Sponsored by

BVCA Deloitte. NORTH EDGE

Engines of growth:
private equity and productivity potential in the North

THE CENTRE FOR MANAGEMENT BUY-OUT RESEARCH

Credit Management Research Centre

September 2016

Engines of growth: private equity and productivity potential in the North

Introduction

In September 2016, Nick Wilson from the Credit Management Research Centre (CMRC) at Leeds University Business School, and Mike Wright from the Centre for Management Buyout Research (CMBOR) at the Imperial College Business School, published a paper looking at the role private equity can play in driving business productivity in the North of England.

Given the ongoing debate amongst policymakers on how to unlock the potential of 'the North', this paper is especially relevant. Data from the Office of National Statistics shows that the North continues to lag behind London and the South East in terms of both economic growth and productivity. On average, GVA growth from 2010-2014 is 3.2% below the UK average in the northern regions[1]. The Government has begun to recognize this challenge and has emphasised the vital role of long-term investment as part of the solution to these issues.

Wilson and Wright's paper hopes to promote and support that line of argument through examining the productivity and profitability of private equity-backed firms against a control group, whilst also illustrating the breadth of potential private equity target firms in the North.

A summary of "Private Equity Targets and Post Investment Performance: A Study of the Corporate Sector in the Northern Regions", Nick Wilson and Mike Wright, Working paper series, September 2016. Commissioned by the British Private Equity & Venture Capital Association (BVCA), Deloitte and NorthEdge Capital.

Summary

The primary starting point of this study is to identify the incidence of companies in what will be referred to as 'mid-market private equity'. This represents companies within the size band of £5 million to £15 million in assets and/or turnover in the £5 million plus range across all industry sectors. In order to do this, the study makes use of a database of 16.6 million company year observations, which covers the period 1998 until the present, in order to analyse the characteristics of the corporate sector in the North of England. This was done with the aim of identifying the size and nature of the potential target market for growth finance through private equity (PE) investments. For the purposes of this report, the North is defined as comprising the North East, North West, Yorkshire and Humberside, East and West Midlands government standard regions in the UK.

The first key finding is that companies that go on to receive private equity backing have a distinctive profile. Such that, when measured against a control group, they are most likely to be in more stable sectors, are more cash generative, are more likely to be focussed in a single market and are likely to be lagging behind other companies in terms of productivity.

The study goes on to show that following private equity investment, these companies have been outperforming benchmarks in productivity growth against a control group by as much as 9%. This productivity outperformance is true of private equity-backed companies across the UK, but has proved to be strongest in the northern regions. Productivity growth for these northern private equity-backed companies is accompanied by three year compound annual growth rates of 5% in sales, 9% in exports and 3% in employment across the whole sample period. Notably, the businesses were particularly resilient throughout the recession.

Out of a total of approximately 3,300 companies identified in the UK with a strong statistical match to the 'profile' of being potentially suitable for private equity investment, there were 1,187 companies identified in the northern regions. This compares with a population of 654 existing private equity-backed companies and suggests that, whilst the northern regions have been highly active for private equity in recent years, there is potential for further investment in the regions, which in turn should play a valuable role addressing the UK's productivity challenge and facilitating economic and employment growth.

[1] Harari. D., Regional and Local Economic Growth statistics, Briefing Paper 05795 House of Commons Library, March 2016.

Private equity investment in the corporate sector

The evolution of private equity investment in the corporate sector has seen a transition in MBO and MBI activity to companies of ever larger value over the past 30 years. Additionally, when examining the sectoral distribution of the UK buyout and buy-in market it is notable that most MBO and MBI activity involves firms that have substantial tangible assets, significant cash flows and reside in more traditional sectors such as leisure, retail and manufacturing.

Also, recent analysis by CMBOR has shown an increase in the overall number of private equity backed deals in the period since 2012. In 2015 there were 81 deals completed in the North, with a combined value of £5.5 billion, accounting for 38% of all UK deals by number and 27% by value[2].

Northern Stars
Case study: Accrol Papers

ACCROL PAPERS

Accrol Papers is a manufacturing company from Blackburn, supplying tissue products to both the premium retail and UK discount markets. Established in 1993 by Jawid Hussain, by 2014 the business had grown to £88 million in sales and employed 240 staff.

The company then received a £15 million programme of investment into the latest machinery and capital by private equity firm NorthEdge Capital.

Two years later, due to this investment drive and a push into new product areas, manufacturing capacity was increased, annual sales reached £120 million and the workforce doubled to 480.

In June 2016 the company was floated on the AIM market with an enterprise value of £116 million.

Private equity targets

Much of the academic literature suggests that private equity investors create value by improving the productivity, profitability and growth of their portfolio companies and so private equity investors seek out targets that have the potential for such improvement. This increased value is achieved through good management, with a focus on increased efficiency, aligning incentives and reducing waste. Alongside this, the exploitation of new market opportunities, effective innovation and investment in new technologies are also seen as strong drivers in enhancing their portfolio businesses.

With this in mind, the paper profiles the characteristics of private equity target companies compared to a control group of matched firms and non-private equity buyouts during the sample period. Primarily, the aim is to identify the number and distribution of companies that private equity investors deem investable.

To do this the company population database is matched with company buyout data provided by CMBOR. This provided 43,780 observations on private equity buyouts including pre and post-buyout periods during the sample period. This data also includes records on other MBO and MBIs that have not used private equity finance. A further subsample of private equity investments that do not involve buyouts are categorised in the database as 'growth finance private equity investments'. Furthermore, the entry and exit years of the buyout sub-sample are tracked and the date of investment is matched to the firms to identify the 'pre-investment' characteristics of these firms.

Using a multivariate technique to assess all firm level characteristics, the profiling of private equity targets produced a range of significant results. It was found that the private equity targets were most likely to be established companies both in terms of age and size. The targets reside in stable industry sectors with a lower than average failure rate, are less likely to diversify what they produce and are more likely to have a high proportion of tangible assets. Whilst private equity investors will invest in sectors that carry more risk, this is predominately isolated to advanced manufacturing technologies and high-level technology in the services sector. Overall, the target firms for private equity investors are cash generative, profitable and have high interest coverage ratios on any existing liabilities. The profile also captures the fact that target firms are likely to have debt, lower levels of equity, charges on assets and lower than average productivity.

The profile created of known private equity targets from the analysis provides a sound basis for generating probability scores for potential private equity targets. All potential private equity targets are selected based on their last filed accounts and if the derived probability lies within the upper 10 percentile of the probability distribution, the firm is coded as a potential target. In total this model identified 1,187 potential prime targets in the northern regions, which represents 36% of all identified targets in the UK.

Within the findings, the 'potential private equity target companies' present the total target companies as predicted by the logit regression analysis in the paper, known as the abridged account fields. Whereas, the 'prime private equity target companies', illustrated in the graph above, are based on the model which includes all financial characteristics and productivity variables, known as the full account fields.

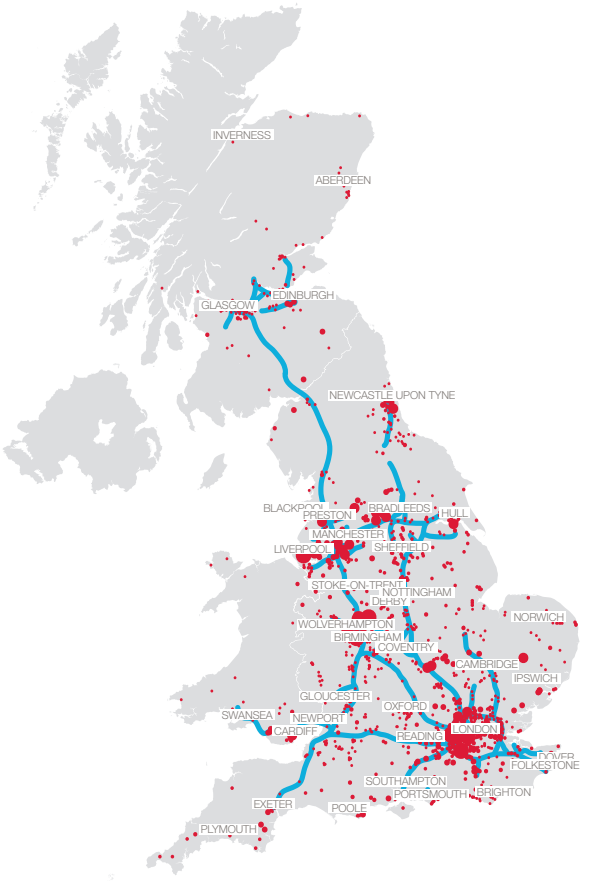
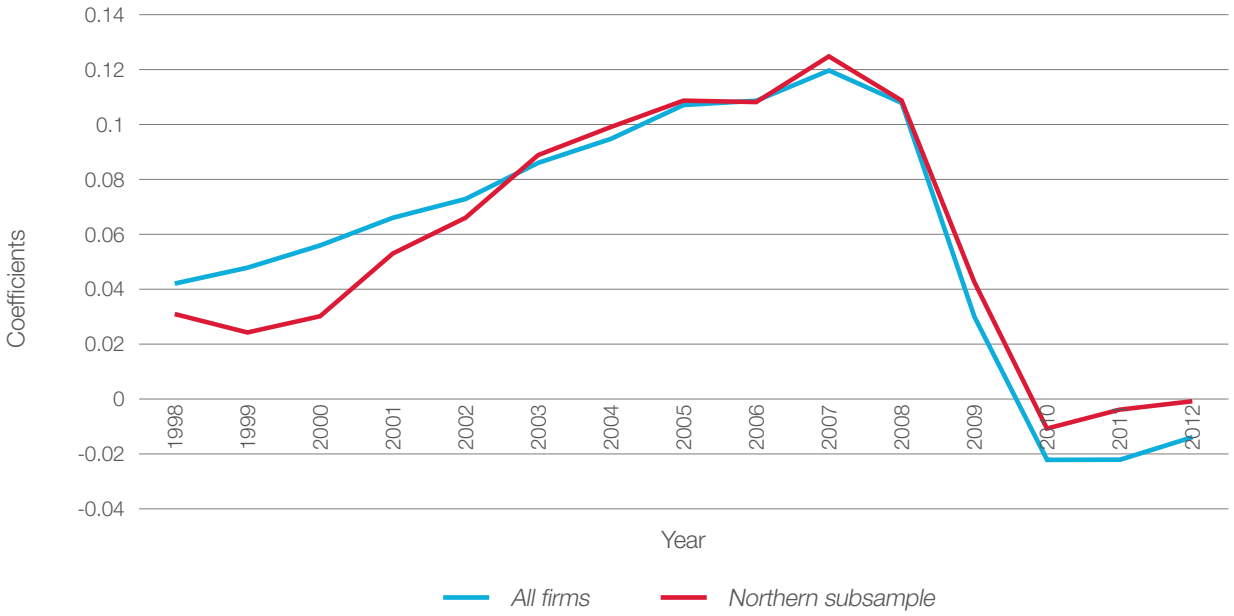


Figure 1 - Location of prime private equity target companies

[2] CMBOR (2015)., UK Management Buyouts, Imperial College, London: CMBOR

Trends in productivity in the UK economy



Private equity post-investment performance

In order to examine differences in productive efficiency between the private equity-backed companies and the control sample, a production function model is used in the study. This captures the impact of various proxy variables such as (i) trading profit plus wages and salaries, (ii) the real value of total assets and (iii) the number of employees - which capture value added, capital and labour respectively. Other coefficients are estimated to model the effects of age as a quadratic term in order to pick up any non-linearity in the productivity-age relationship. The key estimated coefficient of interest is the private equity-backed firm dummy variable, which captures any productivity differential in total factor productivity (TFP) between private equity-backed firms and the control group.

Overall, the coefficients for the private equity dummy variables are positive and significant in all specifications and time periods. The results suggest a positive productivity differential - or total factor productivity - of private equity firms over other company types of 5.1% across the whole period, which is stronger in the pre-recession period than in the recession and post-recession period.

When the model is re-estimated using only firms in the northern regions, a significant positive productivity differential for private equity-backed firms is found: 7.5% over the 1993-2013 period, which is 2.4% higher than in the UK full sample. This means that, on average, a private equity-backed firm in the north would be expected to produce 7.5% more output from the same production inputs as a non-private equity backed firm in the north.

The private equity dummy variables show the pattern of productivity outperformance of PE-backed firms over the control group in the 1995-2013 sample period. It can be seen that, on average, there has been a strong positive productivity differential, particularly in the pre-recession period, and a stronger recovery in the northern region subsample in the post-recession period.

Alongside this, the rolling compound annual growth rates for the subsample of private equity portfolio companies' sales, assets, export sales, value added and employment all show strong positive growth throughout 1995-2013. Notably, the

growth in employment, which is 3% on average throughout the sample period, illustrates that improved productivity and employment growth are not mutually exclusive in private equity-backed companies. The findings have great significance in that these findings are not isolated to just the northern regions; there are no statistically significant differences expected in growth rates across the whole population of private equity-backed companies.

The final part of the multivariate analysis estimates the determinants of profitability, which is measured as the return on assets or EBITDA/total assets. This is estimated accounting for industry risk, age, competition and company type and the model isolates the effects of private equity relative to the control group. The resulting coefficients indicate a positive profitability differential for private equity-backed firms of 2% in the pre-recession period and 3% in the recession and post-recession period over other company types in the population, i.e. the return on assets for private equity-backed companies would be expected to be higher than non-private equity backed companies in the population. Furthermore, when the model is re-estimated for the northern region subsample, profitability differentials of a similar magnitude were found.

Northern Stars
Case study: Sumo Digital

Sumo Digital is a game development studio based in Sheffield. The management team bought the company with the support of NorthEdge Capital in 2014 from a US corporate owner.

Over the past two years the revenues have increased from £14 million to £23 million and the workforce has grown by 65 to around 350, recruiting experienced developers and also working with local universities to bring in new recruits who they then train on world-class projects.

References

- Acharya, V.V., Gottschalg, O., Hahn, M., and Kehoe, C., (2012)., Corporate governance and value creation: Evidence from private equity. Review of Financial Studies.
- Amess, K., Stiebale, J. and Wright, M. (2015)., The Impact of Private Equity on Firms' Patenting Activity, European Economic Review, forthcoming CMBOR (2015)., UK Management Buyouts. Imperial College, London: Centre for Management Buyout Research.
- Cressy, R., Malipiero, A., and Munari, F., (2007)., Playing to their strengths? Evidence that specialization in the Private Equity industry confers competitive advantage. Journal of Corporate Finance 13, 647–669.
- Cumming, D.J., and Zambelli, S. (2012)., Private equity performance under extreme regulation. Journal of Banking and Finance.
- Birch, D. L. (1979)., The job generation process. Cambridge, MA: MIT program on neighborhood and regional change, Massachusetts Institute of Technology.
- Birch, D. L. (1981)., Who creates jobs? The Public Interest, 65(Fall), 3–14; Birch, D. L. (1987). Job creation in America. New York: Free.
- Birch, D. L. (2006)., What have we learned? Foundations and Trends in Entrepreneurship, 2(3), 197–202.
- Gilligan, J. and Wright, M. (2014)., Private Equity Demystified. 3rd edition. London: ICAEW.
- Henrekson, M. and Johansson, D. (2010)., Gazelles as Job Contributors—A Survey and Interpretation of the Evidence, Small Business Economics, 35(2): 227-244
- House of Commons Library (2016)., Productivity in the UK, Briefing Paper No 06492, April 2016.
- House of Commons Library (2016)., Regional and Local Economic Growth Stat, Briefing Paper No 05795, March 2016.
- Kaplan, S. and P. Stromberg, (2004)., Characteristics, Contracts and Actions: Evidence from Venture Capitalists Analyses, Journal of Finance 59, 2177-2210.
- Rosenbaum, P. R., & Rubin, D. B. (1983)., The central role of the propensity score in observational studies for causal effects. Biometrika, 70(1), 41–55.
- Rowlands, C. (2009)., The Provision of Growth Capital to UK Small and Medium Sized Enterprises.
- Toms, S., Wilson, N. and Wright, M. (2015)., The Evolution of Private Equity: Corporate Restructuring in the UK, c.1945-2010, Business History, 57, 736-768.
- Tykvov, T. and M. Borell, (2012)., Do private equity investors increase risk of financial distress and bankruptcy? Journal of Corporate Finance 18, 138-150.
- Wervaal, E, Bruining, H and Wright, M. (2013)., Entrepreneurial and Administrative Management and Private Equity Positions in Management Buy-Outs, Small Business Economics.
- Wilson, N. and Wright, M. (2011)., Private Equity, Buyouts and Insolvency Risk. Journal of Business Finance and Accounting, 40 (7), 949-990.
- Wright, M., Chiplin, B., Robbie, K. and Albrighton, M. (2000)., The Development of an Organisational Innovation: UK Management Buy-outs 1980-1997, Business History, 42 137-142.

British
Private Equity &
Venture Capital
Association

5th Floor East,
Chancery House,
53-64 Chancery Lane,
London WC2A 1QS

+44 (0)20 7492 0400
bvca@bvca.co.uk

@BVCA

www.linkedin.com/company/bvca

Follow us on Instagram - @bvcacomms

Find us on YouTube - BVCA Communications

Search BVCA

www.bvca.co.uk