



Understanding PE's impact on the economy

What does academic research tell us about the PE industry and its effects on companies, workers and the broader economy?

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Foreword

There are few industries that evoke the sort of strong feelings that characterize perceptions about private equity. Depending on who one asks, the PE industry is either a plague to be shunned and feared, or the epitome of the invisible hand at work, a high-powered force for economic growth and efficiency.

So what do the facts say?

Fortunately, there exists a significant body of academic research that can help unwrap the mystery and provide an objective voice in the debate. In the following pages, EY, in collaboration with the Institute for Private Capital, examines an array of recent academic studies that take a close look at the PE industry in order to better illuminate the effect PE has across an array of economic and operational dimensions – from a company's operational efficiency to employment and even public health.

As with anything, there exist both pros and cons, but it is clear that there are net economic gains that are associated with PE's model of corporate ownership. Indeed, taken in aggregate, the evidence is compelling that:

- ▶ PE has measurable benefits on the productivity of the companies in which it invests.
- ▶ PE is not the job destroyer it's often portrayed to be.
- ▶ PE does not pose a systemic risk – on the contrary, PE's access to capital during tough times is a stabilizing factor.
- ▶ PE-owned companies raise competitive standards in their industries, causing entire industries to become more productive.

No doubt, these findings are reassuring for fund general partners and investors, but more significantly, they can help inform the ongoing dialogue about the role of PE in the global economy and provide policymakers with the context needed to make important and more-informed decisions.

EY and the Institute for Private Capital





But first, why does it matter?

The growing importance of PE in the global economy

First, some facts about the current state of the PE industry to level-set the importance of these issues. Currently, there are at least 15,000 companies owned by institutional-quality PE funds, spanning all industries and stages of development – from early-stage, venture-backed firms to multi-billion dollar corporations taken private in leveraged buyouts. Indeed, by the end of 2017, the net value of PE-owned companies exceeded US\$1.8t; perhaps equally important, PE firms are currently sitting on about US\$1t in additional capital that has yet to be deployed. Globally, PE-owned companies are estimated to employ more than 20 million people, and particularly in the developed markets, they play a critical role in economic activity. In the US, for example, PE-backed activity is estimated to generate around 5% of GDP.

Most relevant, perhaps, is the fact that the industry continues to grow, driven by a number of important dynamics. New companies are staying private longer, enabled by a wide variety of investors willing to provide capital at attractive terms. Existing public companies continue to go private, attracted by the ability to effect transformational change away from the onus of quarterly earnings. Long-life funds are beginning to open the investible universe to new classes of businesses that might not be suitable for traditional PE funds. Indeed, experimentation and innovation throughout private capital in recent years has yielded a broad array of increasingly sophisticated funding mechanisms able to efficiently fund more and more of the typical corporate life cycle.

Given this increasing role for PE, it is important for investors to understand the implications on returns, but also for workers, managers and policymakers to understand how these trends touch the full set of stakeholders.

The reach of PE

15,000 companies owned by institutional-quality PE funds across the globe

20+ million people employed by PE-backed companies

US\$1 trillion in available capital to deploy

An essential role in investors' portfolios

From an investor's standpoint, PE is playing an increasingly important role in portfolios. Preqin recently reported that there are now more than 6,800 institutional investors in PE, up 8% in just the last year. And while foundations, private sector pensions, family offices and university endowments are active investors in the asset class, the single largest source of capital for PE is public sector pensions, which contribute more than one-third of the industry's funding.

The reason is simple – from an investor's perspective, PE appears to be a winner. Numerous academic studies have documented the outperformance of private equity relative to public equity benchmarks. While estimates of average outperformance vary depending on the benchmark employed, the vintage years of the funds involved and the time period studied, estimates are consistently positive at around 3% per year on a net basis, after fees and expenses are factored in.¹ For pension funds staring at shortfalls that have in some cases tripled over the last decade, it's a compelling value proposition.

However, from a broader economic perspective, the gains for investors do not necessarily mean gains for the broader economy. It could be that PE simply redistributes wealth, if PE-owned firms are able to increase their value at the expense of competing firms. If PE is only getting a larger slice of a pie that is fixed in size, it would imply no long-run benefit to the economy, and perhaps even a drop in societal benefit if economic gains were accruing to a smaller share of households. For example, if PE-backed companies were able to increase profits by lowering wages or by cutting benefits of workers, and those savings went to higher income households, this could be detrimental to society.

Consequently, to understand the full impact of the PE industry it is necessary to take as holistic a view as possible of what changes when a PE fund acquires a company. Fortunately, academics have undertaken many of these types of studies over the last decade using very detailed data and careful statistical analysis.

¹ See Brown et al (2015), and citations therein, for a summary of performance results based on various commercial data sources.

Understanding the economic impacts of PE – what does the research tell us?

PE leads to measurable gains in productivity

We begin with perhaps the most basic and important question: does PE investment result in efficiency gains, and thus higher productivity? Productivity is the single most important economic factor in any country. Because a country can only consume as much as it produces in the long run, productivity determines the per capita standard of living of any economy.

Several research studies have examined the ways in which PE investment changes operations and identified positive impacts on operational efficiency. For example, a study published in the *American Economic Review*² examined the performance of more than 3,000 PE-owned firms from 1980 to 2005 and documented gains in total factor productivity.³

The study uses the U.S. Census Bureau's Longitudinal Business Database (LBD) to look at individual business establishments (a smaller unit of observation than the business as a whole) and finds that PE firms tend to shut down or restructure less productive establishments while growing more productive ones, essentially reallocating resources within a company to their most productive use, yielding net gains in efficiency.

These results do not appear to be unique to the US. A 2011 study released by the *Journal of Financial Economics*⁴ examined 839 French deals and found that post-buyout, companies bought by PE firms exhibited improvements in operating performance associated with increases in capital expenditures and new growth opportunities. Acquired companies increased capital expenditures by 24% versus similar companies not backed by PE. It also found that they increased sales growth by 12%.

More broadly, a 2017 study, "Private Equity and Industry Performance,"⁵ examined 20 industries across 26 different countries with known PE investments between 1991 and 2009. The results showed that in industries with greater PE investment, future growth in production, value added and employment is faster. Importantly, the improved performance does not appear to be associated with greater cyclical risk (such as from higher leverage); in fact, industries with increased PE activity are even more resilient to industry-level shocks.

Differences in annual global growth rates between PE and non-PE Industries	
Production	+0.5%
Value-added	+0.8%
Number of employees	+0.4%

Source: Bernstein, Lerner, Sorensen and Stromberg

² S. Davis, J. Haltiwanger, K. Handley, R. Jarmin, J. Lerner and J. Miranda, "Private Equity, Jobs, and Productivity," *American Economic Review*, Vol. 104, No. 12, December 2014.

³ Total factor productivity (TFP) is defined as the portion of production output that cannot be explained by the level of capital and labor inputs used in production. Consequently, TFP is determined by how efficiently inputs are utilized in production. For example, if two factories used the same labor, capital and other inputs of production, but one factory produced more units of output than the other, this factory would have higher TFP.

Effects on employment: Is PE the job-eating machine it's often made out to be?

One of the most controversial aspects of PE arises from perceptions around the effect it has on the employment levels at the companies firms acquire. What happens to existing (and new) employees at PE-backed companies? Are they disadvantaged relative to other employees in similar jobs at companies that are not PE-backed? These are interesting issues, because firing workers or providing a less valuable work environment could imply short-run gains for investors that are nonetheless detrimental to society in the long run.

The aforementioned 2014 study, "Private Equity, Jobs, and Productivity," also tracked employment at PE-backed companies, comparing it with other firms matched by industry, age, size and geography. The study found job losses at existing establishments of about 3% over the two years following a PE acquisition, primarily at weaker units that were already experiencing shrinking employment. However, employment changes at more productive units continued to grow, and at a rate that was faster than the control sample. When employment gains at new units were included, the overall net effect on employment was a decline of less than 1% in the two years following a PE acquisition. Perhaps the most important finding in this large study of employment patterns is that both job losses and job gains at PE-backed firms occur at a much greater rate than at other similar firms. In other words, PE owners tend to "catalyze the creative destruction process," and this involves layoffs and divestitures of less productive units, combined with new hiring at more productive units at much higher rates than normal.

The study also examines what happened to earnings at these companies, and found an approximately 2.4% decline in earnings per worker relative to similar businesses. The declines were the result of lower earnings at continuing business units and the loss of relatively higher earning workers from divested units. However, earnings at newly created units – as firms expanded operations or reallocated a company's resources – were higher than wages at units in the control sample. Thus, while evidence suggests some modest downward pressure on earnings, it also showed growth in higher earning positions at new facilities established under PE ownership.

⁴ Q. Boucly, D. Sraer and D. Thesmar, "Growth LBOs." *Journal of Financial Economics*, 2011. <https://doi.org/10.1016/j.jfineco.2011.05.014>.

⁵ S. Bernstein, J. Lerner, M. Sorensen and P. Stromberg, "Private Equity and Industry Performance." *Management Science*, 2017.



What about financial risk?

A long-time concern about the private equity model is that it is a double-edged sword: the model works well when times are good and high leverage boosts returns, but PE companies are simply taking on more financial risk that results in failure when economies are weak and debt markets are tight. Hopefully, there will be no greater test of this hypothesis than the global financial crisis of 2008-2009. It seems likely that any risks facing PE-backed companies related to high leverage and weak economies would become evident during this period.

Academic researchers have examined what happened to PE-backed companies during the financial crisis in terms of failure rates, access to capital and business investment. A recent 2017 paper, "Private Equity and Financial Fragility During the Crisis,"⁸ examined 434 PE-owned companies from the UK. The authors find that PE-backed companies increased investment relative to their peers, a result tied to fewer financial constraints and better access to new capital – both longstanding relationships with banks and access to uncalled capital from LPs. Combined with a lower overall cost of capital compared to public markets, the PE model appears to provide additional flexibility and access to capital even during times of broad economic and financial market distress.

Differences in investment and funding policy for PE-backed companies vs. matched peers in the UK around GFC	
Investment/assets	+5.6%
Equity to assets	+2.1%
Debt to assets	+3.9%
Interest rate paid on debt	-30bps

Source: Bernstein, Lerner, Mezzanotti

Other studies have examined whether the quality of employment changes. A 2016 study, "Private Equity and Workers' Career Paths: The Role of Technological Change,"⁶ looks at effects on the career paths of workers at PE-owned companies. The authors examined the employment histories of millions of workers from a large online job-search website to see if worker skills (human capital) at PE-owned companies had been helped or hindered from exposure to the large IT-related investments that often follow a PE acquisition. They find that at PE-owned firms, large IT investments are positively associated with the long-run employability of workers, shorter unemployment spells and a tendency to transition to companies that have demand for IT-complementary human capital. Together, these results suggest that (at least some) employees at PE-backed companies get differentially more valuable skills versus their counterparts at non-PE-backed companies, and highlights the role that PE firms can play in mitigating some of the workforce obsolescence issues that are an increasing concern in an era of rapid technological change.

A study released by *The Review of Financial Studies*⁷ looks at the effects on workers in the restaurant industry after PE-backed acquisitions. The study uses state-level health and safety records to document operational changes that result in better training of employees in occupational and health safety. This study also suggests gains in human capital to employees of PE-backed companies.

Overall, the evidence suggests that PE isn't the job-eating machine that many critics assert. Taken in aggregate, the effects on employees are close to a wash. While there are small, but measurable, net declines in employment at PE-backed companies, there are also potential gains from higher quality new employment. Likewise, modest declines in wages of existing employees are counterbalanced by growth in the higher wage new jobs that PE creates. And for employees of PE-backed firms, buyouts also appear to lead to better employment conditions and valuable gains in human capital.

⁶ A. Agrawal and P. Tambe. "Private Equity and Workers' Career Paths: The Role of Technological Change," *The Review of Financial Studies*, Volume 29, Issue 9, 1 September 2016, <https://doi.org/10.1093/rfs/hhw025>

⁷ S. Bernstein and A. Sheen, "The Operational Consequences of Private Equity Buyouts: Evidence from the Restaurant Industry," *The Review of Financial Studies*, Volume 29, Issue 9, 1 September 2016, <https://doi.org/10.1093/rfs/hhw037>

⁸ S. Bernstein, J. Lerner and F. Mezzanotti, "Private Equity and Financial Fragility During the Crisis," *National Bureau of Economic Research*, 2017.

PE-owned companies raise competitive standards, causing entire industries to become more productive

Perhaps one of the most interesting and important research findings on the impact of PE on the economy is that the effects aren't limited solely to the companies in which they invest. Research detailed in "Private Equity in the Global Economy: Evidence on Industry Spillovers"⁹ reveals an important mechanism related to industry and country competitiveness.

Their findings suggest that positive spillovers are created by companies responding to competitive pressure from PE-backed companies – that employment growth, profitability growth, and labor productivity growth all increase when industries see greater PE investment. Essentially, PE-owned companies raise competitive standards and cause the entire industry to become more productive. On average, a one standard deviation increase in the amount of PE investment in an industry leads to a 0.9% increase in employment growth, a 1.2% increase in labor productivity growth and a 2.6% increase in profit growth. In the long run, these gains are shared widely by investors, workers and society as a whole as labor productivity and GDP-per-capita increase.

A word on selection bias

Conscientious consumers of empirical research are always concerned about selection bias. If PE firms were likely to acquire companies that were on the verge of better operations through more investment, etc. then this would introduce a measurement problem. In reality, we know this is not the case. PE firms tend to hire companies that require managerial re-organization and significant new expertise or investment. If anything, any potential selection bias should go against finding benefits to PE.

⁹ S. Aldatmaz and G. Brown, "Private Equity in the Global Economy: Evidence on Industry Spillovers," *Institute for Private Capital*, 9 August 2016, www.investmentcouncil.org/app/uploads/private-equity-in-the-global-economy.pdf.





Inside the black box – what are the sources of these effects?

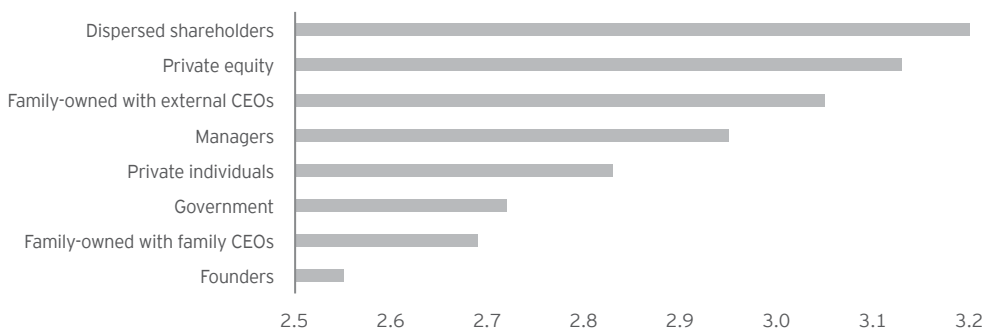
Just as academic research has undertaken to document the scope and magnitude of PE's effects on the economy, it has likewise sought to understand the sources of PE's differentiation.

One possible mechanism is better incentive alignment between investors and managers. PE-owned companies typically provide strong financial incentives to managers and themselves, and are highly incentivized to create value in order to earn performance fees. This need for PE firms to work aggressively comes from the terms of the investment contracts they write with investors. A preferred timeframe for owning a company is less than five years, so active intervention to create value in short order is the top priority.

In addition, PE firms tend to bring with them high-quality management. A 2015 study, "Do Private Equity Owned Firms Have Better Management Practices?"¹⁰ documents that PE-owned firms are typically better managed than most other types of firms, and that this result holds across the 34 countries they examine. For example, PE-backed firms exhibit a distinct improvement in management performance relative to family-owned firms with family CEOs, one of their most common targets for investment. The authors note that the differential between the two groups translates into a productivity improvement of 10% and a growth rate increase of 3%.

They found that PE firms were specifically adept at people management – sourcing the right executive teams, incentivizing them effectively, etc., and at monitoring and oversight of the companies in which they invest. Moreover, PE-backed companies tended to rank better in terms of decentralization – effectively delegating authority to managers, especially when it came to decisions related to new product introductions and sales and marketing activities.

Figure 1: The "Do Private Equity Owned Firms Have Better Management Practices?" study looked at management performance across various types of firms, aggregating and averaging 18 management dimensions into a single overall management score (scale of 1-5), finding that PE-owned firms are typically better managed than most other types of firms.



¹⁰ N. Bloom, R. Sadun and J. Van Reenen. "Do Private Equity Owned Firms Have Better Management Practices?" *American Economic Review*, 2015, https://people.stanford.edu/nbloom/sites/default/files/aer_ep20151000.pdf.

The bottom line

As PE's role in the economy continues to grow, it's increasingly imperative to understand the impact that the industry has – not only on the companies in which it invests and the investors it benefits, but across the full range of stakeholders. Rigorous analyses of the data make a compelling case that PE activity creates positive overall benefits to society that are the result of both direct operational efficiency improvements as well as positive externalities that are created by these gains. That is, not only does PE investment tend to make the companies that it targets better in a number of different ways, but it has additional impacts in terms of raising the bar for the rest of the companies in the industries in which it invests. And while outside the scope of most of the buyout-focused academic literature, it's also highly likely that PE's increasing focus on issues such as ESG and the recent trend toward large-scale impact funds create additional positive externalities.

As more companies choose to stay private for longer (in the US, for example, the average age of companies going public has increased by about 50% over the last two decades), and as more vehicles come online that can hold mature companies for much longer than the standard PE holding period, the dialogue around these issues will move increasingly to the forefront. As such, the need for additional research on the private capital space, which at present is just a small fraction of what's available on publicly traded companies, will become increasingly acute.



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