236345 |

Notes: Summary statistics for PE-owned firms and a matched control group. All variables in 1000-kronor. Firm-year observations



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