Thirty years after Jensen's Prediction

Is Private Equity A Superior Form of Ownership?

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I. INTRODUCTION

Almost exactly 30 years ago, the Harvard Business Review published an 8,000 word article entitled "Eclipse of the Public Corporation" (Jensen (1989)). This seminal article addressed a new and untested form of ownership that has since come to be known as "private equity".

Jensen argued that this new form of ownership was superior to traditional quoted ownership, at least where more mature industries were concerned. For that reason, he argued that private equity would eclipse the traditional public corporation. This was a striking prediction when Jensen wrote his paper in 1989, since the number of publicly listed companies in the US had been increasing steadily for decades and had just reached a new high of nearly 5,000. Jensen also put a target date on his prediction: the end of the 20th century.

To begin with, the opposite to what Jensen predicted took place. The prevailing trend continued. The end of the 20th century, when Jensen had predicted the eclipse of the public corporation, saw the number of listed companies reach a new peak of 7,000. At this point, though, the trend did reverse. Today, there are 3,000 publicly listed companies, one-third fewer than when Jensen wrote his piece thirty years ago. Does this prove the claim that private equity is a superior form of ownership?

The answer may depend on the type of private equity ownership. Private equity investments can be executed by different types of vehicles, with each type enabling a spectrum of investment approaches. In this paper we focus on Leveraged Buy-Outs sponsored by General Partners acting within a Limited Partnership. This form of private equity is the one that receives most public attention and that Jensen focused on; it is also one of the main types of private equity investment.

The answer may also depend on the target group. A first possible target group is shareholders. Even though focusing on shareholders makes the question relatively well defined and quite narrow, we argue that answering it is not trivial and we highlight issues that academics and practitioners face when testing this proposition. A second possible target group is a wider set of stakeholders: employees, suppliers (including lawyers and financial intermediaries), customers, government, previous and future shareholders, and capital providers (lenders, asset owners). The literature contains some partial answers on the impact on this broader group, but the challenge here is even bigger than it is when focusing on shareholders. Irrespective of the focus, however, and even after thirty years of research, we do not have a conclusive answer to the question in the title.

II. PRIVATE EQUITY OWNERSHIP

A typical private equity investment (by which we mean an institutional leveraged buyout) sees a new vehicle being set up, funded about one-third by equity from institutional investors such as pension funds (called Limited Partners, or LPs) and two-thirds by debt from banks and other investors including specialized funds (e.g. private credit funds). The new vehicle buys a mature business, referred to as the "portfolio company", thus operates this company and de facto becomes the portfolio company. This whole operation is sponsored by a General Partner (GP). The GP arranges all the financing and controls (fully or partially) the company's board of directors, thus also appoints senior operating managers, designs their pay packages, etc. Strictly speaking, the GP acts mainly as a sponsor or fund manager. To simplify, we refer to this arrangement as "private equity ownership" and the GP is also referred to as a "private equity firm." An key feature of these transactions is that senior corporate managers receive steep financial incentives to ensure that the company maximize profits.

Economists have long worried that quoted companies do not maximize profits but instead are run for the benefit more of their managers. Jensen's "Eclipse" article happened to be published the year after one of the most well-known examples of the kind of corporate behaviour that illustrates perfectly this worry. In 1988, a private equity firm called KKR took private the conglomerate RJR Nabisco, whose chief executive became notorious for having run the company in a way that seemed to maximize his perks at the expense of the shareholders. The highest-profile example of this was RJR Nabisco's so-called "corporate air force" of private planes. Even the chief executive's pet reportedly had its own plane (Burrough and Helyar (1990)).

Private equity sets out to eliminate this problem by aligning the interests of owners (GPs, acting on behalf of LPs) with those of company senior operating managers. Individual examples will vary widely but the following simplified example shows how the relationship between GP and (senior) operating managers typically works.

A GP arranges for a private equity fund it manages to buy a company called Acme Inc. for $1 billion. $800 million of the purchase price comes from debt. The GP sets out to tranche the remaining $200 million of equity in such a way as to make sure the operating managers will have meaningful "skin in the game."

Suppose the operating managers who will run Acme have a combined net worth of $10 million. The GP might want to see them invest one-half of this, or $5 million. This will achieve the required skin

in the game. But in order for it to be a high-powered incentive it also needs to buy the managers a meaningful percentage interest in the equity – for example, 20%. Working backwards, this means the total common equity will be $25 million. The private equity fund will invest the remaining $20 million (80%) of common equity; the fund will also supply the remaining $175 million of equity in the form of preferred shares with a coupon (rolled up and paid at maturity) of 8.0%.

In this stylised example, Acme's $800 million of debt carries an interest rate (rolled up and paid at maturity) of 5.74% and the company generates zero excess free cash flow. After four years, Acme is sold. The $800 million of debt has now rolled up to a total repayment of $1 billion. Any value realised on the sale, over and above the $1 billion debt repayment, will accrue to the equity investors.

At this point, the tranching of the equity comes into play. After four years, the $175 million of preferred equity has accreted to $238 million. As a result, Acme needs to be sold for at least $1.238 billion before the common shareholders (who include the operating managers) receive any payoff at all. Once Acme's enterprise value breaks through $1.238 billion, the payoff to the operating managers accelerates sharply. Suppose the company is sold in year 4 for $1.4 billion. At that point, its total (enterprise) value has risen by 9% p.a. Using $800 million of debt paying 5.74% gears up the return of all the equity investors, regardless of any tax shield. The fund investors earn an annualised return of 17% in this scenario; but the management investors earn an annualised return of 60% because their investment is even more geared. Note that this large payout to managers will count as a capital gain for tax purposes and will thus be taxed at about 15-30% depending on jurisdiction. Managers also earn a salary, but this is usually relatively small.

Figure 2 illustrates the payoff earned by investors and operating managers. This simple example shows how operating managers had to make a meaningful cash investment compared to their net worth; and how the equity structure gives them a high return if and when the investment does well. The operating managers are the last in line, however: they receive no payoff until after the true owners of the company have made a reasonable return.

Few other forms of corporate ownership contain such a sharp focus on profit. There is an extensive economics literature on response to financial incentives. The way private equity ownership sharpens managers' incentives makes it very likely that profits will increase more here than with any other form of ownership.

But the overall picture is more complicated than the one just shown for Acme. Additional layers of agency relationships lie behind the one just described between GP and operating managers. Spindler

(2009) observes that "one could view the typical private equity setup as creating almost an incubator for agency costs, an incredibly hospitable environment for opportunistic managerial behaviour." The GP controls the portfolio company with (mostly) other people's money. Although the GP does have skin in the game, the GP will generally have a more favourable risk-return profile than a portfolio company's operating managers do.

Most GPs charge the portfolio companies they buy for various vaguely defined services; as GPs control those companies, they may be tempted to overcharge or to over-service. GPs also charge expenses to the companies they control. Some GPs fly private jets, for example. Those costs are often refunded by companies' managers (who are effectively the GPs' employees). This situation resembles the one at RJR Nabisco, although it is probably less acute.[1]

Another example that recently received some attention (due to a lawsuit) involves a GP buying an insurance company and then appointing itself as the manager of all of the insurance company's assets, at a cost ten times higher than the level before purchase.[2]

Finally, GPs charge large fixed management fees, which may encourage them to focus on gathering assets even if it comes at the cost of lower returns.[3] For example, GPs may reduce or lengthen the holding period of an investment in order to window dress their track records and raise more capital (Phalippou, 2009).

This situation may seem surprising, given that the contract between GPs and LPs is generally seen as one that is heavily negotiated by powerful "sophisticated investors." An individual LP's incentives, however, may reflect a blend of the terms it can achieve both inside a private equity fund and when it co-invests with the GP outside the confines of a fund. As highlighted in Clayton (2019), larger LPs focus more on the terms for co-investment than on those for the fund. The result is that smaller LPs fail to benefit from the negotiating heft and expertise of larger LPs.

Importantly, it is also the case that one GP faces hundreds of potential LPs who cannot communicate with one another. As a result, the negotiation often boils down to 'take it or leave it.'

[1] Edgerton (2011) finds evidence that the use of private jets is reduced in private equity owned companies compared to publicly owned companies.
[2] Financial Times, 28 June 2019, "Apollo accused of 'looting' affiliate insurer Athene".
[3] Interestingly, Jensen (1989) criticized GPs for charging fees and expenses to companies they control. He also warned against "front-end fees", i.e. management fees: "I look with discomfort on the dangerous tendency of [GPs], bolstered by their success, to take more of their compensation in front-end fees rather than in back-end profits earned through increased equity value….Institutional investors (and the economy as a whole are) are best served when the [GP] is the last [investor] to get paid and when the [GP] gets paid as a fraction of back-end value of the deals including losses."

Figure 1: Number of US-listed companies (included in Fama-French US equity portfolios)

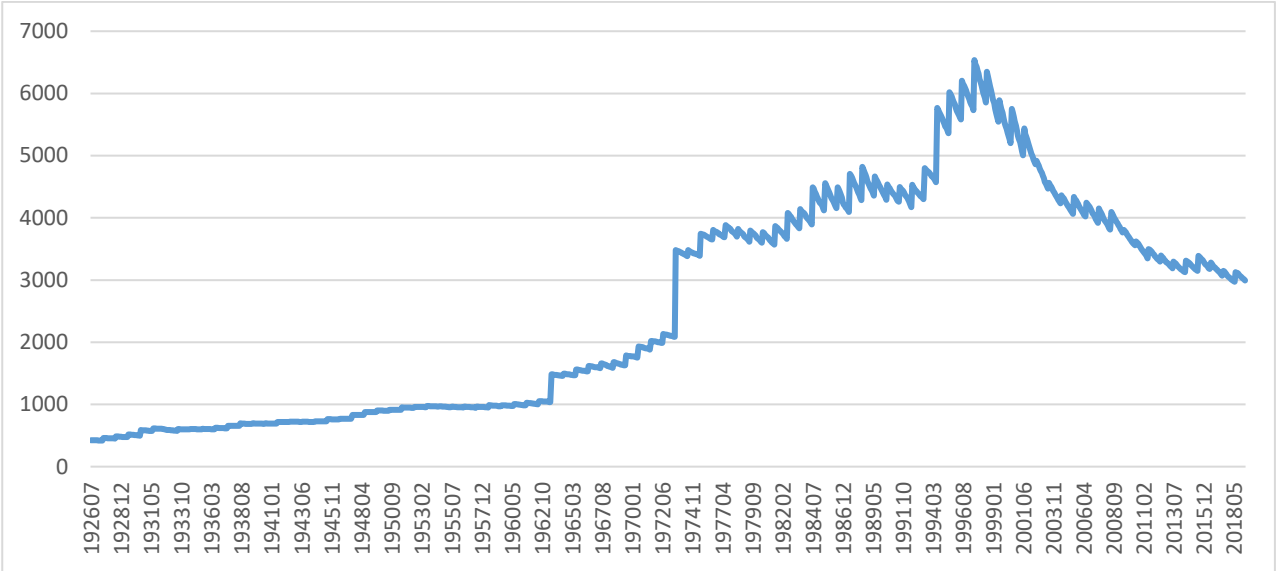
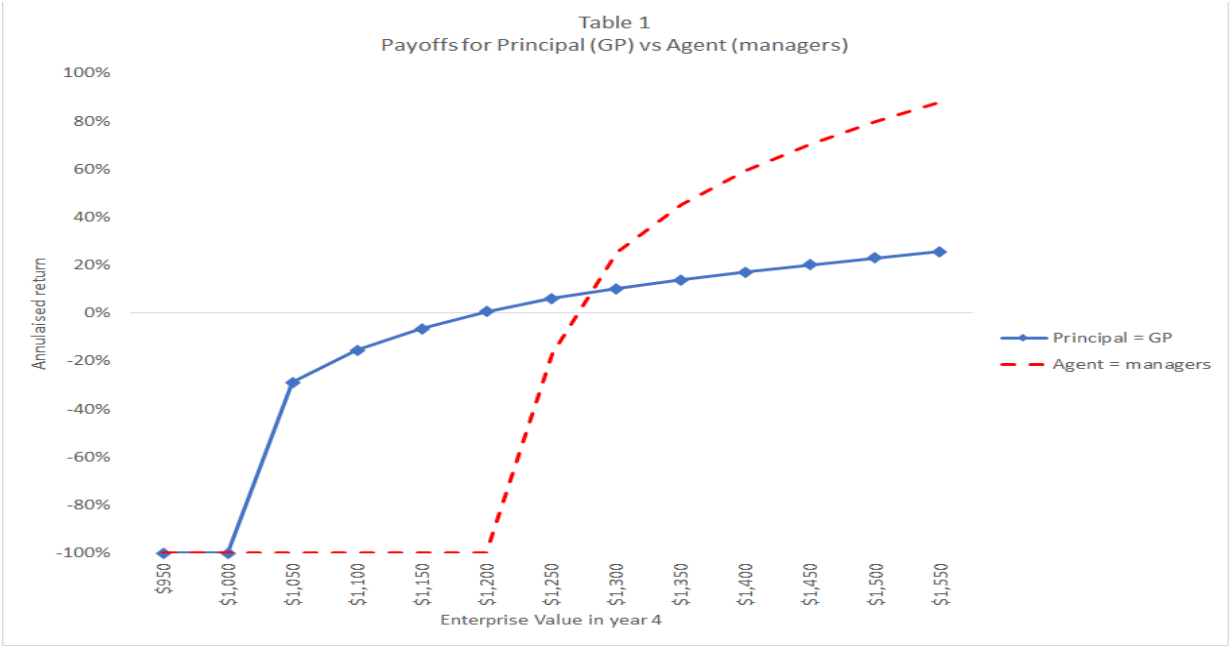


Figure 2: Payoffs for Management and GP in a typical private equity transaction



III. SHAREHOLDER RETURNS

On the face of it, measuring the returns shareholders have received should be straightforward. In practice, this exercise is rife with not only measurement issues (due to lack of comprehensive and reliable data) but also definitional issues. Is the 'shareholder' the GP or the LP? Should performance be measured in terms of accounting or of equity returns? How should risk be measured and how should observed returns be benchmarked?

Private equity investment is confined mostly to so-called "sophisticated investors". Regulators take the view that such investors – for example, a pension fund – are always well enough resourced that they do not need the same level of involvement from regulators that is the norm with retail investors. One result of this involves data: the level of disclosure is much lower than it is for quoted companies. GPs are under no obligation to disclose publicly data about the performance of either an investment fund or the individual companies that a fund owns.

The data position has improved gradually over the years. Academic researchers now have access to reasonably comprehensive and reliable data on net cash flows at the level of private equity funds. This makes it possible to calculate the net returns to LPs. But a single private equity fund will buy several – typically, five to fifteen – separate companies. Data about the performance of individual companies that a private equity fund owns (referred to as deal-level data) remain hard to obtain. Recent studies have made increasingly imaginative use of indirect data sources, especially in the US, ranging from the Bureau of Labor Statistics and Nielsen retail scanning data to the Florida Department of Business and Professional Regulation. But some basic features of private equity performance remain hard to measure on a comprehensive or reliable basis. These include the gross returns on individual company investments; the factors that lie behind those gross returns; and the transition from gross to net returns, that is, the costs of investing in private equity funds.

Investor returns, net and gross

Private equity's complex structure and irregular cash flows make it hard to measure returns at the most basic level. Practitioners generally use two main measures: the internal rate of return (IRR) and the cash-on-cash multiple. Some support for this approach comes from the CFA Institute, which is responsible for the Global Investment Performance Standards (GIPS). GIPS are a set of voluntary

guidelines that investment management firms use to describe their performance. The current set of GIPS (2010) mandates the use of IRR to measure private equity performance.[4]

While mathematically sound, both IRR and cash-on-cash multiple have shortcomings when it comes to comparing private equity returns against more conventional investments, such as quoted equity markets (Phalippou (2008)). Academic researchers therefore prefer an alternative measure called the Public Market Equivalent (PME). The PME in its original form discounts private equity's irregular cash flows at the rate of return on a chosen benchmark – for example, a public equity market index. This produces a ratio that shows how the private equity investment performed, cumulatively over the chosen period, compared with the benchmark (Kaplan and Schoar (2005)).

Using the PME measure on a dataset of 781 private equity funds, Harris, Jenkinson and Kaplan (2015) finds that funds which began investing between 1984 and 2005 delivered net returns to investors about three percentage points per annum higher than many public equity benchmarks. For funds launched in the five years 2006-2010 the net returns to date are about equal to those on the public equity benchmarks. This trend appears to have continued: we find that vintage years 2006-2010 and the following ones (2011-2018) have returns close to the usual public equity indices, with data updated to June 2019 (source: Burgiss platform).

PME results can depend on the choice of benchmark, though. Harris, Jenkinson and Kaplan (2015) finds similar results when comparing private equity funds to a range of benchmarks designed to address different company size, leverage and geography.[5] However, Phalippou (2014) finds that when private equity is compared to a long-established small-cap passive mutual fund (DFA micro-cap), for example, the excess performance disappears. Similar results are reported in L'her et al. (2015) and Stafford (2017).

The choice of benchmark reflects the question that is being asked. The question might be "How do private equity returns compare with the closest public market alternative into which LPs could invest similar amounts of capital?" In that case, the larger-capitalisation equity indices cited by Harris, Jenkinson and Kaplan (2015) may be more appropriate for large investors. An alternative question might be: "How skilful are private equity managers at generating higher returns from equivalent underlying companies?" In that case, the comparison to the DFA fund is more appropriate. The first question measures an investor's next best alternative, which includes asset allocation choices; the

[4] CFA Institute (2010)
[5] S&P 500, Russell 3000, Russell 2000, Russell 2000 Value, S&P 500 levered both 1.5x and 2.0x

second question more precisely addresses manager skill. Subject to this caveat about benchmarks, the research consensus is that until vintage year 2005 included, private equity has delivered net returns to investors that are higher than large-capitalisation equity indices, but private equity returns are close to those of DFA small cap funds across all vintage years.

Meanwhile it remains hard to obtain data that allow a comprehensive view of either gross returns from private equity or the costs that investors pay. But it is clear from certain limited disclosures and from simulations based on the Limited Partnership Agreements that the cost of investing in private equity is high in both proportional and absolute terms. Filings with the Securities and Exchange Commission by some of the largest private equity firms show that historically these firms have retained between one-quarter and one-third of the gross returns they generated (Morris (2016)). Phalippou (2009) and Metrick & Yasuda (2010) use representative assumptions to estimate hypothetical private equity investor costs. Phalippou (2009) finds that the all-in annual costs of investing in private equity may average 7% per annum, while Metrick and Yasuda (2010) finds that about two-thirds of expected private equity firm revenues "come from fixed-revenue components that are not sensitive to [investment] performance."

The combination of positive excess net investor returns with high investor costs shows that private equity firms have historically been able to achieve high gross returns. The natural next question is: How have they done this?

Practitioner approach – the "value bridge"

Practitioners often use the term "value creation" to refer to the gross returns they generate, and a so-called "value bridge" to break it down into three components.

Defining Multiple as EV/EBITDA (i.e. enterprise value per unit of earnings), the change in equity value (Eq) between the entry and the exit from a leveraged buyout transaction is given by:

$$Eq_T - Eq_0 = EBITDA_T*(Multiple_T - Multiple_0) + Multiple_0*(EBITDA_T - EBITDA_0) + (D_0 - D_T)$$

Consider the hypothetical Acme buyout described in Section II. Enterprise value at entry is \$1,000 (\$200 equity and \$800 debt), EBITDA is \$100, hence the earnings multiple is 10x. Suppose that over the next four years, Acme's earnings grow from \$100 to \$130 and its multiple grows from 10x to 12x. Acme's enterprise value grows from \$1,000 to \$1,560, and Equity value from \$200 to \$560.

Table 1 shows how the value bridge breaks this gain down into three components. Growth in earnings ($100 to $130) and growth in multiple (10x to 12x) together generate $560 of profit. The increase in debt produces a negative contribution to profit (-$200). Adding up all three components produces the $360 total gain on Equity value.

The main flaw in the value bridge relates to this way of defining debt's contribution to the profit, i.e. the amount by which debt was paid down over the investment's life. In Acme's case, the buyout used four times as much debt as equity. Table 1 shows that this geared up the equity investor's annualised return from 12% to 29%. Yet the value bridge formula shows the high debt in the Acme buyout making a *negative* contribution to the return on the investment. The reason is that debt rose over the life of the buyout, instead of being repaid.

The value bridge therefore fails to identify the true economic sources of value added in a buyout. By construction, it will often show that leveraged buyouts create a lot of value from earnings growth. This conveniently supports the story that GPs routinely tell the media, regulators and investors. A few practitioners have pointed out the flaws in the value bridge, but those who use the value bridge often argue that since investors are sophisticated, they must see through its weaknesses (Morris (2016)). If that is the case, then it is hard to understand why practitioners feel it is worth presenting the value bridge analysis in the first place.[6]

Table 1. Value bridge of Acme buyout

	Year 0	**Year 4**	***Annualized growth***	***Contribution to value***
EBITDA	$100	$130	*7%*	
Debt	$800	$1,000	*6%*	
Equity	$200	$560	*29%*	
Enterprise Value (EV)	$1,000	$1,560	*12%*	
EV / EBITDA	10.0x	12.0x		
Value Bridge				
Change EBITDA		$360		*100%*
Change multiple		$200		*56%*
Debt reduction		-$200		*-56%*
Total gain		**$360**		***100%***

[6] Puche, Braun and Achleitner (2015) describe a less widely used variant on the value bridge. This recognises debt's gearing effect, but cannot deal satisfactorily with free cash flow or with incremental flows from / to investors.

Most common academic approach – accounting-based

The most common way to show how private equity-owned companies perform compared to companies under different forms of ownership is to use measures based on accounting. Practitioners often use the rate of growth in earnings to show how private equity-owned companies are performing. But growth viewed in isolation from investment means little. Investment may be either internal (capital expenditure or working capital) or external (acquisitions), but both require capital. It is more meaningful to scale earnings growth by the amount of capital used to generate it. In accounting terms, this equates to measuring Return on Assets (RoA).[7]

A buyout usually sees a big change in a company's capital structure. Comparing the company's earnings before and after the buyout, as well as to companies not owned by private equity, requires a measure of return on capital that is not affected by such changes in capital structure. EBITDA has the advantage of being an earnings measure that is not affected by any change in capital structure. Other profit measures such as Net Income would mechanically decrease after a leveraged buyout or a dividend recapitalization even though nothing has changed in the underlying company's operations.[8] As a result, most academic studies use Earnings Before Interest Tax Depreciation and Amortization (EBITDA) as their measure of earnings, and scale it by Total Assets (TA) to obtain a measure of Return on Assets.

Although this ratio is reasonable at first sight, the nuances and inconsistencies of accounting data mean that caution remains necessary. The numerator (EBITDA) is actually not formally defined by accounting standards; hence its calculation is not always consistent.[9] The denominator (Total Assets) has serious shortcomings too. In a leveraged buyout, a private equity firm usually pays a premium over a company's net book value. Accounting standards require this premium to be added to the balance sheet as a new intangible asset (e.g. goodwill). This creates a discontinuity between pre- and

[7] Profit margin (return on sales) is another flawed proxy for operating efficiency. But a high or rising profit margin does not necessarily show profit maximisation relative to capital, because the profit margin fails to capture the efficiency with which a company uses capital. NB that a fall in return on capital does not necessarily imply poor management, since any investment yielding a (risk-adjusted) return greater than the cost of capital should be undertaken.

[8] Conversely, suppose a company's owner invests equity to repay debt. Equity will rise, debt will fall and total assets will be unchanged. Because the company now has to pay less interest expense, both net income and the ratio [net income / total assets] will also rise. But this apparent increase in profitability reflects purely a change in capital structure, rather than in operating performance.

[9] https://www.sec.gov/divisions/corpfin/guidance/nongaapinterp.htm

post-transaction Total Assets, and bias post-buyout RoA downwards. Most studies address this issue by grossing up the pre-transaction Total Assets figure.[10]

But the accounting for such intangible assets also creates an ongoing issue in the years following the buyout. Accounting standards on this topic have varied over time, but at certain periods companies have been either able or required to amortise intangible assets on an annual basis (this amortisation charge is the "A" in EBITDA). Such amortisation charges will mechanically reduce a company's reported Total Assets, and increase its RoA. Since a leveraged buyout by definition triggers a one-time addition of goodwill relating to the whole company, annual amortisation charges of this sort may be proportionally larger for leveraged buyouts than for comparable companies that have not gone through a leveraged buyout. If so, annual amortisation of intangible assets may bias Total Assets downwards (and thus bias RoA upwards) for private equity-owned companies. Adjusting for this issue across large samples is difficult as it requires a high degree of granularity in the accounting data.

In addition, Total Assets (TA) includes cash, which is not an operating asset. Since private equity owned companies operate with relatively lower levels of cash (Gao, Harford, and Li (2013)), the use of Total Assets introduces an upwards bias in RoA compared to non-private equity owned companies. Total Assets is also affected by certain kinds of leasing arrangement: for example, a sale and leaseback of fixed assets such as real estate will see a company's EBITDA and Total Assets both mechanically decline.[11]

Remaining caveats include the size of samples studied, reverse causality issues (targets are not randomly chosen) and the length of period involved. These various issues suggest caveats and avenues for further research as regards RoA-based studies of private equity performance.

With those caveats in mind, several studies find improvements in RoA under private equity ownership. Kaplan (1989) finds significant improvements in RoA for a relatively small sample (48) of US public to private buyouts dating from the 1980s. Guo, Hotchkiss and Song (2011) studies a slightly larger sample of US public to private buyouts dating from 1990-2006 and finds that "gains in operating performance are either comparable to or slightly exceed those observed for benchmark firms matched on industry and prebuyout characteristics, depending on the measure of performance

[10] The acquisition of the company may also trigger a one-time change in the book value of tangible assets, which also needs to be taken into account.
[11] EBITDA will fall because of the new rental (leasing) charge, while Total Assets will fall because fixed assets will be removed from the balance sheet.

and the post-buyout period." Boucly, Sraer and Thesmar (2011) introduces several new elements. The sample size is larger (839), the geography (France) is different, and many of the buyouts in the sample involve companies that were previously unquoted where the previous studies involved mainly buyouts of quoted companies. Boucly, Sraer and Thesmar (2011) find an improvement in RoA of similar magnitude to the one Kaplan (1989) found, while acknowledging the potential problem noted earlier of upward bias at buyouts due to higher proportional amortisation of intangibles (but apparently not adjusting for it).

By including buyouts of private companies, Boucly, Sraer and Thesmar (2011) introduces an emerging research theme, namely the difference in performance of different kinds of buyout. Davis et al (2019) divides buyouts into four categories: public-to-private (a quoted company is taken private); divisional (a division of a company is acquired); private-to-private (an unquoted company goes through a first private equity buyout); secondary (an existing buyout is bought by another private equity firm). Boucly, Sraer and Thesmar (2011) finds that private-to-private buyouts show greater improvement in RoA than public-to-private buyouts do. This could reflect the fact that private equity brings different advantages to a private-to-private buyout than it does to the public-to-private buyouts that Jensen (1989) was writing about. The two most important of these involve access to capital and management skills and/or experience. Cohn, Hotchkiss and Towery (2016) and Bansraj, Smit and Volosovych (2019) each find evidence that seems to support this emerging view about the superior performance of private-to-private buyouts in the US (1995-2009) and Europe (1997-2016), respectively. Cohn, Mills and Towery (2014) provides further support by finding little evidence of RoA improvement in US public to private buyouts (1995-2007).

An alternative academic approach

The ROA-based approach aims to measure changes in private equity-owned companies' underlying operating performance. Such studies compare the performance of companies owned by private equity to other, similar companies. However, they cannot decompose those returns into the key factors that go into the return. These include: general market movements (ie beta); any impact from successful timing (ie buy low, sell high); any impact from using higher than average levels of debt.

Acharya et al (2013) addresses this issue using the CAPM formula.[12] They use data on 395 European leveraged buyouts, most of them successful, that a group of large private equity firms supplied on a

[12] The CAPM formula is Ri-Rf=Alpha+Beta*(Rm-Rf), where they use IRR of the investment for R_i, and capture the impact of using higher debt levels than quoted companies via Beta using the formula:
Beta=Beta_unlevered*(1+Debt/EV); where Beta_unlevered is measured from the Beta observed for quoted companies.

confidential basis. They find that gross returns on this sample of buyouts break down about evenly between Abnormal return (Alpha), higher leverage and stock-market return (Beta).

Some practitioners use a similar approach. For example, the British Private Equity and Venture Capital Association (BVCA) publishes annual studies in which the consulting firm EY appears to analyse relatively small deal samples using a similar framework. EY also publishes studies using this framework independently of the BVCA.[13] On average, the EY studies show similar results to Acharya et al (2013).

The limitations of this approach are that the CAPM formula relies on several assumptions, most of which do not hold true in the data. In addition, Beta does not increase with the leverage ratio of quoted companies; hence the formula used to capture leverage lacks empirical support. Moreover, in private equity, the formula might be even less likely to hold than for public equity because the leverage ratio is dynamically managed over the life of the company and the debt has a rather complex structure: it is tranched, with different types of covenants, and there are various bargaining dynamics in times of financial distress. This means that knowing the total amount of Debt and its weighted average cost is of little use to infer a Beta.[14] Finally, we know from extensive literature on the topic that measuring Beta from quoted companies is nearly hopeless and irrespective of the estimation method, there is no positive relationship between Beta and realized returns for quoted companies, which is the central prediction of the CAPM.

Other return factors

Although the approach taken by Acharya et al (2013) faces methodological issues, its three-way breakdown provides a framework for thinking about gross returns from private equity investments: (a) some portion of the gross return from a buyout will inevitably reflect general stock market returns over the life of the investment (beta); (b) if the GP uses higher levels of debt in the investment than comparable quoted companies do, then the higher gearing will have some impact on the return;[15] (c) the balance of the return is a residual.

[13] EY private equity exit studies are available at www.ey.com/uk/en/industries/private-equity

[14] For example, Hilton Hotels was subject to an LBO at the peak of the stock-market in 2007, with a leverage ratio of over 80%. Given the market downturn that ensued, the return to equity investors should have been -100% using the CAPM formula. Instead, the capital gain by shareholders was the largest ever recorded in private equity (and it is unlikely that it came from a one-off unrealistically high alpha). More generally, studies of private equity fund cash flows do not show any signs of Beta that are more than 1.3 (Ang et al.).

[15] Jensen (1989) introduced a notion that is often referred to as "the discipline of debt." The discipline of debt asserts that high debt levels give operating managers an incentive to focus more on earnings and cash flow than they would do

The residual portion of the return (c) could involves one or more of several factors. One is the sort of improved operating performance discussed above.[16] Another factor could be timing: buying low and selling high. Practitioners often call this "multiple arbitrage" and it plays a large role in the way practitioners describe how they "create value" for investors. With the exception of Guo, Hotchkiss and Song (2011), however, this issue has received little research attention. In addition, such research needs to take account of the role private equity's unusual structure plays in this aspect of returns. The ten-year commitment that private equity investors (LPs) typically make to GPs gives GPs an advantage, relative to most other buyers and sellers of corporate assets. Most such buyers and sellers are subject, directly or indirectly, to pressure from short-term stock market trends. By contrast, a ten-year commitment makes it easier for a private equity GP to take a contrarian stance: buying when others are forced to sell, and vice versa.

IV. PRIVATE EQUITY & WIDER STAKEHOLDERS

Section II showed how private equity incentives encourage operating managers to maximise the profits of the companies they run for the benefit of shareholders. Section III looked at different ways of measuring and decomposing the returns that are generated. We now turn to the question of private equity's impact on wider stakeholders. A non-comprehensive list of such stakeholders includes employees, suppliers, consumers, lenders, taxpayers and sellers/buyers of companies.

Increasing earnings

Increasing earnings is usually viewed as the purest source of returns from private equity. Earnings growth may result from growth in revenue, or from reduced input costs (or both).

Revenue growth that is positive for investors could be negative for consumers or other stakeholders. Chevalier (1995) finds that under certain local market conditions, buyouts may lead to higher prices at supermarkets; but the reverse may also apply. Eaton, Howell and Yannelis (2019) finds buyouts in the US higher education sector are associated with lower education inputs, graduation rates, loan

otherwise. Using higher debt levels than quoted companies do, it is said, helps private equity owners and managers to increase returns by improving operating efficiency. Jensen (1989) also referred to the tax shield that debt creates under most tax regimes, but was silent on the subject of debt's gearing impact on investor returns. Most researchers and practitioners have followed Jensen's approach. They take it as a given that the discipline of debt leads to improved operating efficiency, even though this has never been shown. And while the tax shield effects of debt have been considered, the impact of gearing on investor returns in private equity has, with the exception of Acharya et al (2013), received little attention.

[16] In its studies for the BVCA, EY asserts that the residual portion of the return can be equated to "strategic and operating improvement". But this is not something that can be proved, which is why Acharya et al (2013) limited itself to the more neutral term "abnormal return".

repayment rates and earnings among graduates. In contrast, Fracassi, Previtero and Sheen (2018) finds evidence that the entrance of private equity owners sees food product manufacturers increasing their revenues significantly compared to a matched sample, with almost none of such growth coming from price increases.

Reducing input costs usually impacts negatively stakeholders supplying this input. An important input is labour, and its cost might be reduced through either job losses or lower pay (or both), which adversely affect employees. Two of the most comprehensive recent studies of US buyouts look in detail at how buyouts affect worker earnings. Davis et al (2014) finds in a study of 3,200 buyouts 1980-2005 that "private equity buyouts improve operating margins at target firms by raising productivity and by lowering unit labor costs". Davis et al (2019) covers a larger sample (5,100) and a longer period (1980-2013). It finds employment shrinking at buyouts by a statistically insignificant -1.4% over the first two years of a buyout; and a statistically insignificant drop of -0.3% in average earnings per worker. However, these broad averages conceal wide ranges. At buyouts of public companies, for example, average employment fell by nearly 13%; while at buyouts of private companies it rose by 12%.

Private equity's impact on workers extends beyond current employment and pay levels. A study of 4,193 US buyouts between 1995 and 2010 (Agrawal and Tambe (2016)) finds evidence that private equity ownership "may benefit the employment prospects of workers who are otherwise limited by their exposure to outdated production methods." Another study of a broad sample (Cohn, Nestoriak and Wardlaw (2019)) finds a "large, persistent decline in establishment-level workplace injury rates after private equity buyouts of public US firms. The steepness of the decline increases with proxies for pre-buyout short-termism."

Studies such as these present a mixed picture of the way private equity ownership affects stakeholders such as employees, consumers and suppliers.

Higher debt

After its direct impact on the stakeholder groups above, the most controversial aspect of private equity is the way it uses higher debt levels than most other companies do. Much of the criticism directed at private equity owners has revolved around the claim that high debt levels in private equity increase the risk of bankruptcy. This can have spillover effects on employees, consumers, taxpayers and lenders, among others.

Many research studies have addressed this issue.[17] Most find that a highly leveraged company is less likely to experience financial distress than other, equally leveraged companies are: for example, Hotchkiss, Smith and Stromberg (2014) finds "Controlling for leverage, PE-backed firms are no more likely to default than other leveraged loan borrowers." This result is consistent with managing high debt levels being a core skill for private equity firms. Studies of this kind measure the relative skill of private equity firms in managing high debt levels, and the access to capital that private equity firms bring. Such studies do not measure the impact on society of private equity introducing higher debt levels in the first place. Measuring this requires some challenging counterfactuals but is an important area for future research.

Jensen (1989) argued that "the relationship between debt and insolvency is perhaps the least understood aspect of [private equity ownership]." He conceded that "LBOs *do* get into trouble more frequently than public corporations do," but this was healthy because it meant stakeholders were facing up to company's problems earlier than would otherwise be the case. In addition, Jensen (1989) views the cost of financial distress as negligible: "few LBOs ever enter formal bankruptcy. They are reorganised quickly (a few months is common), often under new management, and at much lower costs than under a court-supervised process."

Hotchkiss, Smith and Stromberg (2014) presents supporting evidence regarding bankruptcy processes. But the generally benign view of the costs of financial distress in private equity fails to take full account of the impact of debt overhang. When a company is in financial distress, the GP is long an out of the money call option and so has an incentive to cut any expense (e.g. investment, innovation, safety) in order to keep control; basically gambling for resurrection at the expense of other stakeholders. Yet, so far, studies on investments in innovation and safety under private equity ownership do not find material differences between private-equity owned and other companies, but these are based on averages. Private equity owners have the greatest incentive to cut back at times of financial distress.

Bankruptcy and the restructuring of companies has also become increasingly complex and costly over time. To illustrate, Ellias and Stark (2019) argues that "For most of American history, boards of directors in most states managed distressed firms with an eye towards maximizing firm value for the benefit of creditors. In today's world, many firms routinely pursue strategies intended to hurt creditors and, whenever possible, avoid bankruptcy for the benefit of shareholders.(…) Perhaps

[17] E.g. Kaplan and Stein (1990), Kaplan & Andrade (1998), Hotchkiss, Smith and Stromberg (2014), Tykvova and Borell (2012), Bernstein, Lerner and Mezzanotti (2019).

echoing the decline of norms of moderation in other parts of American life, managers are now playing what we are calling "bankruptcy hardball" with creditors (…) Well-established norms and patterns of behavior have been upset and broken, and basic standards of comity have devolved. This is to the overall detriment of the credit markets."

Finally, there is little evidence about whether lenders to leveraged buyouts have collectively received over time an adequate risk-adjusted return on the capital they provide. Using higher debt levels gears up investor returns in private equity and usually also provides a tax shield. Debt may also contribute to private equity returns in a less conventional way that is sometimes called "capturing the discount". When lenders and debt investors worry that a company's debt load is too high for the company to service, the debt may start to trade at a discount. GPs may then be able to persuade lenders to accept a discount on the value of the loans they originally provided. This can involve a cash transaction, in which case the GP must have access to further funding; or a non-cash restructuring, in which lenders agree to change the terms of their investment in a way that reduces its value. Both cases see value being transferred directly from lender to equity investor. One high-profile example of this was the Blackstone buyout of Hilton Hotels (2007-13). During the financial crisis, Blackstone persuaded one group of lenders to sell their loans at a discount for cash, and another group to exchange their debt for equity. "Capturing the discount" contributed about $2bn out of the $10bn total profit on this investment. This value was transferred from lenders to the private equity investors (GP and LPs).[18]

If the long-term return that lenders earn from lending to private equity companies is below the fair return (i.e. after risk-adjustment), then lenders are subsidising investor returns. This could simply mean that one set of private investors is subsidising another. But many lenders are implicitly or explicitly backed by taxpayers. Such a subsidy would mean that private equity's positive outcomes for investors may be offset by a negative outcome for taxpayers.[19]

Buy low, sell high

As noted earlier, one relatively under-researched way that private equity firms claim to generate returns is through so-called "multiple arbitrage". This corresponds to the "sourcing, selection and exit" of deals that Gompers, Lerner and Mukharlyamov (2016) includes under the term "operational

[18] Phalippou and Chung (2014)

[19] Any such impact on taxpayers will usually be hard to see, but in the Hilton example one of the lenders that accepted a discount was the Federal Reserve Bank of New York (source: 'Blackstone Reaches Deal to Revamp Hilton's Debt', Wall Street Journal, 20th February 2010; New York Fed Releases Additional Information on Maiden Lane Portfolios, press release, 31 March 2010).

engineering". Put simply, private equity firms may have skill in buying relatively low and selling relatively high.

If a private equity firm combines two smaller, lower-multiple companies into a larger company that attracts a higher earnings multiple, the increase in multiple might reflect the creation of a larger and more efficient enterprise that has increased the general welfare of society. But it is not certain that private equity ownership is more able to, or is better at, executing this strategy than other ownership models are. Smaller quoted companies can and do pursue such consolidation plays as well. The question of whether private equity ownership is a superior way of delivering this kind of consolidation remains open and may be an interesting topic for further research.

In addition, a GP's skill in buying low and selling high per se would be welfare neutral. A GP might buy a division "cheaply" from a large quoted company; or sell a company "dearly" to a new private equity fund that the GP happens to know is under pressure to deploy funds in a hurry. Each of these two cases meets the private equity definition of "creating value." In reality, value in these two examples has merely been transferred between buyer and seller. There has been no net new value creation for society.

Political economy

Political economy is an area where private equity could affect society more broadly than it does the specific groups of stakeholders cited above. As noted earlier, regulators treat private equity investment differently from quoted markets. Private equity firms manage capital that belongs to so-called "sophisticated investors" (meaning, essentially, non-retail investors). Because retail investors are not involved, regulators require lower levels of public disclosure from private equity firms than they do from quoted companies. This could affect [the] political economy in at least two ways.

Most tangibly, the growth in private equity relative to quoted markets over recent years reduces the fraction of the corporate economy in which retail investors are able to invest directly. Ljungqvist et al (2018) argues that this could have wider economic consequences: "Delistings can inadvertently impose an externality on the economy by reducing citizen-investors' exposure to corporate profits and thereby undermining popular support for business-friendly policies."

Less tangibly, regardless of whether citizens want to invest directly in companies, the lack of disclosure required of private equity means that an increasing proportion of corporate activity has

simply become less visible to the public because it receives less media coverage. Zingales (2009) argues that this may reduce perceived accountability and therefore levels of public trust in the corporate sector. To address this issue, he proposes a narrowing of the regulatory gap between public and private equity markets. Such a narrowing would include both reducing regulation in the public market and increasing it in private markets.

V. DISTRIBUTION AND INCOME INEQUALITY

In the past, economists have paid relatively little attention to questions of distribution or income inequality. An emerging view is that how the pie is divided up does matter for overall welfare and even growth. Distribution and income inequality are receiving more attention than they used to and arguably have some relevance for any form of corporate ownership which claims to be superior. In this section, we discuss two ways in which private equity ownership may affect income distribution and inequality.

Within companies

Section II showed how private equity ownership gives steep financial incentives to a small number of the senior operating managers at a private equity-owned company. Section IV showed that research into pay and employment for most workers at private-equity owned companies paints a mixed picture. Across large samples of buyouts, the overall impact on pay and employment is less adverse than private equity's most vocal critics suggest. But the combination of steep incentives for a few top managers and no significant relative change in ordinary workers' pay means that private equity is bound to exacerbate pay differentials between a few top executives and most workers. Jensen and Murphy (1990), which addresses pay for quoted company CEOs, appeared shortly after Jensen (1989). Jensen and Murphy (1990) asserts that "On average, corporate America pays its most important leaders like bureaucrats" and argues in favour of sharpening incentives in a similar way to what Jensen (1989) describes in private equity. Setting Jensen (1989) within a broader context shows that private equity's impact on income distribution has not taken place in isolation.

Between asset owners and fund managers

A second way in which private equity ownership may raise issues involving distribution and income inequality has to do with the relationship between GPs, LPs and the true end-investors in private equity. The majority of these are tens of millions of individual pension scheme members.

The thirty years since Jensen (1989) have seen the finance industry's share of national income rise sharply. In the US, Greenwood and Scharfstein (2011) shows that between 1989 and 2007, the securities industry's share of GDP rose from about 1.8% to about 4.9%. Within this overall figure, "Alternative asset management" – which includes private equity as well as hedge funds and venture capital – saw a steep increase from close to zero in 1989 to almost 1% in 2007. Kaplan and Rauh (2013) supports this finding from a different angle. It classifies the industries that lie behind the success of the Forbes 400 list of the wealthiest individuals in the US. Between 1982 and 2011, the category of "finance and investments" increased its contribution from 4.4% to 20.3%. Within the general finance category, private equity was the second biggest gainer (behind hedge funds), rising from 1.8% to 6.8%.

Section III observed that the lack of reliable data makes it hard to measure key aspects of private equity performance. These include the gross returns that private equity generates; the source of these returns; and the overall costs that private equity investors bear. That makes it hard also to assess the relationship between any of these items. For example, it is hard to establish what proportion of the gross returns that private equity firms generate gets distributed to the benefit of millions of pension scheme members; and what proportion gets retained by the much smaller number of people who work, directly or indirectly, for private equity firms (GPs).

Section III has already noted empirical data and research which suggest that private equity fees are high in both absolute terms and as a proportion of the total gross return. A narrower question is also appropriate from a distributional point of view, namely: What proportion of the *excess* returns in private equity (as opposed to the *total* gross return) do the fund managers retain?

Answering this question with precision is hard because the data issues already noted make it hard in practice to calculate a true excess return. However, there are reasons prima facie to believe that the way contracts in private equity investment are currently structured see GPs retaining a relatively high proportion of any excess returns that they generate. Most people would accept that the most appropriate benchmark for private equity is the return on quoted equities. Some additional allowance may also be made for illiquidity and/or higher levels of debt.[20] But typical fees in private equity, as

[20] Debt: Harris, Jenkinson and Kaplan (2015). Illiquidity: Morris (2016) cites examples of private equity investors requiring a return premium over quoted equities.

described in Section II, do not incorporate any benchmark.[21] The performance fees (carried interest) are therefore based on total gross return, rather than on excess return.

The resulting basis risk creates a structural skew which means private equity firms retain a disproportionately high proportion of the excess returns they generate. One of the most highly regarded private equity investors, along with one of the world's leading pension consultants, have both observed that private equity contracts are sub-optimal in this respect.[22] Agency issues within LPs may play a role in this. Jensen (1989) argues that private equity solves an agency problem between widely dispersed and poorly informed shareholders of a quoted company (principals) and its managers (agents). A parallel situation exists within many private equity investors such as pension funds, which see pension fund managers acting as agents on behalf of widely dispersed and poorly informed individual pension scheme members (principals). Spindler (2009) characterises private equity as a "breeding ground for agency costs".[23]

Traditional economics would take little interest in how the excess return from private equity is shared between GP and LPs, on the basis that what matters is overall economic growth and efficiency. But if distribution issues and impact on income inequality affect whether a form of ownership is superior for society as a whole, then there is room for further research into this aspect of private equity ownership.

VI. CONCLUSION

Thirty years ago, Jensen (1989) argued that private equity ownership would "eclipse" the public corporation, at least in certain sectors. The three decades since then have brought massive growth in private equity and a dramatic fall in the number of quoted companies. Jensen's prediction seems to be coming true. Is that because private equity is a superior form of ownership?

One narrow sense in which private equity can claim to be superior is the net returns that investors have historically received. Section III showed that measuring investor returns in private equity would be difficult in principle even if comprehensive data were readily available, which they are not. However, gradual improvements in data have allowed a consensus to emerge in the academic

[21] Although many private equity fund agreements include a preferred return hurdle rate that LPs must have earned before the GP starts to earn performance fees, this rate is fixed (often at 8%) rather than being tied to the stock market.
[22] Swensen (2010): "If fair risk-adjusted returns set the hurdle for measuring value added, handsomely compensated private equity managers become an endangered species". Towers Perrin (2011): "…approximately 60% of the alpha generated is paid to the GP, far too high a proportion for the disproportionate amount of risk being taken by the LP."
[23] See also Morris and Phalippou (2012).

research over the last few years. Until 2006, private equity as a whole seems to have given investors net excess returns of about three percentage points per annum over many public equity benchmarks. Since 2006, this outperformance seems to have fallen to about zero.

One caveat to this overall picture involves the choice of benchmark. The majority of buyouts by number involve relatively small companies, while the standard benchmarks consist of companies that are larger. For investors such as pension funds that have to deploy large amounts of capital, the standard benchmarks likely represent their alternative investment and in that sense may be the appropriate benchmark. But if size is a factor in the relative performance of the smaller buyouts compared with the larger-cap benchmarks, then some of private equity's outperformance may reflect an asset allocation decision to smaller companies rather than manager skill. Recent research suggests it is "misleading" to treat private equity as a homogeneous universe. If so, then future research should look at more narrowly focussed comparisons of private equity ownership effects, such as the extent to which any private equity outperformance is due to asset allocation (the size factor).

Thanks in part to data issues, research to date has focussed more on the net returns to investors than on what lies behind those returns, namely, the source of the gross returns and the relationship between gross and net returns. Two extreme stories are told about the source of the gross returns. Opponents claim that private equity generates returns not by increasing social welfare but by merely transferring value. The losers in such transfers may include employees (through job losses and lower pay), taxpayers (via bankruptcy-related costs and interest tax shield), consumers (through higher prices). Winners may include private equity firms, various intermediaries (consultants, lawyers, etc.) and to a lesser extent private equity end-investors.

Practitioners, meanwhile, claim that high gross and net returns all flow from the improved governance and sharper incentives that Jensen (1989) first laid out thirty years ago. Many use a misleading tool (the value bridge) that purports to show where private equity's so-called "value creation" comes from. This tool systematically understates the impact of higher debt levels and overstates the role of earnings growth and changes in valuation multiple. It therefore appears to support the practitioner case that private equity returns come not from transferring value but solely from making companies fundamentally more valuable.

Despite data shortcomings, academic research has been able to show that private equity's historically high gross returns, and the resulting positive net excess returns to investors, have not resulted merely from value transfer. There is evidence over various periods and for different types of buyouts that

underlying profitability (Return on Assets) improves, of better management practices and new product introductions, etc.

But the picture on gross returns remains fragmentary and incomplete. The role that debt (meaning gearing) plays in returns remains poorly understood, partly because the persistent myth of the "discipline of debt" has helped to mask it. As Section II showed, private equity managers already have sharp financial incentives that make higher debt levels for this purpose redundant. "Capturing the discount" on loans to private equity is another under-examined source of gross returns. Yet another is the extent to which skill in buying cheaply and selling dearly contributes to gross returns. Future research in this area needs to take account of the relative advantage investors give GPs in this area by committing funds for ten years.

Section IV discussed evidence that private equity has both positive and negative impacts on wider groups of stakeholders. The overall picture is mixed and incomplete and some key issues remain largely unexplored: for example, the question of whether lenders to private equity have received an adequate risk-adjusted return; and the political economy implications of private equity's remarkable growth at the expense of public markets. Looking forward, an increasing number of asset owners are keen to find ways to address the negative externalities that shareholder-value capitalism creates. Current incentive structures in private equity mean that it delivers both the positive and negative aspects of shareholder-value capitalism. But for asset owners who want to change behaviour in ways that come under labels such as "ESG" or "impact investing", the degree of control that comes with the private equity ownership model is attractive. Asset owners need to be alert, however, to the danger of "impact washing" in this area.[24]

Section V mentioned two ways in which private equity could affect income distribution and inequality. Since private equity sharpens regular shareholder-value incentive structures, it should not come as a surprise that private equity exhibits similar tendencies to more conventional shareholder-value ownership models.

A comprehensive picture of private equity remains some way off, but the evidence to date does allow one general conclusion. This is that private equity can be thought of as an extreme form of the shareholder-value model of capitalism. The sharp financial incentives described in Section II encourage private equity firms to seek out every available source of return. Some of these sources are socially useful, others neutral, while others yet may have a negative social impact. Private equity

[24] Brest and Born (2013) examines the question of whether it is possible to "do good while doing well".

has also been evolving over time. When Jensen was writing in 1989, the story involved mainly addressing an overinvestment problem by taking large quoted companies private. More recently, private equity has moved into buying smaller, unquoted companies where private equity may help instead with an under-investment problem. At this end of the market, private equity is arguably providing an alternative to quoted stock markets for companies that have never been quoted before. Future research in this area could look into the relative merits of private equity and public markets for smaller companies that want to expand. Instead of comparing such smaller buyouts to large public indices, the more appropriate comparison would be to smaller-capitalisation indices.

Private equity is not the unalloyed negative that its extreme opponents portray, but neither is the picture as uniformly or conclusively positive for society as practitioners would like to suggest it is. Private equity has its own agency conflicts and creates externalities that are real issues for society. A full picture has yet to emerge and we have suggested some areas that future research could address. We conclude with some policy-related observations.

One extreme response to the way sharply incentivised private equity firms managers try to exploit every available channel of profit emerged recently in the form of the proposed Stop Wall Street Looting Act 2019 ("SWSLA").[25] Section IV discussed the possibility that higher debt levels in private equity may have negative social consequences. SWSLA responds by removing for private equity firms two fundamental building blocks of modern capitalism, namely the tax deductibility of interest and – most radically – limited liability for shareholders. Assuming this could be implemented in a practical way, this would undoubtedly be effective in reducing the possibility that private equity firms may exploit limited liability to the advantage of themselves and their investors. But it is hard to see how any such legislation could effectively define "private equity" in a way that did not also affect the rest of the private sector. The danger of unintended consequences would be high and this approach feels like the legislative equivalent of using a sledgehammer to crack a nut.

A less radical response would involve policy makers and others recognising that private equity does not involve or create a distinct universe, but simply represents an alternative way to run companies. Private equity's current incentive structure means it will always exhibit both the strengths and the weaknesses of shareholder-value capitalism in an extreme form. The rate of growth in private equity compared with quoted markets over the last thirty years means that those strengths and weaknesses are affecting an ever-greater proportion of the economy. This means that society needs to be able to

[25] US Congress (2019)

see and understand what private equity firms are doing at least as well as it understands what quoted companies are doing.

The CFA Institute could make a significant contribution by adjusting the requirements for private equity within the Global Investment Performance Standards (GIPS). Currently, GIPS requires private equity firms to report net returns as measured by since-inception IRR. The lack of any gross return figure makes it impossible for investors to see how much it costs them to invest. The Securities and Exchange Commission requires listed private equity firms to report both gross and net IRR returns and the CFA Institute should do the same. It should also take on board developments in research by introducing PME as a supplemental measure of return.

Where policy makers more generally are concerned, Zingales (2009) describes how a "regulatory gap" has opened up between public and private markets. One key area where this applies is disclosure. Improved disclosure by private equity would allow researchers, and thus society as a whole, to fill in some of the gaps identified above and thus to get a more accurate picture of private equity's true impact. Improved disclosure could include both financial results of portfolio companies and the GP's calculation of gross IRR and money multiple on individual buyouts. None of these would require any additional time/cost from GPs, because GPs already likely provide these data to their investors. Nor does this create any competitive disadvantage (except to the extent that it reveals true performance). Quoted companies have to provide a full picture of their performance in order for stakeholders (not just shareholders) to hold them accountable. When private equity ownership has grown so much, the current public-private gap in disclosure becomes hard to justify.

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