THE VALUE OF CONTROL: IMPLICATIONS FOR CONTROL PREMIUMS, MINORITY DISCOUNTS AND VOTING SHARE DIFFERENTIALS*

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It is not uncommon in private company and acquisition valuations to see large premiums attached to estimated value to reflect the "value of control." But what, if any, is the value of control in a firm, and, if it exists, how do we go about estimating it? In this paper, we argue that the value of controlling a firm has to lie in being able to run it differently (and better). Consequently, the value of control will be greater for poorly managed firms than well-run ones. The value of control has wide ranging implications beyond acquisitions. In this article, we will show that the expected likelihood of control changing is built into the price of every publicly traded company and that this likelihood provides a way of measuring the payoff to strong corporate governance. We will also argue that getting a better handle on the value of control can allow us to better explain the differences between voting and non-voting share prices and the minority discount in private company valuations.

What is the value of controlling a business? The answer to this question has wide-ranging implications for how stocks are priced and the premiums that should be paid in acquisitions. It is also an issue of contention in legal tussles over "fair" value in transactions. In this article, we examine why there may be value to controlling a firm and how to go about measuring this value. We then consider the wide range of cases in which the value of control applies ranging from the premiums that one would pay for voting shares (as opposed to non-voting shares) and the minority discounts in private company valuations.

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* This is a condensed version of a much longer article on the same topic which is on my web site (http://www.damodaran.com) and is also a chapter in my book, "Damodaran on Valuation" (Second Edition), published by John Wiley & Sons.

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I.
MEASURING THE EXPECTED VALUE OF CONTROL

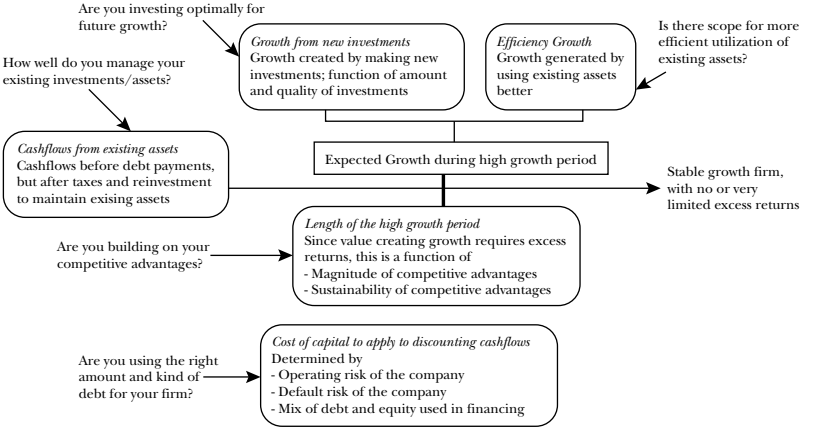
The expected value of control is the product of two variables: the change in value from altering the way a firm is operated and the probability that this change will occur.

A. *The Value of Control*

The value of a business is determined by decisions made by the managers of that business regarding where to invest its resources, how to fund these investments and how much cash to return to the owners of the business. Consequently, when we value a business, we make implicit or explicit assumptions about both who will run that business and how they will run it. In other words, the value of a business will be much lower if we assume that it is run by incompetent managers rather than by competent ones. When valuing an existing company, private or public, where there is already a management in place, we are faced with a choice. We can value the company as run by the incumbent managers and derive what we can call a status quo value. We can also revalue the company with a hypothetical "optimal" management team and estimate an optimal value. The difference between the status quo and optimal values can be considered the value of controlling the business.

In practical terms, how do you know when a firm is badly run and what form optimal management will take? The answer will vary from firm to firm and will require subjective judgments (and a bit of an ego), but ultimately the answer has to come from changes that one believes they can make in the firm's investment, financing and dividend policies. These changes can be best visualized and quantified in the conven-

tional inputs into a discounted cash flow model. Figure 1 summarizes the key determinants of value:



There are five possible paths to higher value:

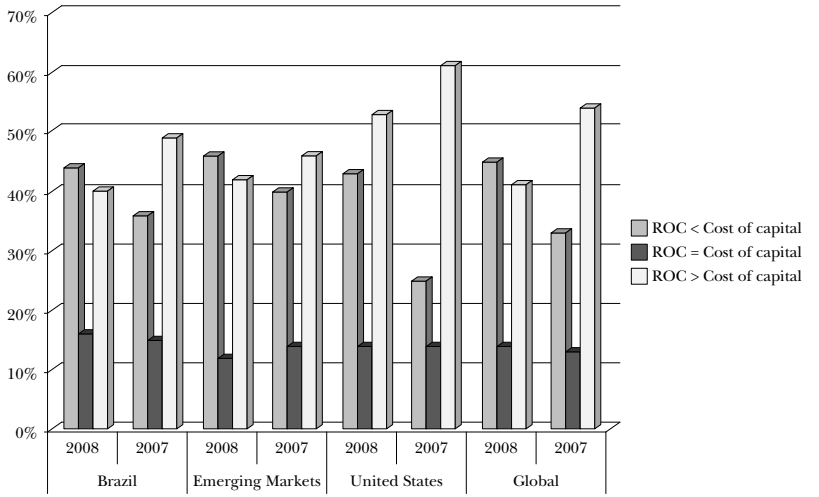
1. Increase cashflows from existing assets by managing them more efficiently.
2. Increase the expected growth rate during the high growth period by either reinvesting more (higher reinvestment rate) or reinvesting better (higher return on capital).
3. Increase the length of the high growth period by augmenting existing competitive advantages or creating new ones.
4. Reduce the cost of capital by changing financing mix or type.
5. Manage non-operating assets (cash, cross holdings) to ensure that they do not drain from overall value.

Sub-optimal management can manifest itself in different ways depending on the firm. For firms where existing assets are poorly managed, the increase in value will come primarily from managing those assets more efficiently – higher cash flows from these assets and greater efficiency growth. For firms where investment policy is sound but financing policy is not, the increase in value will come from changing the mix of debt and equity and a lower cost of capital.

Looking at this framework, one may wonder how frequently this phenomenon occurs. Anecdotally, we would state

with confidence that almost every publicly traded firm is managed sub-optimally on at least one dimension, and that includes the superstar firms. Apple Inc., for instance, between 2001 and 2011, had breathtaking success in increasing its value as a company, and it did so by running its business efficiently and generating "value creating growth" over the period. Over the same period, though, it can be argued that Apple paid little heed to its financial choices (and its cost of capital) and its dividend policy (letting $100 billion in cash accumulate in the company). In fact, the evidence indicates that a significant proportion of firms globally are mismanaged, with capital tied up in investments that generate less than it costs to finance these assets. Figure 2 looks at firms globally, categorized into one large emerging market (Brazil), emerging markets collectively, the United States and Europe, and examines the proportion of firms that generate returns on capital than exceed the cost of capital (which is good, since it creates value), returns on capital roughly equal to the cost of capital (which is treading water, but acceptable) and returns on capital less than the cost of capital (which is value destruction).

FIGURE 2: RETURN ON CAPITAL VERSUS COST OF CAPITAL: A GLOBAL COMPARISON IN 2007-08



Source: Damodaran Online with data from Capital IQ

In 2008, about 40% of all firms in every region were destroying value. While some of these firms may have had the banking crisis to blame, note that the proportions were not insignificant in 2007 as well. Put simply, there is a potential for high control value in thousands of firms around the world.

B. *The Probability of Changing Management*

While the value of changing management in a badly managed firm can be substantial, the increased value will be created only if management policies are changed. While these changes can sometimes be accomplished by convincing existing managers to modify their ways, all too often it requires replacing the managers themselves. If the likelihood of a management change is low, the expected value of control will also be low. To assess this likelihood, consider the mechanisms for changing management:

- The first is a variation of moral or at least economic suasion, where one or more large institutional investors introduce shareholder proposals designed primarily to improve corporate governance while also threatening the managers with more extreme action.
- The second is a proxy contest, where incumbent managers are challenged by an investor who is unhappy with the way the firm is run; with sufficient proxy votes, the investor can achieve representation on the board and may be able to change management policy.
- The third is to try to replace the existing managers in the firm with more competent managers; in publicly traded firms, this will require a board of directors that is willing to challenge management.
- The fourth and most extreme is a hostile acquisition of the firm by an investor or another firm; the incumbent management is usually replaced after the acquisition, and management policy is revamped.

There is a strong bias towards preserving incumbent management at firms, even when there is widespread agreement that the management is incompetent or does not have the interests of stockholders at heart. Some of the difficulties arise

from the institutional tilt towards incumbency, and others are put in place to make management change difficult, if not impossible. The former can be created by constraining access to capital for potential acquirers, existing restrictions on hostile acquisitions, or inertia. The latter include anti-takeover amendments, shares with different voting rights or convoluted holding structures (such as the pyramid system[1], common in Asia) that make it difficult, if not impossible, for outsiders to challenge incumbent managers.

If there is one constant in markets, it is change. Managers who were viewed as impervious to outside challenges can find their authority challenged. The following are some of the factors that may cause this shift:

- The rules governing corporate governance do change over time, sometimes in favor of incumbent managers and sometimes in favor of stockholders.
- The presence of activist investors who are willing to take large positions in companies and use these holdings as a platform to challenge and change management practices makes a difference.
- Nothing changes the perceptions of management vulnerability to an outside challenge more than a well publicized hostile takeover or the ouster of a CEO of a large firm in the same market.

While the determinants of management change can be listed, it is far more difficult to quantitatively estimate the probability that it will occur. There are statistical approaches that can be used to assess the probability of management change by contrasting the characteristics of firms where management has changed in the past with firms where a management change has not occurred. Researchers have applied this technique to look at both acquisitions and forced CEO change, concluding that firms that are smaller, invest inefficiently and have lower insider ownership are more likely to

1. In a pyramid structure, an investor uses control in one company to establish control in other companies. For instance, company X can own 50% of company Y and use the assets of company Y to buy 50% of company Z. In effect, the investor who controls company X will end up controlling companies Y and Z, as well.

see management change than firms without these characteristics.[2]

II.
Manifestations of the Value of Control

If the value of control is derived from changing the way a business is run, and if the expected value of control is a function of the value of control as well as the likelihood that you can change the management of a company, it has implications for almost every application of corporate valuation, from valuing publicly traded firms for acquisitions to valuing a stake in a private business. In this section, we consider the range of applications where the value of control plays a role.

A. *Hostile Acquisitions*

While any merger can have a component of its value derived from control, hostile acquisitions offer the clearest example of control premiums at work, since the managers of the target firm are put on notice by the acquirer that they will be replaced after the acquisition. Valuing control premiums in an acquisition is a three-step process that closely mirrors our analysis in the last section. The first step is a calculation of the status quo valuation of the target firm, with the existing management policies on investing, financing and dividend policy. The second step is creating an optimal, "restructured" valuation with the changes that the acquiring firm is planning to make in the way the target company is run. The difference between the restructured and status quo valuations is the value of control. The third step is determining what portion of this premium should be paid on the acquisition. Note that paying a price that reflects the entire premium gives the entire value of control to the target company stockholders.

It is also worth noting that this process does not factor in the other widely quoted motive for acquisitions, which is synergy. In other words, if there is value from potential synergy in

2. *See, e.g.,* Jerold B. Warner et al., *Stock Prices and Top Management Changes*, 20 J. of Fin. Econ. 461, 461-492 (1988); Kevin J. Murphy & Jerry Zimmerman, *Financial Performance Surrounding CEO Turnover*, 16 J. of Acct. & Econ. 273, 273-316 (1993); Sheila M. Puffer and Joseph B. Weintrop, *Corporate Performance and CEO Turnover: The Role of Performance Expectations*, 36 Admin. Sci. Q. 1, 1-19 (1991).

a merger, it will be in addition to the value of control. A key difference is that synergy requires two entities – an acquiring firm and a target firm – to exist, since it accrues as an advantage (cost or growth) to the combined firm. Control resides entirely with the target firm and does not require an acquiring entity; a competent internal management team can change the way a firm is run.

If the value of control is the difference between the status quo value of a firm and the value of the firm optimally run, we can derive the following implications about it:

a. The value of control will vary across firms. Since the control premium is the difference between the status quo value of a firm and its optimal value, it follows that the premium should be larger for poorly managed firms and smaller for well-managed firms. In fact, the control premium should be zero for firms where management is already making the right decisions.

b. There can be no rule of thumb on control premium. Since control premium will vary across firms, there can be no simple rule of thumb that applies across all firms. Thus, the notion that control is always 20-30% of value cannot be right.[3]

c. The control premium should vary depending upon why a firm is performing badly. The control premium should be higher when a firm is performing badly because of poor management decisions than when a firm's problems are caused by external factors over which management has limited or no control. Thus, the value of control will not be as high in a gold mining company whose earnings are depressed because gold prices have dropped as it would be at a manufactur-

3. This number is often obtained by looking at what acquiring firms typically pay in acquisitions as a premium over the market price (from a data source like Mergerstat). There are two problems with this approach. The first is that the premium paid on an acquisition can be for a number of different reasons, including synergy. In fact, we can safely argue that if the typical premium paid in acquisitions is 25%, the value of control has to be much smaller. The second is that there is a danger of a self-fulfilling prophecy; if the control premium is based upon what other acquirers have paid rather than on the specific characteristics of the target firm, there may be little or no reason for the premium.

ing company where earnings are low because of management misjudgments about what customers want.

d. The control premium should be a function of the ease of making management changes. Not all changes are easy to make or quick to implement. It is far easier to change the financing mix of an underleveraged company than it is to modernize the plant and equipment of a manufacturing company with old and outdated plants. We would expect the value of control to be higher in the former because the changes can be made quickly and the savings will show up in cash flows sooner.

B. *Valuing Publicly Traded Companies*

There is a widely held misconception that control is an issue only when you do acquisitions. To the contrary, we would argue that the stock price of every publicly traded firm includes an expected value for control, reflecting both the likelihood that the management of the firm will be changed and the value of making that change.

To see how the expected value of control shows up in stock prices, assume that we live in a world where management change never happens and that the market is reasonably efficient about assessing the values of the firms that it prices. In this scenario, every company will trade at its status quo value, reflecting both the strengths and weaknesses of existing management. If we introduce the likelihood of management change into this market, either in the form of hostile acquisitions or CEO changes, and if the market remains reasonably efficient, the stock price of every firm should rise to reflect this likelihood:

> Market value = Status quo value + [(Optimal value – Status quo value) * Probability of management changing]

The degree to which this will affect stock prices will vary widely across firms, with the expected value of control being greatest for badly managed firms where there is a high likelihood of management turnover and lowest for well-managed firms and for firms where there is little or no chance of management change.

Markets are not prescient or all-knowing, but they do factor expectations into prices. To the extent that the expected value of control is already built into the market value, there are important implications for acquirers, investors and researchers:

a. Paying a premium over the market price can result in overpayment. If the current market price incorporates some or all of the value of control, the effect of management change on market value (as opposed to status quo value) will be small or non-existent. In a firm where the market already assumes that management will be changed and builds it into the stock price, acquirers should be wary of paying a premium on the current market price even for a badly managed firm. Consider an extreme example: Assume that you have a firm with a status quo value of $100 million and an optimally managed value of $150 million, and assume that the market is already building in a 90% chance that the management of the firm will change in the near future. The market value of this company is $145 million. If an acquirer decides to pay a substantial premium to market value say, $40 million) for this firm, based upon the fact that the company is badly managed, he will overpay substantially. In this example, he will pay $185 million for a company with an optimal value of $150 million.

b. Anything that causes market perception of the likelihood of management change to shift can have large effects on all stocks. A hostile acquisition of one company, for instance, may lead investors to change their assessments of the likelihood of management changes for all companies, leading to an increase in stock prices. Since hostile acquisitions often are clustered in a particular sector – oil companies in the 1980s, for instance – it is not surprising that a hostile acquisition of a single company often leads to increases in stock prices of other companies in its peer group.

c. Poor corporate governance can lead to lower stock prices. The price of poor corporate governance can be seen in stock prices. After all, the essence of good corporate governance is that it gives stockholders the power to change the management of badly managed

companies. Consequently, stock prices in a market where corporate governance is effective will reflect a high likelihood of change for bad management and a higher expected value for control. In contrast, it is difficult, if not impossible, to dislodge managers in markets where corporate governance is weak. Stock prices in these markets will therefore incorporate lower expected values for control. The differences in corporate governance are likely to manifest themselves most in the worst-managed firms in the market.

C. *Voting and Non-Voting Shares*

In many markets, it is common for the voting rights to vary across different classes of shares. The shares that carry no or fewer voting rights should often be worth less than otherwise similar shares, in terms of dividends and liquidity, that carry more voting power, and the difference in price should be a function of the expected value of control.

To link the premium on voting shares to the expected value of control, here is an extreme and very simplistic example. Assume that you have a company with n_v voting and n_{nv} non-voting shares, and assume that the voting shareholders have complete and total control of the business. Thus, they are free to ignore the views of non-voting shares in the event of a hostile takeover and negotiate the best deal that they can for themselves with the acquirer.[4] Assume further that this firm has a status quo value of V_b and an optimal value of V_a and that the likelihood of management changing in this firm is p. Since the non-voting shares have absolutely no say in whether the management can be changed, the value per non-voting share will be based purely upon the status quo value:

$$\text{Value per non-voting share} = V_b / (n_v + n_{nv})$$

The voting shares will trade at a premium that reflects the expected value of control:

$$\text{Value per voting share} = V_b / (n_v + n_{nv}) + (V_a - V_b)\ p / n_v$$

The premium on voting shares should therefore be a function of the probability that there will be a change in management

4. In reality, even non-voting shareholders are provided at least partial protection in the event of a takeover and will share in some of the benefits.

at that firm (p) and the value of changing management (V_a - V_b).

To the extent that non-voting shareholders are protected or can extract some of the expected value of control, the difference between voting and non-voting shares will be lower. It is possible, for instance, for non-voting shares to gain some of the value of control if this gain is accomplished by changing managers rather than by a hostile takeover. In that case, the value of the firm will increase and all shareholders will benefit.

There is one special category of voting shares called golden shares that is sometimes seen in government-owned firms that have been privatized. These shares are retained by the government after the privatization and essentially give the government veto power over major decisions made by the firm. In effect, they allow the government to retain some or a great deal of control over how the firm is run. While golden shares are not traded, they can affect the values of shares that are traded by reducing the expected value of control.

If the primary reason for the voting share premium is the value of control, there are several conclusions that follow:

a. The difference between voting and non-voting shares should go to zero if there is no chance of changing management/control. This effect will be a function of the concentration of ownership of the voting shares. If there are relatively few voting shares, held entirely by insiders, the probability of management change may very well be close to zero, and voting shares should trade at the same price as non-voting shares. If, on the other hand, a significant percentage of voting shares is held by the public, the probability of management change may be higher and the voting shares should reflect this premium.

b. Other things remaining equal, voting shares should trade at a larger premium to non-voting shares at badly managed firms than at well-managed firms. Since the expected value of control is close to zero in well-managed firms, voting shares and non-voting shares should trade at roughly the same price in these firms. In a badly managed firm, the expected value of control is likely to be higher, as is the voting share premium.

c. Other things remaining equal, the smaller the number of voting shares relative to non-voting shares, the higher the per-share premium on voting shares should be. Since the expected value of control is divided by the number of voting shares to get the per-share premium, the smaller the number of voting shares, the greater the value attached to each share. However, this result has to be weighed against the reality that, when the number of voting shares is small, it is more likely to be held entirely by incumbent managers and insiders, thus reducing the likelihood of management change.

d. Other things remaining equal, the greater the percentage of voting shares that are available for trading by the general public (float), the higher the premium on voting shares should be. When voting shares are entirely or predominantly held by managers and insiders, the probability of control changing is small, as is the expected value of control.

e. Any event that illustrates the power of voting shares relative to non-voting shares is likely to affect the premium at which all voting shares trade. The expected value of control is a function of perceptions that management at these firms can be changed. In a market where incumbent managers are entrenched, voting shares may not trade at a premium because investors assess no value to control. A hostile acquisition in this market or a regulatory change providing protection to non-voting shareholders can increase the expected value of control for all companies and, with it, the voting share premium.

In summary, then, we would expect the voting share premium to be highest in badly managed firms where voting shares are dispersed among the public. We would expect it to be smallest in well managed firms where the voting shares are concentrated in the hands of insiders and management.

D. *Private Company Valuations*

A solely owned private company is usually run by its owner, and its value will reflect the quality of his or her decisions. Since a hostile acquisition of such a company is not feasible, the expected value of control will become an issue only

when the private company is fully or partially sold. With partnerships or multiple investors owning shares of a private business, the expected value of control can be an issue when valuing an ownership stake, with larger controlling stakes commanding a premium over smaller minority stakes. Finally, with private companies where there is separation of ownership and management – the private owner hires a management team to run the firm – the expected value of control can be a factor in whether management is replaced.[5]

If we accept the premise that holding 51% of the outstanding equity at a private business gives the owner effective control of such a business, there will be a significant difference between selling 51% or more of a business and 49% or less of the same business. With the first, you get effective control of the business, and with the latter, you do not. In private company valuation parlance, the latter (buying 49% or less) is termed a minority holding and is usually valued at a discount. While the discount is often substantial, it is also arbitrary in practice. We may be able to get a more reasonable estimate of the discount using the expected value of control framework that we have developed in this paper.

If you are able to buy a majority and controlling stake of a firm, the maximum you should be willing to pay for your share should reflect the optimal value for the firm, reflecting the changes you think you can make to the firm after you take it over. Thus, when acquiring a 51% stake of a firm, you should be willing to pay up to 51% of the optimal value for that firm. If you are setting for minority stake with no control in the firm, the maximum you should be willing to pay will reflect the status quo value for the firm.

The difference between a majority and minority stake (the minority discount) can be much larger for companies where the value of control is high. For instance, if we assume that the status quo value for the firm is $100 million and the optimal value is $150 million, you would be willing to pay 51% of optimal value ($150 million) for a 51% controlling stake

5. Coles, J.L., M.L. Lemmon and L. Naveen, 2003, *A Comparison of Profitability and CEO Turnover Sensitivity in Large Private and Public Firms,* Working Paper, SSRN. They note that the CEO of a private firm is much more likely to be fired when profitability declines than the CEO of a similar publicly traded firm.

and only 49% of the status quo value ($ 100 million) for a 49% minority stake. The difference of 2% in voting rights translates into a difference of $26.5 million in value:

- Value of 51% of optimal value = 51% of $150 million = $76.5 million
- Value of 49% of status quo value = 49% of $100 million = $49 million
- Minority discount = $27.5 million

Why does this same reasoning not apply to publicly traded firms, where most of us buy small stakes with no obvious controlling power? It does, but in more subtle ways. As we noted in an earlier section, the stock price of a publicly traded firm already reflects the expected value of control. When you buy a small stake in a publicly traded firm, say 1000 shares of Cisco or IBM, you pay for this expected value of control in the market price. In other words, you take the market's assessment of the likelihood of control changing and the value of that change as a given. When you buy a larger stake in the firm, where you presumably can affect control, you are in a position to alter both the likelihood of management changing and how it will be changed (and thus the value of change). Consequently, the expected value of control to you as a large block stockholder may be much higher than the market's assessment and will translate into a premium for the block. Once you acquire the block, the small stockholders in the firm will be able to piggyback on your success at changing the way the company is run and share in the increased value.

The implications of this discussion on minority discounts can be listed fairly simply:

a. The minority discount should vary inversely with management quality. If the minority discount reflects the value of control (or lack thereof), it should be larger for firms that are poorly run and smaller for well-run firms. As with control premiums, there is no simple rule of thumb that can be applied to minority discounts.

b. Control may not always require 51%. While it is true that you need 51% of the equity to exercise control of a private firm when you have only two co-owners, it is possible to effectively control a firm with a smaller proportion of the outstanding stock when equity is

dispersed more investors. In fact, an investor may be effectively able to control a firm with only 35% of the outstanding equity, if there are multiple investors in the private firm and the minority discount may not materialize until acquisitions become a much smaller percentage of the equity. In a publicly traded firm with widely dispersed holdings, control may be feasible with an even smaller stake in the firm.

c. The value of an equity stake will depend upon whether it provides the owner with a say in the way a firm is run. Private firms often approach outside investors to raise additional equity to fund their expansion and growth opportunities. These investors, who include private equity and venture capital investors, can demand a share of control in return for their investments. For instance, venture capitalists often get representation on the board of directors and some power over subsequent rounds of equity financing. Many play an active role in the management of the firms that they invest in and the value of their equity stake should reflect this power. In effect, the expected value of control is built into the equity value. In contrast, a passive private equity investor who buys and holds stakes in private firms, without any input into the management process, should value her equity stakes at a lower value.

III.
Conclusion

In summary, the value of control in a firm should lie in being able to run that firm differently and better. Consequently, the value of control should be greatest in poorly performing firm where the primary reason for the poor performance is the management. In this article, we first examined how the management of a firm can affect its value and then factored in the likelihood that incumbent management in the firm can be changed. It is our contention that the market value of every firm reflects the expected value of control, which is the product of the probability of management changing and the effect on value of that change.

This has far-ranging implications for both publicly traded and privately held companies. In acquisitions, the premiums paid should reflect how much the price already reflects the expected value of control; in a market that already reflects a high value for expected control, the premiums should be smaller. With companies that have both voting and non-voting shares, the premium on voting shares should reflect the expected value of control. If the probability of control changing is small and/or the value of changing management is small (because the company is well-run), the expected value of control should be small, as should the premium on voting shares. In firms where there is potential for changing the way management is run, both the expected value of control and the voting share premium should be large. Finally, in private company valuation, the discount applied to minority blocks should be a reflection of the value of control.