
Executive summary

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INTRODUCTION

In the past few decades, the private equity industry has grown both in terms of size and geographic reach. Despite the growing global impact of private equity, there is limited research on these developments that stakeholders can reference. It is, perhaps, not surprising that in markets as diverse as China, Germany, South Korea, the United Kingdom and the United States, important questions have arisen about the impact of private equity on employment, managerial time-horizons, the overall health of companies and the economy more generally.

RESEARCH PROJECT OVERVIEW

While the leveraged buyout transactions of the 1980s were scrutinized in a number of important academic analyses, it is fair to acknowledge that the studies examining buyouts 25 years ago had two important limitations which the current research has attempted to address. First, the bulk of the older research focused on a relatively small number of transactions in the US and, to a lesser extent, in the UK. But the buyout market today is no longer primarily a US and UK phenomenon, as evidenced by this research. Non-US private equity has grown to be larger than US private equity in the last few years, with growth in Continental Europe being particularly pronounced. The second limitation of the older research on private equity relates to the fact that the industry has grown and evolved since the 1980s. Almost all of the published studies have focused on the industry's formative years.

The World Economic Forum's research project on the "Global Economic Impact of Private Equity" sought to analyse private equity transactions, meaning equity investments by professionally managed partnerships that involve leveraged buyouts or other equity investments with a substantial amount of associated indebtedness (as opposed, for instance, to venture capital investments in start-ups). The goal was to complete a rigorous study of the impact of these investments around the world, prepared by a tightly organized consortium of leading international scholars.

This volume of Working Papers comprises a series of (I) large-sample studies and (II) case studies.

Several key choices were made at the outset of the project. Given the tight one-year time-frame for the research, the project drew on already existing databases about the private

equity industry (such as Capital IQ, Dealogic and VentureXpert), as well as information from complementary databases compiling information on such activities as bankruptcy, employment and patenting. Inevitably, this meant that the large-sample studies in this volume of Working Papers focused primarily on the most developed markets, with particular emphasis on the UK and US. It is our intention that this study serve as an initial effort, and that subsequent efforts will entail greater scrutiny of proprietary documents from market participants, as well as a greater focus on emerging private equity sectors.

The large-sample studies covered the following broad topics:

- a) the demography of private equity firms: the number, duration and outcomes of these transactions
- b) the willingness of private equity-backed firms to make long-term investments, with a particular emphasis on investment in innovative activities
- c) the impact of private equity activity on the employment of existing establishments, as well as the tendency to open new facilities
- d) the consequences of private equity investment for the governance of private firms

The research team also complemented these studies with a variety of case studies, which examined these issues and others. Reflecting a desire to gain a more global perspective, these studies focused on companies across a variety of geographies, with a particular emphasis on Germany, the UK and emerging private equity markets such as China and India.

I. KEY FINDINGS: LARGE-SAMPLE STUDIES

A. Key findings: Demography study

The first study examines the nature of the 21,397 private equity transactions that could be identified between 1970 and 2007, as well as the outcome of these transactions.

The study had three broad goals. The first is to provide descriptive evidence on the growth and changing nature of the private equity market, going beyond the previous analysis of US going-private transactions. In the process, the research team builds the most comprehensive (to their knowledge) database to date on worldwide leveraged buyout (LBO) transactions,

which can be used for further research of this phenomenon. Secondly, the study analyses the extent to which leveraged buyout transactions are successfully exited, and whether exit success has varied across time periods, regions and deal characteristics. Thirdly, and most importantly, the study focuses on the longevity, or “staying power”, of leveraged buyouts.

Among the key findings are the following:

- Private equity investment activity has accelerated. More than 40% of the buyouts in the sample have taken place since 1 January 2004. The total value of firms (both equity and debt) acquired in leveraged buyouts is estimated to be \$3.6 trillion over the sample period, of which \$2.7 trillion worth of transactions occurred between 2001 and 2007.
- Public-to-private transactions, which have been the focus of earlier buyout research and media attention, only account for 6.7% of all transactions. Measured in terms of dollar value, public-to-private transactions represent 28% of the firms acquired. The vast majority of buyouts are acquisitions of private firms and corporate divisions.
- Non-US private equity activity has grown to be larger than that of the US in the last few years. The growth of Continental European buyouts has been particularly pronounced. Still, LBO transactions outside North America and Western Europe are relatively few and only account for approximately 12% of global LBO transactions in number and 9% in value over the period from 2001 to 2007.
- The caricature of buyouts occurring in old and declining industries does not reflect the rise of buyout activity in high-growth, “high-tech” sectors in the last decade. In fact, buyouts have always taken place in a wide range of industries, although mature industries such as chemicals, machinery and retailing still provide popular buyout targets.
- IPOs account for 13% of private equity investment exits, and this exit route seems to have decreased in relative importance over time. The most common exit route is trade sales to another corporation, accounting for 39% of all exits. The second most common exit route is secondary buyouts (24%), which have increased in importance over the last decade consistent with anecdotal evidence.
- 6% of buyout transactions end in bankruptcy or financial restructuring. While this number implies a lower success rate compared to bankruptcy rates among US publicly traded firms, it also suggests that buyouts have a lower average default rate than US corporate bond issuers, and substantially lower than the default rates among average junk bond issuers.
- Private equity investors have a long-term ownership bias. 58% of the private equity funds’ investments are exited

more than five years after the initial transaction. So-called “quick flips” (i.e. exits within two years of investment by private equity fund) account for 12% of deals and have decreased in the last few years.

- The number of businesses operating under private equity ownership has grown rapidly. The number of firms entering LBO status has been substantially higher than the number of firms leaving LBO status over time every year since 1970. As a result, at the beginning of 2007, close to 14,000 firms worldwide were held in LBO ownership, compared to fewer than 5,000 in 2000 and fewer than 2,000 in the mid-1990s. The LBO organizational form seems more long term than temporary: almost 40% of all LBOs remain in this organizational form 10 years after the original leveraged buyout was announced. In addition, the length of time firms remain private has increased in recent years.

B. Key findings: Long-run investment study

This study was motivated by the lively debate about the impact of private equity investors on the time horizons of the companies in their portfolios. The private status, according to some, enables managers to proceed with challenging restructurings without the pressure of catering to the market’s demands for steadily growing quarterly profits, which can lead to firms focusing on short-run investments. Others have questioned whether private equity-backed firms take a longer-run perspective than their public peers, pointing to practices such as special dividends to equity investors. They suggest private equity investors are likely to encourage steps that boost short-run performance at the expense of sustained corporate growth.

In this study, one form of long-run investment was examined: investments in innovation. Innovation offers an attractive testing ground for the issues delineated above due to various factors. These factors include the long-run nature of R&D expenditures, their importance to the ultimate health of firms and the extensive body of work in the economics literature that has documented that the characteristics of patents can be used to assess the nature of firms’ technological innovation. Moreover, patents can be used to study both public and private firms, which is important when studying private equity transactions.

The authors examine the impact of private equity investment on the patenting behaviour of 495 firms worldwide with at least one successful US patent application filed from three years before to five years after a later-stage private equity investment.

Key findings include:

- Firms that undergo a buyout pursue more economically important innovations, as measured by patent citations, in the years after private equity investments. In a baseline analysis, the increase in the key proxy for economic importance is 25%.

- Private equity-backed companies maintain comparable levels of cutting-edge research. Post-buyout, these businesses display no deterioration in the extent to which their research is basic or fundamental, as measured by patent originality and generality.
- The quantity of patenting does not appear to systematically change after private equity transactions.
- Innovation becomes more targeted post-buyout. The patent portfolios of firms become more focused in the years after private equity investments.
- Private equity-backed firms concentrate on core technologies. The increase in patent importance, as denoted by patent citations, is greatest in the patent classes where the firm has had its historic focus and where it increases its activities after the private equity investment.

C. Key findings: Employment study

The impact of private equity on employment arouses considerable controversy. Critics have claimed huge job losses, while private equity associations and other groups have released several recent studies that claim positive effects of private equity on employment. While efforts to bring data to the issue are highly welcome, many of the prior studies have significant limitations, such as the reliance on surveys with incomplete responses, an inability to control for employment changes in comparable firms, the failure to distinguish cleanly between employment changes at firms backed by venture capital and firms backed by other forms of private equity, difficulties in disentangling organic job growth from acquisitions, divestitures and reorganizations at firms acquired by private equity groups, and an inability to determine where jobs are being created and destroyed.

In this study, the research team constructed and analysed a dataset in order to overcome these limitations and, at the same time, encompass a much larger set of employers and private equity transactions. This study examines US private equity transactions from 1980 to 2005. The study utilizes the Longitudinal Business Database (LBD) at the US Bureau of the Census to follow employment at virtually all private equity-backed companies in the US, before and after private equity transactions. Using the LBD, it was possible to analyse employment at both the firm level and establishment level. Establishments in this context means the specific factories, offices, retail outlets and other distinct physical locations where business takes place. The LBD covers the entire non-farm private sector and includes annual data on employment and payroll for about 5 million firms and 6 million establishments, including 5,000 US firms (target firms) and 300,000 establishments (target establishments) that were the subject of a buyout. Employment at target establishments was tracked for five years before and after the private equity transaction, irrespective of whether these establishments are owned and operated by the target firm throughout the entire time period around the private equity transaction. Each target

firm and each target establishment is matched against other firms and other establishments that are comparable in terms of industry, age and size. These comparable firms and establishments served as the control group.

Among the key results were:

- Employment grows more slowly at target establishments than at the control group in the year of the private equity transaction and in the two preceding years. The average cumulative employment difference in the two years before the transaction is about 4% in favour of controls.
- Employment declines more rapidly in target establishments than in control establishments in the wake of private equity transactions. The average cumulative two-year employment difference is 7% in favour of controls. Just as was the case before the private equity transaction, growth at controls is higher in the three years after the private equity transaction. In the fourth and fifth years after the transaction, employment at private equity-backed firms mirrors that of the control group.
- Post-transaction, buyout establishments seem to create roughly as many jobs as peer group establishments. Gross job creation (i.e. new employment positions) in the wake of private equity transactions is similar in target establishments and controls. The difference in net employment is attributable to higher gross job destruction rates in targets.
- Firms backed by private equity have 6% more greenfield job creation than the peer group. Greenfield job creation in the first two years post-transaction is 15% of employment for target firms and 9% for control firms. It appears that the job losses at target establishments in the wake of private equity transactions are partly offset by substantially larger job gains in the form of greenfield job creation by target firms.

D. Key findings: Governance study

The final study examines the boards of companies which have been taken from public to private ownership to learn more about the governance model of private equity investors. There has been almost no scrutiny of these boards or comprehensive analysis of how they differ systematically from those of public companies.

This study constructs a new dataset, which follows the board composition of all public-to-private transactions in the UK from 1998 to 2003. Out of 142 such transactions, 88 were sponsored by at least one private equity fund. The research team looked at the change in the composition of the board when the company became private and any subsequent change throughout the period in which the private equity fund was still involved. The public-to-private transactions were compared to private equity transactions where there was no private equity sponsor: i.e. pure management buyouts (MBOs), or buyouts backed by non-financial sponsors.

The key findings are as follows:

- When a company goes private a fundamental shift in the board composition takes place. The board size and the presence of outside directors are drastically reduced. The authors do not find a significant difference in the change in the board size of MBOs and LBOs, but the composition is very different. In the case of private equity deals, outside directors are replaced by individuals employed by the private equity sponsors. In the case of pure management buyouts, the outside directors disappear and only management is left.
- Private equity board members are most active in complex and challenging transactions. Private equity groups appear to adjust their board representation based on the anticipated challenges in the investments (for instance, companies that showed a particular need for monitoring even when they were public).
- The presence of LBO sponsors on the board may also depend on the “style” of the private equity firm: certain firms rely less on their own partners or employees and more on outsiders. If more than one PE firm is sponsoring the investment, then the proportion of LBO sponsors on the board is larger, presumably because each sponsor wants to have a representative on board.
- Private equity investors remain actively engaged with their portfolio businesses in the years after the transaction. The percentage of LBO sponsors sitting on the board only slightly decreases over time post-transaction.

II. KEY OBSERVATIONS: CASE STUDIES

The large-sample studies were complemented by in-depth analyses of a total of six private equity transactions in Western Europe (namely, Germany and the UK) and the emerging economies in Asia (namely, China and India). These case studies are intended to highlight particular transactions as illustrative examples, rather than be representative of all private equity-backed transactions in these regions and sectors.

A. European cases

In Europe, the authors focus on one transaction in Germany (Messer Griesheim) and one in the UK (New Look). When the Messer Griesheim deal closed in 2001, it was the largest private equity deal in Germany and the largest industrial buyout in Europe at the time. The company was owned by pharmaceutical giant Hoechst and the founding family. Goldman Sachs and Allianz Capital Partners bought out Hoechst, with the family remaining as a shareholder. As a divisional buyout of a large industrial company, the case study represents a typical case of firm restructuring in Germany at that time. The case offered three interesting areas for analysis: First, employment was a key topic, since the major restructuring efforts and divestitures undertaken post-buyout implied reductions in employment. In addition to analysing sheer employment numbers, additional

indicators regarding employment were identified and analysed, allowing for a rich discussion on this complex topic. Secondly, Messer Griesheim offered an interesting setting to discuss the impact of private equity on corporate governance through the interplay between family owners, industrial companies and private equity investors. Thirdly, the opportunity for a family to regain control over parts of its original company via private equity was investigated within the case study.

In April 2004, New Look was taken private through a buyout supported by Apax Partners and Permira; it represented one of the largest UK buyouts in that year. First, a key area of analysis was the impact on corporate governance through the public-to-private transaction. The case offered a rich base for a discussion of the impact of private equity on strategic decision-making and corporate governance. A comparison was undertaken of New Look's corporate governance while the company was still publicly listed to the period when it was privately held. Secondly, as with the Messer Griesheim case, employment development post-buyout was an important topic of study. Thirdly, the refinancing undertaken after the buyout was analysed, as significant payouts to the equity holders, as well as a recapitalization, took place within three years post-buyout.

B. Chinese cases

The two China cases, China Glass Holdings and Little Sheep, profile two different types of private equity investment in China: the former is a buyout transaction, but with uniquely Chinese characteristics that reflect the country's legal and economic realities; the latter is a classic growth capital private equity investment. Leverage was not a factor in either transaction. Yet both cases present strikingly similar stories of some key factors that are critical for private equity success, especially in emerging market environments where the industry is far newer and less well established than in North America or Europe. Rather than focusing on the financial analytics of private equity transactions, these cases concentrate primarily on the post-investment role played by the two private equity funds as they worked closely with senior management of their portfolio companies to build value, enhance competitiveness and strengthen their capacity to gain access to international capital markets.

The case of China Glass Holdings describes the privatization and subsequent restructuring of a state-owned glass manufacturing enterprise that was purchased in its entirety by Hony Capital, a Chinese private equity fund which ultimately successfully completed an IPO on the Hong Kong Stock Exchange. In sharp contrast, Little Sheep tells the story of an entrepreneur whose hobby turned into one of the largest and best-known restaurant chains in China. Unlike the new and wholly Chinese Hony Capital, 3i Group plc, the private equity investor in Little Sheep, is a well-established global private equity firm founded 60 years ago in Britain. 3i enabled Little Sheep to tap into industry and management expertise that enhanced its ability to professionalize its business practices.

C. Indian cases

The two India cases, Subhiksha and Bharti Tele-Venture, provide insights into why India has attracted more private equity investment recently than any other emerging market country. Total investments increased almost 700% between 2004 and 2006, from \$1.1 billion to \$7.5 billion, and 2007 is expected to be another record-breaking year. This meteoric growth has been fostered by a combination of country-specific factors including India's sustained rapid economic growth, burgeoning domestic consumer markets, established public equity market and human capital and competitiveness in high-growth sectors.

Within the context of these favourable factors, the cases focus on private equity transactions in two high-growth, but unsettled sectors of the Indian economy: retail (the Subhiksha case), and mobile telecom (the Bharti Tele-Ventures case). Both these transactions involved minority rather than control investments by the private equity firms involved, i.e. ICICI Venture in the Subhiksha and Warburg Pincus in the Bharti Tele-Ventures transaction. ICICI Venture is one of India's largest and most successful domestic private equity groups, while Warburg Pincus is a global private equity firm founded in New York in 1966. In both transactions, leverage was not a factor. On the contrary, the cases illustrate that for economies like India that are in the midst of major structural changes, there are ample opportunities for more traditional "growth capital" investments in companies that are expanding rapidly, especially in sectors such as retail and telecommunications that are undergoing consolidation.

Putting it all together

While each study has its own distinct focus, and – as acknowledged above – there is a need for further study into various topics and across different geographies, the project has important implications for how to think about the role that private equity plays in the economy. To the authors, four broader (albeit tentative) observations emerge from the works:

- The substantial periods that firms remain under private equity control, the robust long-run investments in innovation as measured by patents and the flexible governance structures (with small boards dominated by managers and investors) appear consistent with the view that the LBO organizational form is a long-run governance structure for many firms.
- The employment study has mixed results. It suggests that employment falls more rapidly at target establishments post-transaction. At the same time, private equity targets engage in more greenfield job creation than controls. Private equity also accelerates the pace of acquisitions and divestitures. These results regarding private equity's impact on employment – as well as those in the innovation study – fit the view that private equity groups act as catalysts for change in the economy.

- The discussion of many aspects of private equity's impact on the economy has been characterized by confusion along many dimensions. As the employment study highlights, the evidence supports neither the apocalyptic claims of extensive job destruction nor arguments that private equity funds create huge amounts of domestic employment.
- Although LBO transactions outside North America and Western Europe only accounted for approximately 12% of global LBO transactions in number and 9% in value over the period from 2001 to 2007, private equity activity in emerging economies is expanding and maturing, particularly for minority and growth capital investments. As illustrated by the cases, there are different sets of dynamics in place for domestic and global private equity players in China and India.

While these studies represent a first step, one of the most important challenges to address is the ongoing need for rigorous and unbiased evaluations of the broader consequences of private equity investments and the potential of this form of ownership to facilitate corporate restructuring globally in a responsible manner. There is clearly a need for further research that is outside the US and Western Europe and that addresses additional questions such as the implications of private equity on productivity and wages. We hope to approach these issues in the next volume of Working Papers.