The Theory of Corporate Governance:
A Transaction Cost Economics - Firm Lifecycle Approach

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Abstract

This paper presents a theoretical model of corporate governance which is based on insights from both Transaction Cost Economics and the Lifecycle Theory of the firm. The model is built with the purpose of investigating whether corporate governance affects firm performance in the context of U.S. institutions. The theoretical model describes how corporate governance develops through the various stages of the lifecycle of the firm. The model predicts that the managements of financially autonomous firms who are also entrenched will tend to over-invest and that as a consequence their firms will have comparative low valuations.

Keywords: Corporate governance, firm performance, entrenched managers, firm financial autonomy, overinvestment problems, low firm valuation.

JEL Classification: G34, L21, L22

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Ever since the times of the prominent contribution by Jensen and Meckling (1976) to the theory of corporate governance, the mainstream of the economics profession has relied on Agency Theory (AT) to investigate the relationship between corporate governance and firm performance. AT holds that shareholders are the owners or principals of the firm, while the management is an agent of the shareholders. Given that the economic interests of the principals and agents diverge, if the management is not monitored very closely, or if its interests are not closely aligned with those of the shareholders (through concentrated ownership), the former will tend to increase their extraction of value from the firm. Therefore, firm performance should be related to managerial ownership, and to monitoring by the board of directors.\(^1\)

Influenced by the AT paradigm, most researchers have traditionally taken two main static approaches to investigate the possible relationship between corporate governance and firm performance: (i) to examine whether ownership concentration is related to better firm performance; (ii) to investigate whether the composition of the board of directors, its size, or the committees comprised in it, have any impact on firm performance.

The merits of the AT approach notwithstanding, theoretical and empirical work based on the agency perspective has not been conclusive. There is considerable theoretical and empirical controversy regarding each of the approaches, with one set of researchers arguing that corporate governance has an impact on firm performance, and an opposite camp denying this relationship. Thus, while some researchers argue, and find empirically, that concentrated ownership is related to better performance as measured by Tobin’s q (Morck et al. (1988), McConnell and Servaes (1990), Hermelin and Weisbach (1991)), others disagree and contend that controlling for other characteristics of the firm constant there is no such effect, and also find empirical support for their position (Demsetz an Lehn (1985), Himmelberg et al. (1999), Demsetz and Villalonga (2001)).

On the other hand, while some researchers find that the composition of the board of directors is related to firm performance (Baysinger and Butler (1985), Rosenstein and Wyatt (1990), Yermack (1996)), others do not find such relationships (Fosberg

\(^1\) As can be inferred from this paragraph, as of 1976, Agency Theory was mainly concerned with moral hazard–monitoring problems as opposed to hold-up problems (see distinction between these two problems in Section III). Moreover, it should be noted that additional constraints on managerial discretion were later adapted into the Agency Theory framework from previous literature. An example of such constraints is the market for corporate control (Marris (1964), and Manne (1965))
Moreover, in this literature there is an important debate concerning the direction of sequential interactions. Specifically, it has been argued that firms react to their realised performance by changing the compositions of their boards, and that for this reason it is not the case that certain board compositions are causally related to specific levels of performance.

A more recent third approach, also related to AT, pays special attention to managerial entrenchment and it is characterized by the creation of indices of anti-takeover provisions (Gompers et al. (2003), Bebchuk et al. (2004), Cremers and Nair (2005), Core et al. (2006)). The main idea put forward by these researchers is that entrenched managers can act in their best interests without having to worry too much about possible retaliation from the market for corporate control. One possible problem with this approach, however, is that it may be the case that entrenchment is a necessary but not sufficient condition for certain kinds of managerial discretion to occur. For example, for recurring overinvestment to take place, the firm must also have a reliable source of funds with which to over invest. Moreover, as is the case of the previous literature, this approach is static.

The lack of conclusiveness in the work based on AT suggests that a shift in theoretical focus can be beneficial. In this vein, one promising perspective, which clearly stands out, is that of Transaction Cost Economics (TCE). The main advantage that TCE brings to the study of corporate governance is that it provides a robust framework to investigate contracting problems such as those occurring between the management of the firm and its shareholders. Indeed, Williamson (1988, 1996) has shown that corporate finance and corporate governance issues can be analyzed employing TCE.

However, in spite of the fact that the TCE approach has many virtues, a common criticism of TCE is that it is static (as opposed to dynamic) “because it works out of an equilibrium contracting setup” (Williamson (1999)). With this limitation in mind, the present article complements the TCE approach to finance by adopting a Firm Lifecycle perspective, specifically that of Mueller (1969, 1972). The resulting framework benefits from the rigorousness of the TCE perspective while at the same time addressing the limited dynamics problem inherent in the TCE approach.

The main contribution of the paper is the theoretical model constructed from insights of both TCE and the Lifecycle Theory of the firm. The model describes how
Corporate governance develops through the various stages of the lifecycle of the firm. Moreover, the resulting system predicts that the management of financially autonomous firms who are also entrenched will tend to over-invest and consequently, their firms will have comparatively low valuations. While building the model, the approach to theory construction developed by Dubin (1978), was found to be particularly useful. Thus, an additional contribution of this paper is to show (step by step) how this theory building methodology can be applied to advantage to the study of the economics of the firm.

The remainder of the paper is organized as follows. We review some key aspects of both the Lifecycle Theory of the firm and TCE in the first two sections. With the insights from both theories in place, in Section III we employ the theory construction methodology developed by Dubin (1978) to build the combined model. Section IV concludes.

I. The Transaction Cost Economics approach to corporate finance

Williamson (1988) shows that TCE can be applied to the study of corporate governance and corporate finance. Interestingly, this approach examines individual investment projects and distinguishes among them in terms of their asset specificity characteristics. In this connection, examples of non-specific assets usually refer to redeployable projects, such as investment in general purpose, mobile equipment. On the other hand, examples of specific assets usually consist of non-redeployable projects, such as market and product development expenses.

According to this approach, debt is akin to markets in that it is the cost effective way to finance investments that involve non-specific assets, and equity is similar to the hybrid (credible contracting) in that it is most economical for investments that involve specific assets. In this application, however, the hierarchical mode of organization drops out for the reason that the firm cannot own its shareholders.

To motivate the argument Williamson assumes initially that projects can only be financed with debt, a governance structure that works mainly out of rules. According to the rules, failure to make planned payments results in bankruptcy, in which case, debt-holders can recover their funds in proportion to the extent that the assets in

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2 By specific assets or ‘asset specificity’ Williamson refers to assets that once in place would be costly to redeploy to other activities if a contract breaks down because there would be a loss of productive value (Williamson (1985, 1996)).
question are redeployable. Since debt-holders can anticipate that the values that they would be able to recover in the event of liquidation decline as the assets become less redeployable, TCE predicts that the terms of debt financing are adjusted accordingly. The upshot is that debt financing becomes more costly as the degree of asset specificity increases (Williamson (1988)).

According to Williamson’s argument, the solution to the problem of costly financing of highly specific assets with debt is to be found in the invention of equity. The equity governance structure has three important properties. First, similarly to AT, shareholders bear a residual claiming status. Second, the equity contract lasts for the duration of the life of the corporation. And third, a safeguard in the form of a board of directors is created and awarded to equity-holders. According to this view, the board bears a decision-review and monitoring relation to the firm’s management, including the review and monitoring of management’s investment policy.

Williamson (1988) demonstrates this application of TCE with the aid of a heuristic model. The author argues that if we define k as an index of asset specificity and D(k) and E(k) as the costs of debt and equity capital expressed as a function of asset specificity, there can be a switchover point, k*, as asset specificity increases if D(0) < E(0) but D’ > E’ > 0.

According to TCE, when asset specificity is zero debt should be less costly than equity (D(0) < E(0)) because debt is a comparatively simple governance structure, while equity is cumbersome. Since debt is a rule-governed relation, its setup costs are relatively low. On the other hand, equity is a much more complex governance relation, it includes interfering involvement in the oversight of the firm’s activities and has higher setup costs (Williamson (1988)).

Moreover, TCE predicts that as asset specificity increases the costs of both debt and equity will also increase. However, the costs of debt financing are predicted to rise faster. As mentioned above, one important reason is that if debt is raised to finance the purchase of highly specific assets, prospective debt-holders will require large premiums because the value of their pre-emptive claims declines as asset specificity increases. In addition, Williamson points out that in some situations debt can cause the company to compromise value enhancing decisions, which a more flexible regime, such as equity, could put into action.
Therefore, as can be seen in Figure 1, TCE predicts that $D(0) < E(0)$ and $D' > E' > 0$. The implication is that the optimal choice will be to finance non-specific assets (to the left of $k^*$) with debt, and highly specific assets (to the right of $k^*$) with equity.

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Insert Figure 1 about here

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Discussion. In contrast to previous TCE analysis of economic phenomena, in this particular application to corporate finance (i.e. Williamson (1988)), the central issue of bilateral dependency in the presence of specific assets is not examined in detail. Important questions are left unanswered: will the managers of the large corporation, with its huge internal cash flows, depend on shareholders for the financing of non-redeployable projects? Are shareholders dependent on the corporation?

For the case of equity, an examination of bilateral dependency clearly requires a more detailed analysis of the dynamics involved. For example, if it is observed that a corporation does not depend on shareholders as sources of finance, it is important that we understand the process that led to such an outcome. To start shedding some light on this issue we turn next to a review of the Lifecycle Theory of the firm.

II. The Lifecycle Theory of the Firm

Mueller (1969, 1972) develops a Lifecycle Theory of the firm that combines the Schumpeterian view that firms go through lifecycles with the hypothesis that managers maximize the growth of their companies (Mueller (2003, p. 80)). According to this theory, since the pecuniary compensation (salary, bonus, etc) and non-pecuniary rewards (status, power, and the like) which corporate managers receive are closely related to the rate of growth of the firm they control, it seems reasonable to assume that managements will pursue an expansionary policy for the firm which is inconsistent with shareholder wealth maximization.

Figure 2 illustrates how such growth maximizing behaviour on the part of managers may affect investment policy at two stages of the firm’s lifecycle. The left hand side of the figure exemplifies the case of a young firm. $CF_y$ represents the cash flow of the young firm (i.e. profit plus depreciation). According to the Lifecycle Theory, the investment opportunities of the young firm will generally exceed its
internal cash flows. Thus, in the figure, the expected marginal rate of return for the
young firm (mrr_y) intersects the firm’s cost of capital i_y to the right of CF_y. Clearly, in
such case, the shareholder-wealth-maximization policy is to raise outside capital until
the young firm’s marginal cost of capital equals the firm’s marginal return on
investment and pay no dividends. Therefore, the young firm raises (I_y-CF_y) outside
capital and undertakes I_y investment (Mueller (1969)).

For a young firm, Mueller argues managerial and stockholder interests regarding
investment policy will coincide. The reason is that if managers invest more than I_y
then future profit would be reduced as negative net present value projects would be
accepted and the effect would be to increase present growth at the expense of the
future growth of the firm. Thus, assuming that “managers have the same time
preference for growth as shareholders have for income,” I_y will also “be the level of
investment that will maximize the present value of the firm’s growth” (Mueller
(1969)).

On the other hand, the right hand side of Figure 2 depicts the case of a mature firm.
Mueller argues that many new firms will fail, but that those that do succeed see their
cash flows increase enormously. Thus, the cash flow for the mature firm is placed on
the right hand side of Figure 2 to indicate that mature firms will have much greater
cash flows than young firms. Moreover, in consideration of the different probabilities
of failure, the figure shows the cost of capital for the young company (i_y) higher than
that for the mature firm (i_m).

According to the Lifecycle Theory of the firm, the marginal rate of return schedule
for a mature firm (mrr_m) will also increase and shift to the right, but not as rapidly as
CF_m, “since the firm’s opportunities for internal investment will decline in a mature
industry” (Mueller (1969)). Thus, as the firm matures, its marginal rate of return mrr_m
and its marginal cost of capital i_m will eventually intersect to the left of CF_m.3

3 It should be noted that, according to the Lifecycle Theory of the firm, by the time the mature
company reaches this point, its market value and number of shareholders will have grown
tremendously and therefore its ownership will be separated from control.
Clearly, for the case of a mature firm, a stockholder-wealth-maximizing firm would take on investments until the marginal rate of return of the firm is equal to its marginal cost of capital. As it can be seen on the right hand side of Figure 2, such firm would undertake $I_{SW}$ investment, pay out $CF_m - I_{SW}$ dividends (or a combination of dividends and stock repurchases), and raise no outside capital.

In contrast, a growth-maximizing management will tend to reduce (but not totally suppress) dividends since these payouts reduce the quantity of resources available for growth. According to the Lifecycle Theory, such management “will tend to ignore, or at least heavily discount, investment opportunities outside the firm,” and for this reason, one can expect growth-maximizing managements to discount investments at a cost of capital below that of the stockholders (Mueller (1969)). Nevertheless, the theory also points out that there are forces acting upon managers which keep them from employing a too low cost of capital. The most important of these forces is the threat of a takeover (market for corporate control). If shareholder dissatisfaction with management is too great the stock price may plunge, and this may increase the likelihood of a takeover.

Mueller (2003, pp. 80-81) illustrates the takeover constraint in Figure 2 with the aid of curve $mc_M$, which represents the “marginal psychological cost of investing beyond $I_{SW}$ from the perception of higher probabilities of takeover.” The author argues that if the managers of the mature firm maximize shareholder wealth and invest at the optimal level, $I_{SW}$, the threat of takeover due to overinvestment problems is zero, but that this threat rises if managers invest beyond that level. As it can be seen in the figure, “the mature firm’s managers trade off shareholder wealth for growth” by investing more, and paying less dividends, than the management of a shareholder-wealth-maximizing firm. According to this view, “a mature-growth-maximizing firm can be expected to undertake more investment than a mature stockholder-wealth-maximizing firm ($I_M$ Vs $I_{SW}$), pay less dividends ($CF-I_M$ Vs $CF-I_{SW}$), and have a lower return on its marginal investment project” (Mueller (1969)).

There are two further points which Mueller usually discusses concerning the Lifecycle Theory. The first is that, it is not the fastest-growing firms that tend to over-invest for these are typically young firms with good investment opportunities. Instead, over-investment problems are more likely to occur in mature firms. The reason is that, for the latter firms, “the growth rate that would maximize shareholder wealth is likely to be zero or negative” (Mueller (2003, p. 81)). Faced with the prospect of contracting
hierarchies, reduced salaries, lower opportunities for promotion, and even unemployment, many managers may seek ways to expand their company. In this connection, a mature firm faced with a slow growing or declining market can avoid retrenchment only by expanding their share of this market or expanding into new ones. Since “growth can be sustained indefinitely only through diversification” (Mueller, 2003, p. 82), Mueller suggests that it is likely that the managements of mature firms will eventually pursue growth through diversification into unrelated businesses. And if this growth is pursued with the main goal of enhancing managerial welfare, these investments can be expected to have low returns.

The second point is that the conflict between managers and shareholders concerning investment policy “appears only slowly over time.” According to the Lifecycle Theory, the conflict between managers and shareholders manifests itself as a lower than optimal expansion of the dividend payout ratio during the transition from youth to a maturity. Given this gradual shift, it may be difficult for shareholders to detect the overinvestment problem (Mueller (1972, 2003, p. 81)).

Discussion. The Lifecycle Theory of the firm provides important and necessary information towards answering the bilateral dependency questions raised at the end of Section I. Although the theory works out of a composite-capital tradition, it suggests that bilateral dependency is more likely to occur for young firms which usually have small cash flows. Given their small cash flows, the latter firms are more apt to depend on shareholders to finance investments in specific assets on a regular basis. On the other hand, the theory implies that mature firms will usually have large internal cash flows, and that as a result, these firms will not depend heavily on equity-holders to finance non-redeployable projects.

Even though convincing in its present formulation, the Lifecycle Theory needs to incorporate additional theoretical treatment regarding the ability of management to entrench itself at the helm. In particular, it is important for the theory to reassess the impact of antitakeover provisions on the effectiveness of the market for corporate control in constraining overinvestment. Moreover, an examination of the role of the board of directors is currently lacking and should be addressed.

Finally, the Lifecycle Theory does not seem to consider the possibility that, due to some event, the mature firm’s cash flows could become insufficient to fund all profitable investments in specific assets once again. In such a case, the mature firm
would likely have to turn to shareholders on a consistent basis to take advantage of profitable opportunities.

III. Model construction

In this section we will construct our model based on the key TCE notion that most of the analytical action occurs during contract execution (i.e. ex-post). However, given that upon consideration of the material in the previous sections it seems clear to us that it is very difficult, if not impossible, to discern what may happen ex-post without an idea as to how firms grow and mature, we will also build our model with the help of insights from Mueller’s Lifecycle Theory of the firm.

The behavioural assumptions in the analysis will be those prescribed by TCE i.e. opportunism and bounded rationality as proposed by Williamson (1985, 1996). By bounded rationality Williamson means that people are “intendedly rational, but only limitedly so”4 and thus have limited information and limited ability to process it. Crucially for TCE theory, bounded rationality is the reason all complex contracts are unavoidably incomplete. On the other hand, opportunism is defined by Williamson as “self-interest seeking with guile” and includes “calculated efforts to mislead, deceive, obfuscate, and otherwise confuse” (Williamson (1996)). Regarding these two conjectures about human actors, it is worth noting that Williamson maintains that TCE and Agency Theory work out of substantially identical behavioural assumptions (Williamson (1988)).

In addition, we shall also assume that two important managerial utility dimensions are (a) growth because of the pecuniary and non-pecuniary benefits it brings to managers and (b) job security so that managers are wary of having too low a firm price due to the increased probability of a hostile takeover.5 In this regard it is important to note that ‘growth models’ such as Marris (1964) and Mueller (1969), which are characterized by the adoption these two assumptions, are profit driven. In such models managers never pass up opportunities for increasing profits because increases in profits translate into increased sustainable growth as well as higher valuation (Marris (1998)). This also applies for the model in this section.

Moreover, as mentioned in the introduction, we propose to employ a systematic approach to theory building developed by Dubin (1978). Dubin’s system requires that

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5 Marris (1964) and Mueller (1969).
we analyse one by one the elements of the theory namely: its units, laws of interaction, boundaries, system states, propositions, empirical indicators and hypotheses. We do this in the subsections below.

A. Units of the model

In what follows, we submit that the key elements of Williamson’s TCE theory with regards to equity financing are four: bilateral dependency, a governance structure with a safeguard in the form of a board of directors, the institutional environment and opportunism. These are the units of the model. In this subsection we will review them one by one.

A.1. Bilateral dependency

In contrast to previous TCE studies that identify ‘asset specificity’ as a unit of the theory, in our case this is not necessary. The reason is that, as we have seen, TCE’s approach to financing indicates that when ‘equity’ is used, it is because the assets to be financed are specific, while conversely, when ‘debt’ is employed that is because non-specific assets are being deployed. Therefore, in our case –rather than concentrating in asset specificity– it is essential that we concentrate on the intensity of the ‘bilateral dependency’ (i.e. the lack of autonomy) which according to TCE is produced precisely by the presence of the specific assets (Williamson (1996, p. 106)).

Regarding this last point it is important to recognize that in the TCE financing setup ‘equity-holders’ as a group are always dependent on the management on the firm to receive their payback. This follows from the fact that with equity as opposed to debt there is no obligation on the part of the firm to return the funds at a pre-specified date. Moreover the ability of individual equity-holders to sell their shares does not affect this dependence condition. In this last respect the following remarks by Williamson (1985, p. 304) are pertinent:

Although a well-developed market in shares permits individual stockholders to terminate easily by selling their shares, it does not follow that stockholders as a group have a limited stake in the firm. What is available to

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6The concept of ‘units of the theory’ proposed by Dubin is similar to that of ‘variables’ and ‘dummy variables’ as usually employed in economics and finance.

7Our discussion in terms of specific and non-specific assets is a simplification. TCE holds that debt will be used from a low up to a moderate level of asset specificity, while equity will be used as asset specificity deepens from moderate to high.
individual stockholders may be unavailable to stockholders in the aggregate. Although some students of governance see only an attenuated relation between stockholders and the corporation, that view is based on a fallacy of composition. They are the only voluntary constituency whose relation with the corporation does not come up for periodic renewal. (The public may be regarded as an involuntary constituency whose relation to the corporation is indefinite).

On the other hand, the management of the company will not always be dependent on the shareholders. This is especially clear if one studies the theory in Mueller (1969) who argues that as the firm matures its cash flows become sufficient to fund most (if not all) profitable projects that the firm may have. This suggests that young firms will depend on outside shareholders in order to finance investments in specific assets, however, when the firm becomes capable of generating sufficiently high levels of cash flows, shareholders will not be depended upon anymore, and the bilateral dependence condition will become one of unilateral dependence.

A.2. Governance structures

In general, with bilateral dependency, parties to transactions have incentives to work things out if any difficulties may arise because they need each other to be better off (i.e. the transaction is mutually beneficial). Nevertheless, in an uncertain world unexpected events can generate disagreements between the bilateral dependent parties and expose them to opportunism as each group tries to adapt to the new situation in a self interested way. In this regard, one of the crucial insights of TCE is that mutually beneficial adjustments to such unforeseen situations can be achieved at the contract execution stage through the judicious choice of transaction specific governance.

For the case of the ‘equity’ governance structure, the ex-post safeguard prescribed by TCE mainly consists in the creation of a board of directors. From the point of view of a management interested in growth the establishment of such ‘contractual safeguard’ is desirable if outside funding is needed. The reason is that this safeguard helps to reduce contractual hazard premiums (Williamson (1996, p. 14)). This means

8 In should be noted that, in addition, the board of directors is often supplemented by other measures such as charter restrictions, informational disclosure requirements and additional checks such as audit committees, certification of financial reports by an accredited accounting firm, the required disclosure of financial reports to a public agency with powers of investigation, etc (Williamson (1985, pp. 304-306)).
that the cost of outside equity will fall if the governance structure is credible, and the latter being the case, that growth can carry on thereafter at a higher rate. On the other hand, from the point of view of shareholders, safeguards are also advantageous in that these protect their investments from expropriation. Hence, the board of directors can be appropriately regarded as arising endogenously.

Having said this, it should also be noted that there is reason to believe that the board of directors is a weak monitoring instrument. Firstly, given that shareholders’ investments are not associated with particular assets, the ‘equity’ governance mechanism is unique in that the ‘bilateral safeguards’ which usually emerge in bilaterally dependent situations do not obtain (Williamson (1985, p. 305)). Instead, a ‘generalized safeguard’ in the form of a board of directors is created and awarded to shareholders. Secondly, the board frequently finds itself under the managerial sphere of influence. For example, since managers often have significant influence over the nomination process, and given that directors normally desire to be re-appointed to the board of directors because of the attractive salary and benefits, directors often have incentives to be subservient to the management (Bebchuk and Fried (2003)).

Nevertheless, despite these weaknesses, it is important that we pay attention to the level of effectiveness of this firm-level safeguard, or the lack thereof, which according to theory is established with the specific purpose of keeping opportunism in check.

A.3. Opportunism

As we mentioned earlier, opportunism is defined by Williamson as “self-interest seeking with guile.” According to this view managers can be expected to behave opportunistically whenever the relevant governance structure fails to contain them. Hence, opportunism is the source of deviations from shareholder wealth maximization and constitutes a critical unit of the theory. For our purposes it is important to distinguish between two important types of potential managerial opportunism: moral hazard opportunism and hold-up opportunism (Alchian and Woodward (1988)).

*Moral hazard opportunism* refers to a contractual situation in which it is difficult for a principal to monitor what an agent is doing, did or will do with his property and in consequence there is potential for opportunism to surface (Alchian and Woodward (1988)). In the case of equity, it can be expected that the weaker the firm-level corporate governance is (i.e. monitoring by the board of directors) the easier it will be for the
controlling party of the firm (i.e. the controlling owners, managers or owner-managers) to extract value, and consequently, reduce firm performance.

On the other hand, hold-up opportunism refers to expropriation by refusal to pay or serve when a transaction involves specific assets (Alchian and Woodward (1988)). Thus, in the case of equity, the ‘hold-up’ problem occurs when the controlling party of the firm takes advantage of poor safeguard intensity conditions, refuses to pay out a fraction of the firm’s ‘free cash flows’ to shareholders, and uses the funds to invest in negative net present value projects (i.e. overinvest), while the shareholders lack the means to have the ‘control’ of the corporation disgorge the cash.

A.4. The institutional environment

Given the aforementioned weakness of the board of directors as a monitoring instrument the institutional environment plays a key role in corporate governance. As it was mentioned in the previous section, the Lifecycle Theory of the firm maintains that it is the institutional environment in the form of a takeover threat that constrains the level of overinvestment undertaken by the management of the firm when firm-level corporate governance breaks down. If the stock price plunges the probability of takeover increases (Mueller (1969)). Consequently, it can be expected that the management will be aware that diversions from shareholder wealth maximization should be handled with care.

Traditionally (i.e. before the 1980s) in the U.S. when a firm was sufficiently large, control of the proxy machinery was enough to allow its management to overinvest and feel secure to a large extent. However, –from the point of view of managements– following the hostile takeover wave of the 1980s large size and control of the proxy machinery has not usually been considered to provide sufficient security. One action numerous managements have taken since the late 1980s is to have the board of directors approve anti-takeover provisions such as poison pills, staggered boards, supermajority vote requirements, etc, devised expressly to make the firm less vulnerable to takeover.10 Evidently, such entrenchment devices can give the

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9 By ‘free cash flows’, an expression coined by Jensen (1986), we mean the amount of cash flows generated by a firm during a given period in excess of the funds required to finance all positive net present value projects. Note the striking similarity between this concept and the situation hypothesized by Mueller (1969) and depicted in Figure 2, particularly, the distance (CF\text{m-I}_{SW}).

management the required leeway to overinvest. This allows the management to loosen the institutional constraints which prevent poor investment decisions.

Nevertheless, it should be noted that, even when the managements successfully entrench, important institutional constraints on opportunism are likely to remain unobstructed such as legal shareholder protection and monitoring by the financial press. In this respect, it has been argued that in a country where the level of legal shareholder protection is ‘good’ the management will be limited in the amount of firm value it can extract by outright theft or through perquisite consumption (Shleifer and Vishny (1997)).

Perhaps it is safe to assume that, for the case of the U.S., the general effectiveness of the courts and other institutional mechanisms which act to avert stealing are unlikely to be obstructed by the managements. In that case we can conclude that, at the institutional level, while it is possible for the managements to create a situation propitious for overinvestment, conditions conducive to stealing are mainly outside of their control.

B. Laws of interaction

By laws of interaction Dubin refers to the linkages between the units of the model. In what follows we briefly state the laws of interaction and then make some concise remarks:

1. Bilateral dependency (i.e. lack of autonomy on the part of both parties) and good firm-level corporate governance (a safeguard in the form of an effective board of directors) are positively related. This implies that firm financial autonomy and good firm-level corporate governance are negatively related.
2. Good firm-level corporate governance and opportunism are negatively related.
3. Bilateral dependency and opportunism are negatively related. This implies that firm financial autonomy and opportunism are positively related.
4. A strong institutional environment (e.g. an active market for corporate control, good legal shareholder protection, etc) and opportunism are negatively related.

The first law of interaction above is derived from the theoretical assertion that in the presence of bilateral dependency good firm-level corporate governance is beneficial for both parties. As we mentioned above, from the manager’s perspective
safeguards help reduce contractual hazard premiums and consequently the cost of outside equity. On the other hand, from the point of view of shareholders as a group, safeguards help to protect their investments from expropriation. Hence, in the presence of bilateral dependency both parties will look forward to cement the relationship with an effective governance structure with good safeguards (board of directors). However, when the firm –and therefore its management– becomes financially autonomous, it is expected that its management will strive to weaken firm-level corporate governance so that it can deviate from shareholder wealth maximization (e.g. by attempting to maximize growth rather than shareholder wealth).

Since a key purpose of safeguards is to prevent opportunism from surfacing, the second law of interaction comes out directly from TCE theory. The third law of interaction, however, works indirectly through the first and second laws of interaction. When one of the parties becomes autonomous this party may work to impair the effectiveness of the board of directors and opportunism will emerge.

Finally, regarding the fourth law of interaction, note that institutional safeguards constitute a real obstacle for opportunistic behaviour. Even though managements can insulate themselves from certain aspects of the institutional environment and carry out certain opportunistic actions e.g. by deploying anti-takeover provisions and then over-investing, good legal shareholder protection and institutional monitoring (e.g. the financial press) can still prevent the outright theft of the assets and profits of the corporation.

C. Boundaries of the system
The present analysis is restricted to the equity governance structure and therefore the elements of this contractual framework constitute the boundary of the system. That these boundaries are appropriate follows from our discussion of TCE. For example, recall that TCE maintains that the board of directors is a safeguard that is awarded to equity-holders alone. Importantly for the identification of the boundaries of the system, it is crucial to note that the four units of the theory listed above refer to equity.

In contrast, debt is a ‘market like’ governance structure, it has its own safeguard mechanisms –different from the board of directors– and therefore it is located outside of the boundary of the theoretical framework in this paper. For example, bondholder’s safeguards include the opportunity to renegotiate terms when contracts are renewed
(an opportunity which shareholders do not have), and also have the advantage of not being exposed to hold-up problems since refusal to pay the amounts stipulated at the times indicated in the contract may result in the liquidation of the issuing company.\textsuperscript{11}

Finally, since the firm cannot own its sources of finance, the hierarchic governance structure also drops out of the theoretical framework in this paper.

**D. System states**

The next step in the process of theory building consists in identifying the framework’s system states. System states are the loci inside the boundaries of the system in which the units of the theoretical framework have special characteristic values and these values persist through time. Thus, the purpose of this subsection is to make the model useful for the prediction of unit values at any point within the boundaries, which is a prerequisite to state our propositions in the next section.

The system states of the present theoretical framework may be illustrated with the help of Figure 3. For ease of exposition, in that figure the theoretical unit ‘bilateral dependency’ is represented in the figure by its opposite ‘firm financial autonomy from shareholders’ on the horizontal axis; whereas the vertical axis is labelled ‘overall corporate governance effectiveness’ and it refers to the efficacy of both firm-level and institutional corporate governance effectiveness. In the figure, these two dimensions are used as ‘state coordinates’ i.e. are used to designate the particular state of the system. As we will discuss shortly, these system states may be interpreted as reflecting the stages of the lifecycle of the firm.

**System state 1.** This state refers to the case of young firms described in Mueller’s Lifecycle Theory. Some of the firms in state 1 have just completed their Initial Public Offering (IPO), while others are young firms with cash flows which are insufficient to fund investments in specific assets on a consistent basis and consequently remain financially dependent. Note that in the case of IPO firms, these can be regarded as entering “from outside” the boundaries of the model into state 1.

\textsuperscript{11} Nevertheless bondholders are exposed to moral hazard opportunism problems (Alchian and Woodward (1988)).
As it can be seen, we have identified the location of system state 1 at the top left corner of Figure 3 where bilateral dependency is high (low firm financial autonomy), overall corporate governance is highly effective (good firm-level and institutional corporate governance) and opportunism is low.

To understand why the location of state 1 should be at the top left corner of the figure it may be useful to consider the situation of the firms in this state in terms of a combined TCE - Lifecycle Theory of the firm perspective.

Suppose that the owner-manager of a (up to that point privately-held) capital-constrained firm wishes to take advantage of an investment opportunity. According to TCE the management of the firm can employ debt to finance the non-specific assets required in the investment. However, if specific assets are to be purchased TCE predicts that equity will be needed (Williamson (1988)). The reason is that if debt is raised to finance the purchase of highly specific assets, prospective debt-holders will require large premiums because the value of their pre-emptive claims declines as asset specificity increases. Hence, with high asset specificity equity becomes comparatively cheap. In contrast, since equity as compared to debt is cumbersome, equity is the more expensive instrument at low levels of asset specificity.

Thus, assume that the owner-manager persuades investors in the capital markets to contribute the funds and purchase some equity. Since with equity as opposed to debt there is no obligation on the part of the firm to return the funds at a pre-specified date, the owner-manager could act opportunistically and retain future returns from the project and/or use some of the funds for his personal consumption. Therefore, stockholders as a group become dependent on the behaviour of the owner-manager.

If however, at the same time, the owner-manager expects that more outside funding will be needed in the immediate future, and the benefits he expects to obtain from making investments in specific assets (e.g. have his firm grow rapidly) are greater than the satisfactions derived from acting opportunistically today, then the relationship can be said to be symmetrical in the sense that both parties need each other, i.e. ‘bilateral dependency’ obtains.

As we mentioned above, in the presence of bilateral dependency good firm-level corporate governance is advantageous for both groups. From the manager’s point of view good governance can help reduce the contractual hazard premium and consequently the cost of outside financing. Moreover, from the point of view of
shareholders as a group, good governance protects their investments from opportunism. Hence, in this circumstance both parties will be interested in protecting the mutually beneficial transaction with an effective safeguard (board of directors). Therefore, the main threat to equity-holders in state \(1 \) is not likely to be managerial opportunism, but rather adversity related to unpredictable states of the world which may include the failure of the young firm (Mueller (2003, p. 82)).

As it can be seen, our assumption of bilateral dependency (i.e. lack of financial autonomy) in this model is derived from Mueller’s lifecycle theory of the firm, where it is suggested that managements wish to maximize growth and that firms resort to external equity most heavily when they are young. While, on the other hand, the assumption of good governance is derived from TCE, according to which equity financing becomes less costly when safeguards are good.

Assuming that (1) fewer anti-takeover provisions, (2) a small board size and (3) high insider ownership are good indicators of effective corporate governance, the data for the U.S. seems consistent with the affirmation that corporate governance is better for young financially dependent firms.

Regarding anti-takeover provisions, Field and Karpoff (2002, p. 1864) who employ a sample of 1,109 IPO firms which went public between 1988-1992, find that these companies deploy an average of 2.56 anti-takeover provisions at their IPO and that, in contrast, only an average of 0.19 new provisions are adopted during the 5 years after the IPO (p. 1862). While on the other hand, Gompers et al. (2003, p. 116), who study a group of 1357-1708 (both young and mature) firms between 1990-1999, find that the sample average is 9 anti-takeover provisions per firm.

Moreover, concerning board size, Baker and Gompers (2003, p. 574) find that in a sample of 1,116 IPOs between 1978-1987 the median board size is 6 directors. This contrasts with the findings in Yermack (1996, p. 191) who studies 452 large companies between 1984-1991 and finds a median board size of 12 individuals.

Finally, regarding ownership structure, Helwege et al. (2007, p. 1006) using a large sample\(^{12} \) of companies between 1970-2001, find that at the end of year 1 after the IPO the median insider ownership is 38.13% then it declines almost by half by the end of 25 years.

\(^{12}\) Given that the sample is of varied size due to data availability issues we cannot give an exact number for its size, nevertheless it can be noted that the number of firms in the sample varies from 3,878 firms at the end of year 1, to 2,636 at the end of year 5 to 98 at the end of year 25.
year 5 to 21.11% and reaches the median of the population of 14.68% at the end of year 25 after the IPO.

**System state 2.** According to Mueller’s Lifecycle Theory, as the firm matures and becomes very large the owner-manager is likely to need to dilute his ownership stake in order to raise the required amounts of capital. Nevertheless, eventually, when the firm matures, the company’s cash flows become consistently larger than the quantities required to finance all profitable investment opportunities. When this occurs, the management of the firm is likely to conclude that outside equity financing will no longer be a critical input since they can anticipate that in the future most investment in specific assets can be funded from the company’s internal cash flows. Evidently, this event marks the end of the ‘bilateral dependency’ condition between managers and shareholders.

Since, for a mature firm, external equity financing will not be needed with the same urgency as before, the management may start to perceive stockholders as a group that contributes nothing to the firm and that only wishes to deprive the company of its cash flows by demanding high dividend payouts, with the effect of retarding growth. Assuming that at that point the board of directors is somewhat successful in preventing managerial discretion, the management may then start exerting its influence over the board in order to weaken its effectiveness e.g. by altering the composition of the board so that thereafter it favours managerial interests to the disadvantage of the shareholders. Moreover, since in the case of equity the contract lasts for the entire life of the public corporation (i.e. there are no contract renewal periods as equity has no expiry date), shareholders as a group have no chance to renegotiate terms and protect themselves from opportunism.

Nevertheless, in system state 2 the management of the firm can still be expected to be somewhat responsive to the demands of the shareholders. The reason is that if the stock price plunges a takeover may ensue (institutional safeguards). Consequently, it can be expected that the management will be aware that diversions from shareholder wealth maximization should be handled with care. Therefore, in state 2 there may be some moderate opportunism but constrained by the forces operating in the country’s institutional environment (e.g. market for corporate control).

To summarize then, state 2 refers to a stage of the lifecycle of the firm where the firm is financially autonomous from shareholders, firm-level corporate governance is weakened by the management of the autonomous firm, but opportunism is moderated
by institutional forces e.g. the takeover constraint works as indicated by Mueller (1969, 2003). This state is depicted at the middle-right section of Figure 3.

**System state 3.** In order to overcome the institutional constraints on opportunism so that growth can continue at a higher rate, or perhaps more importantly to avoid retrenchment, one action the management can take, once the firm-level governance structure is weakened, is to have the board approve anti-takeover provisions such as poison pills, staggered boards, etc, formulated expressly to make the firm less vulnerable to takeover. Nevertheless, in order to have these provisions approved the management may have to overcome opposition by institutional and other outside investors and may not be successful; if this is the case the firm remains in state 2.

However, if the provisions to entrench the management are approved, the management of the financially autonomous firm will have the required leeway to diverge from stockholder wealth maximization policies and instead overinvest in expansion of market share or diversification, or both. Thus, we have depicted state 3 at the bottom-right section of Figure 3 in order to indicate that in this state corporate governance is at its weakest and opportunism is high.

An important institutional constraint that management of firms in state 3 should not be able to overcome, assuming institutions are effective, is related to the level of institutional shareholder protection enforced in the country where the firm operates (e.g. legal shareholder protection, monitoring by the financial press). Unfortunately for the shareholders, however, although these constraints are likely to be effective against stealing, they are unlikely to be effective against overinvestment. In this connection, Shleifer and Vishny (1997) argue that in a country with strong shareholder protection, such as the United States, the retention of free cash flows is feasible because courts “are very unlikely to second guess manager’s business decisions, including the decisions that hurt shareholders” (Shleifer and Vishny (1997, p. 752)), excessive shareholder expropriation, in contrast, is impracticable because “courts would interfere in cases of management theft and asset diversion, and they would surely interfere if managers diluted existing shareholders through an issue of equity to themselves” (Shleifer and Vishny (1997, p. 752)).

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13 It should be noted again at this point that many managers, when faced with the prospect of contracting hierarchies, reduced salaries, lower opportunities for promotion, etc, are likely to seek ways to expand their companies even if the investments involved are expected to yield low returns (Mueller (2003, pp. 81-82)).
Therefore, according to Shleifer and Vishny, in view that outright theft is kept down by the courts, it is typical for American managers to seek for less direct personal benefits and consume perquisites such as plush carpets and company airplanes (Shleifer and Vishny (1997, p. 742)). Nevertheless, it turns out that it is not clear that even such ‘less direct benefits’ should necessarily have a negative impact on firm performance. Recent research suggests that treating perks, such as access to company jets or chauffeur service, purely as managerial opportunism is incorrect. Specifically, Rajan and Wulf (2006), who perform a detailed empirical investigation, do not find any patterns which may be fully consistent with a free cash flow explanation, as that in Jensen (1986), or a broader agency explanation of the determinants of managerial perks. Instead, Rajan and Wulf find that their data is consistent with the hypothesis that perks are offered in situations which they improve managerial productivity.

**System state 4.** From a contractual perspective firms in this state seem unconventional: they are financially dependent yet they have entrenched managements. Since shareholders should discount increased contractual risks it is likely that the cost of outside equity is high for these firms.

Given that previous studies, such as that of Field and Karpoff (2002), find that IPO firms deploy significantly less anti-takeover provisions than older firms, it would seem that one likely explanation on how firms reach state 4 is related to the possibility that some mature firms may lose their financial autonomy. If so, we could then distinguish between ‘fortunate’ and ‘unfortunate’ ways in which a mature firm may lose its financial autonomy. An example of a ‘fortunate’ way is that, due to some event (e.g. changes in consumer preferences, successful R&D, innovation, growing demand for certain products, etc), the mature firm’s cash flows become insufficient to fund all profitable investments in specific assets, and consequently the firm has to turn to outside equity to take advantage of the new opportunities. Conversely, an ‘unfortunate’ possibility is that the firm’s products become standardized or displaced by new ones and competition (from younger firms, abroad, etc) reduces its cash flows.

In any case, if a firm in state 4 is interested in reducing the cost of the new equity it requires, it would have to improve the credibility of its corporate governance. Note that we have depicted the firm in state 4 in the middle-left section of Figure 3. With this we suggest that at this point corporate governance may be moderately effective.
However, despite the return to financial dependency in state 4, it seems unlikely that corporate governance effectiveness would return to the high levels of state 1. Consider the case of a ‘fortunate firm,’ if the company had been previously overinvesting its stock price would have been low even before the loss of financial autonomy (e.g. companies in state 3 in Figure 3). Specifically, if prior to the loss of financial autonomy, the management of the firm had been building an unwieldy conglomerate composed of unrelated businesses, added value could be realized via improved efficiency by dismantling the corporation (Mueller (1972)). In such a case, if the corporation is to remain in one piece, the management would evidently need to have anti-takeover provisions in place in order to reduce the risk of a hostile takeover bid. On the other hand, regarding the case of ‘unfortunate firms’, if a firm takes a hit in its income generating capacity (e.g. due to competition) its stock price would very likely be affected as well, which in turn, would increase the probability of a hostile takeover offer. In such a case, the management of the firm would clearly prefer to have antitakeover defences ready. Therefore, in both cases, it seems reasonable to expect that the management of a firm which loses its financial autonomy would be interested in keeping anti-takeover provisions in place.\(^\text{14}\)

Finally, it should be noted that if firms in states 3 and 4 are overly diversified conglomerates then, according to the TCE approach to finance, these companies should have higher leverage on average when compared to firms in states 1 and 2 which (the analysis suggests) should be more focused on their main line of business, other things equal. The reason is that the former firms will likely own a substantial number of nearly autonomous divisions with good redeployability characteristics and, according to TCE, redeployable assets are more efficiently financed with debt.

E. Propositions

According to Dubin, propositions are concerned with predictions about the values of one or more units in the model. Moreover, propositions can be trivial or strategic. Trivial propositions can be very numerous as one can state as many propositions as the number of possible lawful combinations between the units of the model. On the

\(^{14}\) The present theory is an effort of to explain corporate governance given the institutional environment in the U.S. that obtained following the hostile takeover wave of the 1980s (i.e. roughly since the mid 1980s). It is important to note that since the change in the institutional environment is relatively recent, it would seem likely that many of the firms which were in state 4 during the 1990s were firms that lost their financial autonomy prior to the 1980s. When the takeover constraint became tighter during the 1980s these firms adopted antitakeover provisions and their managements remained entrenched.
other hand, strategic propositions point out where something notable is happening to the values of one or more units.

In our case we are interested in predicting where opportunism will likely surface and how it will manifest itself (e.g. overinvestment, low firm valuation). As it can be seen in Figure 3 opportunism will be particularly high in system state 3. Hence, the generic strategic proposition we might be interested in formulating would be: “the managements of financially autonomous firms, who are also entrenched will tend to engage in opportunistic activities.” Moreover, we also know that opportunism can be of two kinds: (1) hold-up opportunism i.e. overinvestment and/or (2) moral hazard opportunism e.g. extraction of shareholder wealth. Nevertheless, we have also discussed how when institutions are strong, managers may overcome institutional safeguards against overinvestment but may not be so successful with getting away with extracting shareholder wealth. Thus, we might expect that opportunism will mainly be reflected in overinvestment problems. With these considerations in mind our first proposition is:

Proposition 1: The managements of financially autonomous firms who are also entrenched will tend to over-invest.

Moreover, if the management of a firm is overinvesting, as the present theory predicts will tend to happen in state 3, then that firm should have a lower valuation when compared to other financially autonomous firms with un-entrenched managements. For the latter managements should be constrained in their overinvestment by the threat of takeover. Hence, our second proposition is:

Proposition 2: Financially autonomous firms with entrenched managements will have lower valuations when compared to other financially autonomous firms.

Therefore, low firm valuation can be an alternative way to detect the presence of opportunism.

F. Further stages: confronting predictions of the model with the empirical world
The next stages of the theory construction methodology developed by Dubin (1978) are concerned with testing the propositions or predictions of the model for empirical
accuracy. This involves (1) the selection or creation of appropriate empirical indicators, and (2) the conversion of the propositional statements into hypotheses. Moreover, these steps require that we shift attention from the theoretical model to the empirical world. Since the focus in this paper is with theory, in what follows we limit our present discussion to a few remarks on the further steps involved.\textsuperscript{15}

Firstly, empirical indicators are the result of the operations that researchers perform in order to obtain measurements of the values of a theoretical unit (Dubin (1978)). As can be inferred from our propositions, in our case we need to obtain measurements for the following units: firm financial autonomy, opportunism (in its hold-up variety i.e. overinvestment, also manifested in low firm valuation), and managerial entrenchment through anti-takeover provisions (which acts towards the nullification of some of the institutional constraints on opportunism).

On the other hand, hypotheses are defined by Dubin (1978, p. 206) as “the predictions about values of units of a theory in which empirical indicators are employed for the named units in each proposition.” Thus, suppose that we can measure financial autonomy and managerial entrenchment through special indexes, and that we can measure overinvestment problems with a measure of marginal $q$. With these empirical indicators at hand, Proposition 1 could then be converted into a hypothesis, and would read as follows: “The managements of financially autonomous firms (as measured by the financial autonomy index) who are also entrenched (as measured by the entrenchment index) will tend to over-invest (as measured by marginal $q$).” Once the hypotheses of the model are stated in this form, empirical testing can proceed by employing econometric techniques.

\textbf{IV. Conclusions}

This paper has shown how corporate governance issues can be analyzed using a joint Transaction Cost Economics–Lifecycle Theory approach. This allowed us to demonstrate that additional dynamics can be consistently introduced in a TCE framework. With the help of insights from the Lifecycle Theory of the firm our TCE framework is not static and, as Williamson points out, much of the analytical action occurs ex-post.

\textsuperscript{15} Saravia (2008) employs the combined TCE-Lifecycle Theory described in this paper, carries out the additional steps described in this section, and tests the predictions of the model empirically. The results show that the propositions of the model are consistent with the empirical evidence.
The model contributes to the corporate governance literature by describing how corporate governance develops through the various stages of the lifecycle of the firm. The resulting system predicts that the management of financially autonomous firms who are also entrenched will tend to over-invest. Moreover, the model also predicts that financially autonomous firms with entrenched managements (i.e. the managements of firms with considerable anti-takeover defenses in place) will have lower valuations when compared to other financially autonomous firms.

In the introduction to the paper we mentioned that researchers traditionally take two approaches to investigate the relationship between corporate governance and firm performance: (i) the ownership concentration viewpoint (ii) the board of directors’ composition perspective.

In the light of the theoretical framework developed in this paper and the evidence in Helwege et al. (2007), it would seem that since ownership becomes less concentrated as the firm matures, and given that the model predicts that firm performance will deteriorate substantially in certain mature states, it seems likely that one would find a positive correlation between firm performance and ownership concentration. However, this does not necessarily imply causation: as we have seen, when ownership becomes diluted, there exist other mechanisms which can constrain managerial discretion (board of directors, market for corporate control).

Moreover, consideration of the growth maximization hypothesis (Marris (1964, 1998)), points to the possibility that concentrated ownership in mature firms might not fully restrain overinvestment problems. Indeed, recent work which examines corporate governance around the world, suggests that overinvestment also occurs in countries where ownership remains highly concentrated throughout the firm’s lifecycle (Mueller and Yurtoglu (2000), Gugler et al. (2003, 2004)).

Regarding the second approach, board composition should certainly influence firm performance given that it is the board that approves anti-takeover provisions. Nevertheless, if the anti-takeover provisions are not approved due to, for example, opposition of institutional investors, board composition in itself should not affect performance very much, at least as long as there exists an effective market for corporate control.

Finally, concerning the recent line of research which investigates whether anti-takeover provisions are related to firm performance, our theoretical framework indicates that managerial entrenchment is indeed an important factor for performance-
reducing opportunism to occur. However, prior work is not very helpful when it comes to the discernment of the type of ‘agency problem’ that managements carry out when entrenched. In contrast, our model suggests that, if entrenched, the management of financially autonomous firms will tend to overinvest in expansion of market share or diversification. On the other hand, our analysis suggests that if a firm with poor governance is financially dependent, its investment performance should not necessarily be poor, but that nevertheless, performance-decreasing opportunism can occur, for example, through managerial opposition to dissolve an inefficient conglomerate.

References


Figure 1. Choice of debt VS equity.
Source: Adapted from Williamson (1996)
Figure 2. Investment choices over the lifecycle of the firm.
Source: Adapted from Mueller (2003, p. 80)
Overall corporate governance effectiveness

Firm financial autonomy from shareholders

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Figure 3. System states