

# Public or Private? Determining the Optimal Ownership Structure

By

**Gregory Brown<sup>+</sup>**

Institute for Private Capital & UNC Kenan Institute of Private Enterprise

**Andrea Carnelli, Ph.D.**

Pantheon

**Sarah Kenyon**

UNC Kenan Institute of Private Enterprise

## Abstract

We contend that the decision between public and private ownership can be understood in a cost-benefit framework where firms trade-off the governance benefits of private ownership with the potentially lower capital costs of public ownership. Consequently, ownership structure can be understood by examining the governance model that maximizes firm value. We discuss the conditions under which firms maximally benefit from private ownership, and argue that the “governance engineering” by private equity sponsors can ultimately explain the continued rise of private markets to the detriment of public markets.

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<sup>+</sup> Corresponding Author: Sarah Graham Kenan Distinguished Professor of Finance, The University of North Carolina at Chapel Hill Kenan-Flagler Business School, CB 3440, Kenan Center, Room 301, Chapel Hill, NC 27599-3440 USA, (919) 962-9250; [gregwbrown@unc.edu](mailto:gregwbrown@unc.edu)

## 1. Introduction

What are the economic forces that shape the decision to be a publicly listed company or, alternatively, a closely-held private company? This question is particularly important in light of two recent trends: the rise of private markets and shrinkage of public markets. Companies are remaining private longer and increasingly never go public, instead opting for sales to strategic buyers, or obtaining later-stage financing (often now provided by private equity firms in addition to traditional venture capital firms).<sup>1</sup> Furthermore, mergers and acquisitions (M&A) and public-to-private transactions continue to remove public firms from the markets. As a consequence, the number of public listings has fallen in many countries over the last two decades as the number of companies in private equity portfolios has skyrocketed.<sup>2</sup> In this analysis we examine the public-private decision through the lens of a large institutional investor who owns both publicly traded equities and obtains ownership stakes in private firms through a private fund sponsor (and thus we will use “private company” and “private equity sponsored deal” interchangeably).

There are a variety of ways that companies transition ownership, so understanding ownership structure is akin to understanding decision making at these junctures. When ownership transitions occur, the existing owners of a corporation are making a deliberate decision to become either a publicly- or privately-owned company. If we assume that the existing owners of companies are making rational decisions, *we can understand this public-private decision as simply choosing the option that maximizes shareholder value*. Consequently, it must be the case that any time a company is privately owned it is perceived as more valuable in private hands than as a publicly-listed firm and vice versa.

But what factors drive the value-maximizing decision in each case? We contend that the key driver between the private and public ownership decision is the trade-off between a lower cost of capital for publicly listed firms vis a vis better governance in private equity companies. Public equity ownership provides for access to a broad investor base and a liquid secondary market. Consequently, public firms will enjoy a lower cost of capital than that available in private markets, all else held constant. In a traditional valuation model, this lower cost of capital increases the present value of cash flows and implies a higher firm value. However, all else is *not* the same between public and private markets. In addition to listing fees and on-going costs driven by regulatory disclosure requirements, public companies suffer from misalignment frictions between management and shareholders. The

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<sup>1</sup> See Ulrich and Allen (2016)

<sup>2</sup> See, Doidge, Karolyi, and Stulz (2017) and additional discussion in Section 2.

“agency costs” that ensue have a negative impact on firm value.<sup>3</sup> In contrast, the alignment between management and shareholders is a key ingredient of the private ownership model. Alignment between shareholders and management is stronger under the private equity model than it is for public firms because private equity sponsors have both a stronger incentive to monitor and better ability to control company management than shareholders of public corporations. Private ownership, by reducing informational barriers and improving alignment between owners and managers, can enable the shift from short-term focus to long-term value creation.

When agency and listing costs from being public more than offsets the gains derived from a lower cost of capital, shareholders will optimally choose private ownership -- and public ownership otherwise. Similar to Doidge et al. (2017), we argue that the net benefits of public ownership are driven by size – but also explore factors that can explain cross-sectional and time-series variation in the optimal size for listing. In particular, we contend that, controlling for size, companies should benefit from private ownership when they have dominant market positions, generate high levels of free cash flows, feature a complex business model and strategy, or require to undergo change at the expense of current profitability. We also argue that the secular trend of rising private markets – to the detriment of public markets – has been driven by a decline in the cost of capital of private firms thanks to better risk sharing of private investments enabled by the development of the private equity industry. This theoretical extension combined with rapid change of the private capital markets since the 1980s, leads us to believe that private ownership tends to be better for business efficiency – as long as it can be supported in equilibrium by patient and affordable capital.

The paper contributes to a vast literature on corporate governance. Jensen and Meckling (1979) first characterize the relationships between shareholders and management as being afflicted by agency frictions.<sup>4</sup> Building on this framework, Jensen (1989) argues that private ownership is better for businesses that produce excess cash flow, should down-size, or lack growth opportunities. While these factors may have been effective in describing LBO deals in the 1980s, they fail to generalize to the current environment where large companies with these characteristics remain public and firms

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<sup>3</sup> See, for example, Jensen (1989) and Talmor (2018).

<sup>4</sup> Agency theory is not the only framework explored to understand the public vs private decision. For instance, the “disagreement-based autonomy” approach developed by Boot et al. (2006) Boot et al. (2008) builds on the notion that managers recognize the importance of autonomy: private ownership is preferred both when corporate governance structure is excessively stringent (thereby severely limiting a manager’s autonomy) and when corporate governance structure is excessively lax (thereby ensuring that investors demand a higher return).

with growth potential decide to stay private. We extend Jensen's framework to better understand the trade-off between risk sharing and agency improvements, and argue that private ownership increases firm value for a wider set of opportunities than suggested. We also tie into the debate exploring the rise in private markets and shrinkage of public markets. Doidge et al. (2017) document a "U.S. listing gap" and ascribe it to a decrease in the net benefit enjoyed by firms that decide to list. Ewans and Ferra-Mensa (2019) suggest that the shift towards the private ownership model is a consequence of two factors: i) deregulation of private markets increasing the supply of private capital and decreasing the cost of being private, and ii) a preference by management to maintain control. Stulz (2019) makes a similar argument and also argues that private markets are more suitable for the valuation of the intangible assets of technology firm. In this paper, we argue that benefits accruing from the governance model of private firms play a key role in explaining this trend.

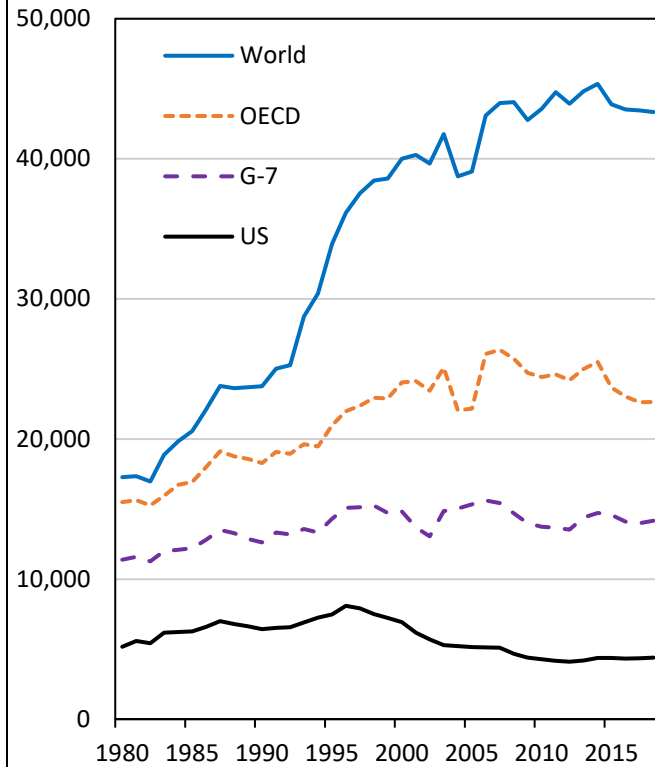
The rest of the paper is structured as follows. The next section sets the scene by reporting stylized facts on the growth of public and private equity markets. Section 3 analyses the pros and cons of the public ownership model, drawing on extensive academic literature. Section 4 analyses how the private ownership model overcomes some of the shortcomings of listed companies. Section 5 gets into the heart of the paper by fleshing out our hypotheses on when private ownership can be better than public ownership. Section 6 concludes.

## 2. A brief history of public and private markets

Before delving into the trade-offs between the public and private ownership models, we survey two secular trends that have been at play over the last two decades: a shrinkage in public markets, and a contemporaneous rise in private markets.

Figure 1 shows how the number of publicly-listed companies has changed since 1980. Worldwide, the number of listed companies grew fairly steadily in most of the 1980s and 1990s. The number of listings start to level-off by 2000 and, around 2014, to decline. Trends for OECD and G-7 countries reveal less growth and earlier declines. While the declines are pronounced for the U.S., they are also wide-spread with 18 countries (including many large economies) seeing peak-to-trough declines of 30% or more in the number of listed companies.

Figure 1: Public Markets (1980-2018)<sup>5</sup>



Panel A: Global Publicly-listed Companies

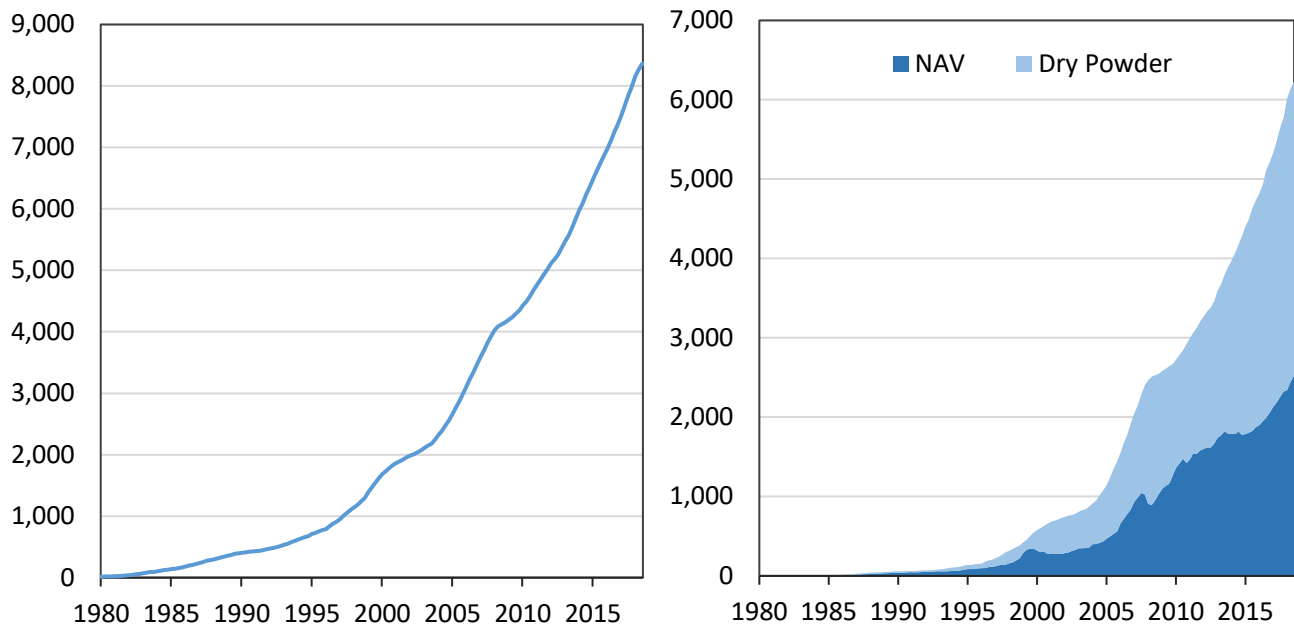
Country	% Change
Netherlands	-75.0%
Portugal	-74.7%
Russian Federation	-72.9%
Mexico	-67.9%
New Zealand	-66.7%
Argentina	-66.4%
South Africa	-61.7%
<b>France</b>	<b>-61.4%</b>
Belgium	-60.1%
Ireland	-57.0%
<b>United States</b>	<b>-49.3%</b>
Greece	-46.0%
Brazil	-43.6%
<b>Germany</b>	<b>-40.9%</b>
Austria	-40.2%
Denmark	-39.8%
Israel	-36.7%
<b>United Kingdom</b>	<b>-36.3%</b>

Panel B: Peak to Trough Percent Change in Number of Public Company Stock Listings

In contrast, Panel A of Figure 2 shows that the number of active private funds has grown exponentially from almost none in 1980 to over 8,000 by the end of 2018. According to Burgiss, these funds were invested in more than 25,000 separate portfolio companies at the end of 2018 which is equivalent to more than half the number of publicly listed companies globally. Panel B shows that global AuM in private funds (a combination of fund net asset value and uncalled capital or “dry powder”) surpassed 6 trillion USD in 2018.

<sup>5</sup> Based on data from the World Bank: <https://data.worldbank.org/indicator/CM.MKT.LDOM.NO>.

**Figure 2: Private Markets (1980-2018)**



Panel A: Number of Private Funds<sup>6</sup>

Panel B: Value of Private Funds (billion USD)<sup>7</sup>

So what has happened to drive the reduction in public listings? The phenomenon could be in general explained by a lower propensity to list, a higher propensity to delist, or both. Focusing on U.S. companies, Doidge et al. (2017) and Bartram et al. (2019) find that the number of delistings has held relatively constant. Instead, the recent drop in listings stems from a decline in the rate of IPOs from the high rate prior to 1997. In particular, smaller firms are no longer listing at the same historical rate and the average size and age of listed firms has grown substantially. In addition, firms that do go public are waiting longer. For example, in 1999 the average U.S. technology IPO was four years old, by 2014, the average age was 11 years.<sup>8</sup>

On the other hand, what factors have influenced the rise of private markets? Financial innovation and regulatory changes have played important roles in the early days of the private equity industry. The 1970s witnessed the pioneering of leveraged buyouts as an investment strategy and the use of private funds as a model for active investing in corporate equity. In 1978, the ERISA “prudent man rule” restriction was relaxed, opening the gates of private equity to investments by institutional

<sup>6</sup> Source: Burgiss

<sup>7</sup> Based on data from the World Bank: <https://data.worldbank.org/indicator/CM.MKT.LDOM.NO>.

<sup>8</sup> See Erdogan, Kant, Miller, and Sprague (2016).

asset managers. By the 1990s, major institutional investors (e.g., pension funds, insurance companies, and endowments) had warmed to the idea of private funds and further deregulation of securities laws – in particular the National Securities Markets Improvement Act (NSMIA) of 1996 - made it easier for private firms to raise capital without entering the public markets;<sup>9</sup> at the same time, the passage of the Sarbanes-Oxley Act may have increased the cost of being public and discouraged public ownership.<sup>10</sup> These and other regulatory changes are likely to have increased both the supply of private capital funds and the demand by institutional investors. Indeed, private markets have become in recent years a key component of the asset allocation of institutional investors, and their weight continues to rise: for instance, Ivashina and Lerner (2018) find that, for pension funds in many of the largest economies, the allocation to private equity and real estate has nearly doubled to 20% in the 10 years following the great financial crisis.

It is tempting to interpret the increase in dry powder and the decline in IPO activity as the effect of a substitution between private and public markets in providing access to capital. In this spirit, Doidge et al. (2017) suggest that the decrease in net benefit from listing may stem from the benefits of private ownership combined with the supply of private capital. Similarly, Ewens and Farre-Mensa (2018) argue that the decline in listings is the result of shareholders taking advantage of deeper private capital markets and realizing the value of operating under a private firm governance structure.

The evidence above shows how the last 30 years have witnessed a major shift in the way that companies can raise capital: while public markets were traditionally the obvious source of capital for companies looking to grow, this is no longer true. Companies today can choose to raise money in public or private markets and will naturally trade off the benefits and costs before making a decision. The next section examines the cost and benefits of each ownership model.

### 3. Public Ownership

We start off by summarizing the advantages and disadvantages of listed corporations most commonly examined in the corporate finance literature. The key benefits of public markets are the availability of large pools of capital, extensive risk-sharing, and the provision of low-cost capital; on the other hand, accessing public markets can be costly and public companies can suffer from information asymmetries, agency costs, and short-termism. This section analyses these benefits and

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<sup>9</sup> See Ewens and Farre-Mensa (2018) and Agrawal, Catalini, & Goldfarb (2014).

<sup>10</sup> See Boot et al. (2008).

costs in detail.

Public markets enable companies to access funding at a low cost of capital. As articulated by Jensen (1989), the cost of capital of public corporations is kept low thanks to their ability to “spread the financial risk over the diversified portfolios of millions of individuals and institutions”: because of this risk sharing across a diffuse shareholder base, the marginal investor is fully diversified and thus requires no risk premium for firm-specific risk. Public markets are large: the World Bank estimates the value of public equity at \$79.2 trillion USD as of the end of 2018. These deep markets with low cost of capital provide a strong incentive for having a public ownership structure, especially for large firms seeking access to deep pools of capital.

A consequence of the diffuse shareholding base of public companies is the separation of ownership from control: investors are not involved in the day-to-day running of the company, which they delegate to professional management. While in theory this separation produces efficiencies – allowing risk to be borne by investors able to bear it and control to be assigned to the best managers – it can also give rise to misalignment. In their seminal work, Jensen and Meckling (1976) identify the misalignment of goals within public firms arguing that stockholders and management “fit the definition of a pure agency relationship”, with management maximizing personal career concerns (compensation, stability, reputation) potentially at the cost of shareholder wealth maximization. Empirical studies document that agency costs indeed have a meaningful negative impact on overall firm valuation (see, for instance, La Porta et al. (2002)).

Agency frictions are closely related to information asymmetry. Outside investors inherently know less about the company than managers. The less information there is about a company, the greater is the scope for management to pursue their objectives at the expense of shareholder value. Information may be withheld by management to strategically protect the firm’s proprietary information and retain competitiveness<sup>11</sup>; however, this may also happen in an attempt to bury bad news and mitigate potential negative career impacts.<sup>12</sup> The resulting information asymmetries create economic deadweight costs when public shareholders must value a company based on limited firm information.<sup>13</sup> Also, the higher the information asymmetry between shareholders and management, the costlier and more difficult it is for investors to monitor and exercise control, thus exacerbating the

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<sup>11</sup> See Leuz and Wysocki (2016).

<sup>12</sup> See Leuz and Wysocki (2016).

<sup>13</sup> See Lambert, Leuz, and Verrecchia (2012); Bebchuck, Cremers, Peyer (2011); Varas (2018); Kaplan and Stromberg (2009).



potential for agency frictions.

An often-cited consequence of information asymmetry and agency costs is “short-termism”, i.e., a fixation on near-term operating performance such as quarterly earnings. This can be detrimental to shareholders when short-term behavior negatively impacts long-term firm value, but agency frictions keep management focused on myopic policies.<sup>14</sup> For example, management may manage earnings in order to meet analyst forecasts and maintain smooth earnings as a signal to the market that all is well since more precise operating information is proprietary and would damage the competitive position of the firm.<sup>15</sup> In fact, evidence shows that managers can finesse financial reports in order to influence their stock price by delaying maintenance or advertising expenditures and pass over profitable projects to meet short-term earnings benchmarks.<sup>16</sup> Short-termism also affects the fundamental competitiveness of public companies. Once a typical firm becomes public, agency frictions can reduce incentives to innovate.<sup>17</sup>

Shareholder and board monitoring are often cited as remedies to agency frictions, but these controls often fail in practice. Under the diffuse ownership model, most individual shareholders take a largely passive role because their equity interests are not sufficiently large to incentivize the gathering of information, monitoring of boards, and enforcement of control rights (Schleifer and Vishny (1997)). In response to poor governance, shareholder activism has grown as an institutionalized investment strategy.<sup>18</sup> While research shows that activists are often effective at adding value and improving governance, activist campaigns can be very costly.<sup>19</sup> Ultimately, activist investors suffer from the same free-riding problem experienced by a diffuse investor base because they are also minority shareholders (usually with less than 10% ownership) and therefore realize only a small fraction of the value they create.

Boards too are often powerless in counterbalancing the governance vacuum created by the lack shareholder monitoring. While in theory public company directors should be independent in order to ensure separation of interests, this is often not the case in practice; in fact, boards tend to be nominated by CEOs instead of the other way round. CEOs who serve as board chairperson may

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<sup>14</sup> See Bebchuck, Cremers, Peyer, (2011); Varas, (2018); Houlder and Nandkishore (2016).

<sup>15</sup> See Rahmandad, Henderson and Repenning (2018).

<sup>16</sup> See Graham, Harvey, and Rajgopal (2005).

<sup>17</sup> See Ferreira, Manso and Silva, (2014).

<sup>18</sup> See Brav, Jiang, & Kim (2010).

<sup>19</sup> See Gantchev (2013) for example who shows that activist campaigns ending with a proxy fight cost on average \$10.7 million USD.

compromise the board's monitoring function and directors may become entrenched during their tenure.<sup>20</sup> Management can effectively capture the board using provisions such as staggered board terms, limits to shareholder bylaw amendments, poison pills, golden parachutes, and supermajority requirements which can decrease firm value and protect management from proper oversight.<sup>21</sup> When management captures control of a company they also have little incentive to provide detailed information to shareholders.<sup>22</sup>

As more research has documented the serious agency issues facing public companies, boards have responded by providing compensation contracts that more closely align the incentives of management with the shareholder wealth maximization. However, this has proved an inexact science and led to increasing complex and opaque CEO contracts that can even increase information asymmetries.<sup>23</sup>

#### 4. Private Ownership

While private markets do not provide the same depth and risk sharing capacity of public markets, the private ownership model can overcome the governance issues of diffuse public ownership. This stems from the fact private equity sponsors have a stronger incentive to monitor and better ability to control company management than shareholders of public corporations; this in turn improves the alignment of interests and reduces agency frictions.

As seen in the previous section, the break down in alignment between shareholders and management of public corporations is the consequence of a free-riding problem: due to diffuse ownership, no single shareholder has large enough incentives to gather information and monitor management, let alone enough power to take action. In contrast to the diffuse ownership model of public corporations, PE firms typically represent the absolute majority of the shareholding base of the companies they acquire: by virtue of their concentrated ownership, not only do they have a strong incentive to monitor management but also have the means to do so effectively thanks to full control.

Private equity sponsors exert their shareholder control in different ways. First, via their ability to pick and replace the CEO and top management of the company. After engaging in detailed due diligence pre-investment, private equity GPs are then able to closely monitor the progress of the

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<sup>20</sup> See Dalton et al. (2007).

<sup>21</sup> See Bebchuk, Cohen, and Ferrell, (2009) and Hillman et al. (2011)

<sup>22</sup> See Coles, Daniel, & Naveen (2008); Raheja (2005); Goodstein, Gautam, and Boeker (1994).

<sup>23</sup> See Marinovic and Varas (2019).

company throughout the deal.<sup>24</sup> Typically, the GP will obtain the majority of the board seats by appointing investment or operating experts, and place a friendly party as board chair. The main function of the board is to monitor the progress of the company and to report to the GP. This is in contrast to public companies where, as discussed above, CEOs tend to entrench and appoint the boards that are theoretically tasked with monitoring their actions.

Second, private owners tend to pay particular attention to the compensation of top management. While managers may sometimes have incentives based on annual performance, the bulk of compensation is typically paid upon exit via the exercise of stock options – this is different from CEOs of public companies, that can benefit from large market movements in stock price. Instead, for private companies, intermediate valuations are simply accounting estimates and do not reflect prices at which owners can transact.<sup>25</sup> Consequently, the intermediate value to shareholders is typically not a distraction for managers and owners who instead can aim focus of their efforts on how to maximize the total long-term value realized upon exiting ownership. For a typical buyout deal the investment duration will be 3-7 years—much longer than the quarterly earnings cycle public firms are tied to. This longer horizon removes incentives to game short-term accounting numbers or under-invest in capital expenditures or R&D that should increase firm value.

Last but not least, the concentration of ownership allows private equity sponsors to obtain any information required to support their monitoring and evaluation of the management team.<sup>26</sup> While public companies offer to shareholders few touchpoints for information flow and decision making, private companies offer deep, frequent, and actionable information to their shareholders. This may provide an efficient mechanism for determining when to terminate innovative projects, since managers and investors have more precise information on all firm's initiatives and therefore are in a better place to shut down underperforming projects.<sup>27</sup> On the other hand, public companies with a large set of investors are more likely to face agency problems like “soft budget constraints” and “pet projects.” In addition, private investors often bring in other investors and experts to ensure that progress is carefully evaluated by objective outsiders. This differs from management consultants hired by public companies which typically report to management.

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<sup>24</sup> See Acharya, Gottschalg and Kehoe (2013) and de Fontenay (2019) and Croce, Martí, and Murtinu (2013).

<sup>25</sup> Fair value accounting principles require that estimates be as close as possible to the price at which an asset can be sold under current market conditions; however, they still leave a lot of room for discretion and estimates can differ substantially from actual values.

<sup>26</sup> See Kaplan and Strömberg (2009).

<sup>27</sup> See Bergemann and Hege (1998).

The net effect of these forces is that in private companies the balance of power moves from the CEO to the board and shareholders; this in turn disciplines management to serve the best interest of shareholders, improving alignment and reducing agency frictions.

## 5. The Public-Private Decision

The previous two sections articulate the advantages and disadvantages of the public and private ownership model, exposing a fundamental trade-off between better governance in private markets vis a vis a lower cost of capital in public markets. We now investigate this trade-off further and frame the choice of ownership type as the outcome of a rational process where firms evaluate the pros and cons of private and public ownership and choose the model that maximizes value.

Similarly to Doidge et al. (2017), we model the benefits and costs of public ownership as a function of size, as illustrated in Figure 3a. The solid line represents the benefits of public ownership: improved risk sharing lowers the cost of capital, thus increasing the net present value (NPV) of future cash flows. Since risk sharing across a diffuse ownership structure becomes increasingly important for large companies, the impact of a lower cost of capital on the value of public firms also increases in firm size (but at a decreasing rate). Line dotted line traces out agency costs for public firms as a function of firm size. Agency costs can be thought of as the loss in firm value due to poor alignment between shareholders and management: for instance, they reflect the value of perquisites enjoyed by the C-suite or the NPV of projects foregone due to concerns over career risk. Finally, the dashed line traces out the costs associated with having shares listed on an exchange, including one-off listing fees, and on-going regulatory and reporting costs. These costs have both a fixed and variable component. As argued by Doidge et al. (2017), a firm maximizing value will choose public ownership when the NPV of the benefits from a lower cost of capital is higher than the NPV of agency and listing costs – and will choose private ownership when the opposite is true. In general, the larger the firm, the more likely the risk sharing benefits of listing outweigh the benefits from better governance under private ownership. This is illustrated in Figure 3b: optimal ownership is private until the benefit and cost lines intersect and public thereafter.

Figure 3a: Benefits and Costs of Public Listing

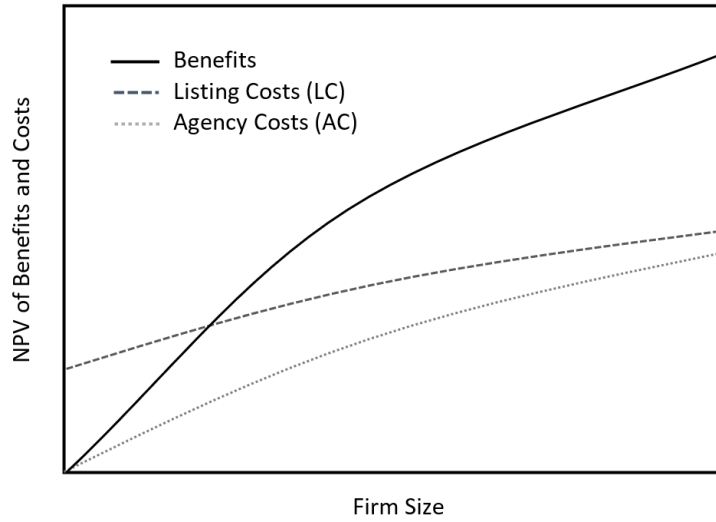
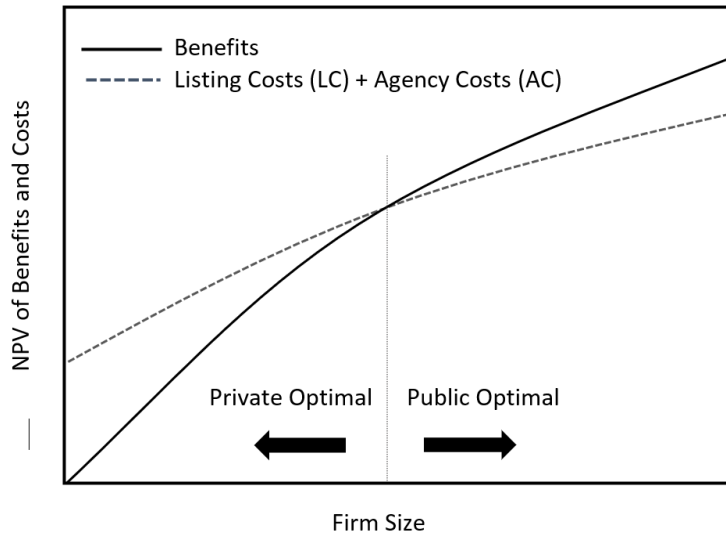


Figure 3b: Benefits and Costs of Public Listing

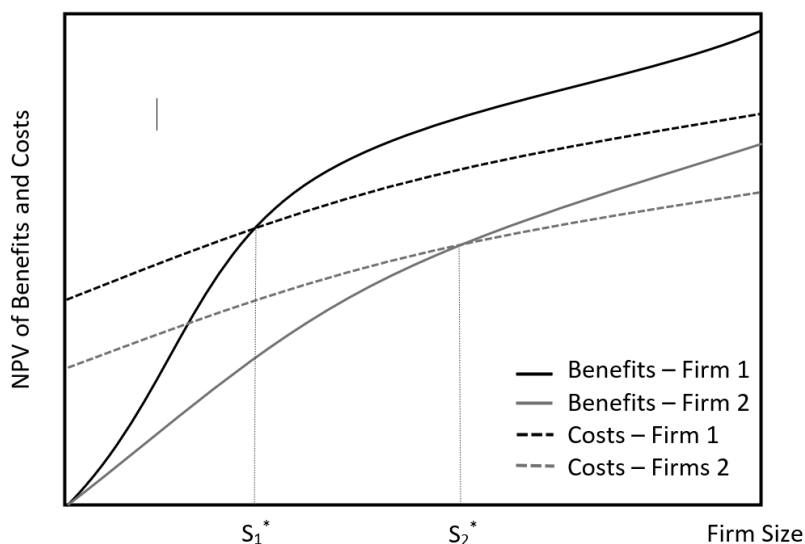


The optimal size threshold should not be interpreted as a static and universal fixed point: it varies by firm based on firm-specific considerations and evolves over time under the influence of macroeconomic forces. In fact, how does this framework explain the variation in ownership structure for firms of similar size and the recent tendency of companies to postpone listings? We address each point in the next two sections.

## 5.1 Public vs private ownership in the cross-section of companies

Different firms have different optimal public versus private size thresholds because they face different public ownership benefits and costs. This is illustrated in Figure 4, where the public vs private size threshold is higher for firm 2 than firm 1 due to a shallower benefit curve even though it has lower listing and agency costs than firm 2 at all sizes. However, it is also easy to construct examples where differences in costs drive differences in the private-public size boundary.

**Figure 4: Two Firm Comparison of Benefits and Costs of Public Listing**



A key question then becomes what explains the variation in benefit and cost curves across firms. We hypothesize that the benefits and listing curves are relatively stable across firms at a specific point in time, and that most of the variation is due to differences in agency costs curves. This is because listing costs and risk sharing benefits tend to be driven by the regulatory and macroeconomic environment, while agency issues are shaped by the micro-economic considerations that are specific to individual firms. Controlling for size – which as discussed above is a key driver of the trade-off between public and private ownership – we identify three key sources of variation in agency costs that can shift the AC line.

The first set of drivers are the forces of product and capital markets, as discussed by Jensen (1989). Competition in product markets exerts pressure on management to run operations in an effective and efficient way, leaving little room for extraction of benefits, shirking, or prioritization of career concerns. The need to raise capital exerts a similar discipline, as management exposes itself to

the due diligence and scrutiny of capital providers. As a consequence, the proverbial “invisible hand” can be expected to lower agency costs in firms that operate in highly competitive product markets or that need to frequently tap capital markets for funding.

A second driver is the complexity of the business. The more complex the business strategy and operations of a business, the costlier it is for shareholders to monitor management because information is harder to acquire and evaluate. Companies with an established product market executing a “steady-as-she-goes” business strategy will be easier for investors to understand, value, and monitor.

A third driver is the trade-off between current and future revenue and profit opportunities. Existing revenue and profit drivers are invariably easier to evaluate than new project initiatives with long-term impact. This can create an incentive for management to focus on projects that guarantee short-term profitability to the detriment of long-term projects that maximize firm value. The loss in value associated with this agency friction is therefore larger for companies that require to undergo change at the expense of current profitability and where information asymmetry is high: shareholders may be unable to fully evaluate the long-term benefits of new projects, and overstate the opportunity cost of short-term profitability. Dividend paying stocks may have an especially hard time implementing plans that trade off present for future cash flows: the dividend policy acts as a proxy of long-term profitability when business strategy is too complex to be appropriately evaluated, and therefore it becomes very hard to cut the dividend without an adverse stock price reaction even if the cash is used for a value-enhancing project. In other words, under these circumstances private ownership allows management to take on value maximizing initiatives that would be less feasible under public ownership.

## 5.2 Public vs private ownership over time

The previous section argues that most of the variation in ownership models *across firms* of comparable size at a specific point in time can be explained by firm-specific agency costs (i.e. factors influencing the AC cost line in Figure 4). This section takes a historical perspective and asks why the listing size has increased, on average for all firms, *over time*.

Historically, private markets were shallow, so public markets were the must-go solution for all fund raises beyond a certain size. Today, the availability of large pools of private capital enables most firms seeking capital to also choose the ownership and governance model that can maximize firm value. In fact, with the deepening of private market pockets on one hand, and the increase in costs

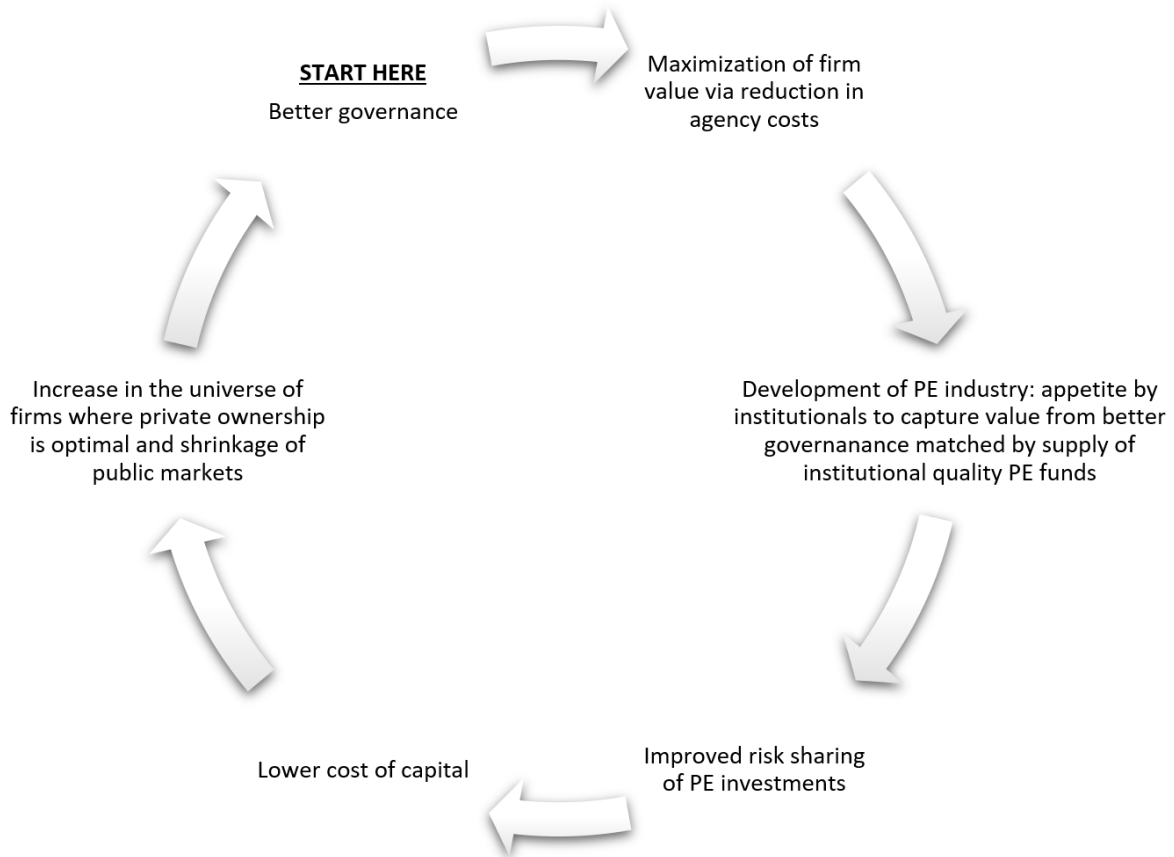
and regulatory requirements of public markets on the other hand, the balance is steadily shifting in the direction of private markets, with more firms determining that private markets can offer both sufficient capital and better governance.

Holding agency costs constant, higher listing size thresholds could be explained by higher listing costs (i.e., an upward shift in the listing costs curve) as well as decreasing benefits from listing (i.e., a downward shift in the benefits curve). While higher listing costs caused by tighter regulatory requirements have certainly played a role, we believe that the key driving factor has been the reduced “cost of capital advantage” enjoyed by listed firms: the differential in cost of capital between private and public companies has narrowed to the benefit of private markets. This reduction in cost of capital has likely been driven by the improvement in the risk sharing capacity of private markets enabled by the intermediation role of the private equity industry: today, institutional investors with long investment horizons have a practical means to obtain diversified and professionally managed exposure to private companies via commitments to private equity managers. In turn, the rise of the private equity industry can be interpreted as the equilibrium outcome of the rising interest by institutional investors to capture the value creation from better governance – matched by increase of private equity funds supplied by professional PE managers.

In summary, we believe that there is a tight link between the benefits of the private governance model, the rise in AuM of private markets, and the shrinkage of public markets: we illustrate these mutually re-enforcing effects in Figure 5. Ultimately, we believe that the private model is strictly better than the public model from a governance perspective, and that the only limit to the growth of the private equity industry to the detriment of public markets will be set by the aggregate horizon, and need for liquidity, of institutional investors.



**Figure 5: Private Governance Model Effects**



### 5.3 Putting it all together

Based on the discussion above, we propose four testable hypotheses.

Hypothesis 1: Public ownership is better on average for larger firms.

Hypothesis 2: Controlling for size, firms with the following characteristics tend to benefit more from private rather than public ownership:

- (i) dominant market position;
- (ii) high level of free cash flow generation;
- (iii) complex or opaque business and operating strategy;
- (iv) requirement to undergo change to the expense of current profitability.

Hypothesis 3: the benefit from private ownership accrues from a reduction in agency costs. Private companies feature lower agency costs than comparable public firms via improved alignment and oversight of management by shareholders.

Hypothesis 4: The value creation of the private governance model can explain the development of the private equity industry and the tendency of firms to stay private for longer.

While Hypothesis 1 is largely self-evident from observing which companies are public and private, trying to characterize more precisely the specific listing cost component is an ongoing challenge for regulators. Our framework may provide an alternative method for examining this issue if empirical evidence can effectively quantify the effects described in Hypothesis 2. It has been challenging to undertake these types of analyses though because detailed operating and financial information for private companies has been difficult to come by. However, the last decade has seen a steady increase in the availability of data on private companies so we are optimistic that future work can examine the validity of our framework and unpack the relative importance of various benefits from private ownership.

## 6. Conclusions

As private capital markets have developed over the last few decades, governance and strategy have become increasingly important factors for deciding whether to be a public or private company. We contend that the decision can be understood in a cost-benefit framework where firms trade-off the governance benefits of private ownership with the potentially lower capital costs of public ownership. Optimal ownership can be understood in part by governance that can maximize firm value. A key facet of value maximization is being able to execute the optimal operating strategy. When strategy is clear and easy to execute, diffuse public ownership provides low-cost capital and can maximize firm value. When information asymmetries are high and optimal strategy is unclear or difficult to execute, the governance benefits from private ownership should outweigh the higher cost of capital. Will the trend toward private ownership continue? Recent evidence suggests further expansion of private markets through traditional buyout and venture funding models (recall Figure 2). Consequently, growth in private ownership is likely to grow as long as gains from better governance exist and private markets are a sufficiently deep provider of capital.

## IMPORTANT DISCLOSURE

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