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CORPORATE GOVERNANCE

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The paper first develops an economic analysis of the concept of shareholder value, describes its approach, and discusses some open questions. It emphasizes the relationship between pledgeable income, monitoring, and control rights using a unifying and simple framework.

The paper then provides a first and preliminary analysis of the concept of the stakeholder society. It investigates whether the managerial incentives and the control structure described in the first part can be modified so as to promote the stakeholder society. It shows that the implementation of the stakeholder society strikes three rocks: dearth of pledgeable income, deadlocks in decision-making, and lack of clear mission for management.

While it fares better than the stakeholder society on those three grounds, shareholder value generates biased decision-making; the paper analyzes the costs and benefits of various methods of protecting noncontrolling stakeholders: covenants, exit options, flat claims, enlarged fiduciary duty.

KEYWORDS: Governance, shareholder value, stakeholder society, control rights, managerial incentives.

1. WHAT IS CORPORATE GOVERNANCE?

THE STANDARD DEFINITION of corporate governance among economists and legal scholars refers to the defense of shareholders' interests. Classical economists, from Adam Smith (1776) to Berle and Means (1932), were concerned with the separation of ownership and control, that is with the agency relationship between a "principal" (investors, outsiders) and an "agent" (manager, entrepreneur, insider). There is now widespread awareness that managers, say, may take actions that hurt shareholders. They exert insufficient effort when overcommitting themselves to external activities, when finding it convenient to accept overstaffing, or when overlooking internal control. They may collect private benefits by building empires, enjoying perks, or even stealing from the firm by raiding its pension fund, by paying inflated transfer prices to affiliated entities, or by engaging in insider trading. Last, they may entrench themselves by investing in mature or declining industries that they are good at running, by taking risk that is either excessive (as when their position is endangered) or

[1] The paper builds on the author's Presidential Address for the Econometric Society, delivered in 1998 in Montreal, Lima, Berlin, and Dehli. This address also formed the basis for the John von Neumann lecture given on September 24, 1998 at Rajck Laszlo College, University of Budapest. I am very indebted to Bengt Holmström for many discussions on the topic of this address. I also borrow substantially from joint work with him, Philippe Aghion, Mathias Dewatripont, and Patrick Rey. I am grateful to Philippe Aghion, Jean-Jacques Laffont, Fausto Panunzi, Andrei Shleifer, and two referees for helpful comments on an earlier draft, and to several members of the Institut D'Economie Industrielle (IDEI) for guidance during the preparation of the address.

insufficient (as when it is secure), or by bending over backwards to resist a takeover.

This basic agency problem suggests a possible definition of corporate governance as addressing both an adverse selection and a moral hazard problem. A good governance structure is then one that selects the most able managers and makes them accountable to investors. This widely-held view can, for example, be found in Shleifer and Vishny's (1997) survey of the topic; they define corporate governance as "the ways in which the suppliers of finance to corporations assure themselves of getting a return on their investment."[2] For most economists and legal scholars, the debate is more about how to *implement* shareholder value than about its legitimacy.

Much of this debate focuses on what constitutes an *efficient monitoring structure*. Recurring questions concerning investor activism are the following:

(a) How should directors be selected and compensated? For example, the media have devoted substantial attention to the 1992 Cadbury Report's "code of best practice for boards of directors" and to its gradual implementation by British corporations, and to the California Public Employees' Pension Fund (Calpers)'s list of 37 "principles of good practice for a corporate board" and its subsequent pressure on firms to adhere to these principles.

(b) Should institutional investors such as pension funds or mutual funds be active investors and interfere with management? It has for example been widely argued[3] that US financial institutions are discouraged from monitoring the firms they invest in by regulatory and fiscal rules (such as those on diversification) and by interpretations of the insider trading regulations that penalize the resale of shares by monitoring institutions. And indeed, in the US, ownership is particularly dispersed; institutions shy away from sitting on boards and mostly act as short-term players (80 percent of the trading of shares is done by institutions, which hold them for an average of 1.9 years, whereas in Japan quasi-permanent holdings make institutions into long-term players). Several observers have expressed concern over a resulting weakness of the American corporate governance system.

(c) Should one encourage a market for corporate control (takeovers,[4] leveraged buy-outs, proxy fights)?

(d) And, last, should banks be active in corporate governance as in Japan and most of continental Europe or mostly silent as in the United States?

[2] By focusing mostly on the market for corporate control, Leo Herzel takes a narrower view of the concept of corporate governance in his entry on the topic in the *Palgrave Dictionary of Money and Finance*. In contrast, Zingales (1997), in the spirit of Williamson (1985), defines a "governance system as the complex set of conditions that shape the outcome of the ex post bargaining over the quasi-rents that are generated in the course of a relationship."

[3] See, e.g., Roe (1994), Bhide (1993), and Coffee (1991).

[4] While the policy debate on takeovers often pits proponents of the stakeholder society against those of shareholder value, the *academic* debate is by and large about when takeovers are beneficial to shareholders. An exception, and one of the first papers to emphasize externalities on employees is Shleifer and Summers' (1988) analysis of breach of trust in takeovers.

Clearly, such questions quickly lead observers to ponder the comparative merits of various legal, fiscal, and regulatory environments.[5] This "law and finance" literature compares in particular the degree of protection of shareholder and creditor rights across countries.

There is also substantial debate about managerial compensation. Most people feel that the high level of managerial compensation in Anglo-Saxon countries is better explained by the insufficient incentives provided to the compensation committees in charge of structuring top management's bonuses and stock options than by its marginal productivity; the economics profession is usually more agnostic about the matter, and some economists (most notably Jensen-Murphy (1990)) even feel that the sensitivity of existing compensation to managerial performance in Anglo-Saxon countries does not fit the high level of responsibility of top management. To this debate on explicit incentives (managerial compensation), can be added one on implicit incentives, namely the incentives provided by the managers' fear of losing their job or autonomy in decision-making, or else of facing a takeover. On this front, the conventional wisdom focuses more on Japan and continental Europe where it is widely felt that managers may be too entrenched, that is, have a secure grip on their positions.[6]

To many people the economists' and legal scholars' sole focus on shareholder value appears incongruous. Managerial decisions do impact investors, but they also exert externalities on a number of "natural stakeholders" who have an innate relationship with the firm: employees, customers, suppliers, communities where the firm's plants are located, potential pollutees, and so forth. There is no denying that such externalities may be substantial; for example, the closure of a plant by a major employer in a depressed area has dramatic consequences for its workers and for the local economy. Why should institution design ignore the natural stakeholders, and favor the investors, who are "stakeholders by design," by giving them full control rights and by aligning managerial compensation with their interests?

Many have therefore advocated moving from traditional shareholder value to the broader (and vaguer) concept of the "stakeholder society" in which the interests of noninvesting parties would be better represented. The popularity of the shareholder value concept is much higher in Anglo-Saxon countries (despite references to the stakeholder society by politicians such as Tony Blair and Al Gore and some mentions of stakeholder welfare in the debate on takeover legislation) than in other developed economies. For example, the Viénot Report (1995), the French counterpart to the Cadbury report in England, states that management and directors must aim at "social interest," different from that of

[5] The burgeoning literature on the topic includes La Porta et al. (1997, 1998, 1999), and Bortolotti et al. (1997).

[6] Work on aggregate data by Kaplan (1994a, 1994b) however suggests that, at the top level, the sensitivity of managerial turnover to managerial performance, as measured by the increase in shareholder value, is about the same in Germany and Japan as in the U.S.

shareholders, employees, creditors, suppliers and customers. More generally, it is widely felt in countries such as Germany, Japan, and France that corporations should aim to promote growth, longevity and a secure employment relationship, with profitability being more an instrument than the ultimate goal. Such views sometimes permeate institutional design, most notably in Germany where the law mandates a two-tiered board for all public corporations with over 500 employees; the higher board (the supervisory board or *Aufsichtsrat*) is made up of executives of major stakeholders such as banks, suppliers, and customers, and of worker representatives.

The traditional shareholder value approach is too narrow a view for an economic analysis of corporate governance. I will, perhaps unconventionally for an economist, define corporate governance as the design of institutions that induce or force management to internalize the welfare of stakeholders. The provision of managerial incentives and the design of a control structure must account for their impact on the utilities of all stakeholders (natural stakeholders and investors) in order to, respectively, induce or force internalization. I will argue that, if a case is to be made in favor of shareholder value, this case must rest on a careful consideration of the economics of incentives and control.

There is unfortunately little formal analysis of the economics of the stakeholder society. As I discussed, the shareholder value concept has long gained widespread acceptance among economists, who tend to quickly brush aside the notion of the stakeholder society (and in my experience, are often for this reason perceived by laypeople as being out of touch with reality). The economists' implicit assumption is that employees, suppliers, customers, and other natural stakeholders are protected by very powerful contracts or laws that force controlling investors to perfectly internalize their welfare, whereas the contractual protection of investors when the natural stakeholders have control is rather ineffective, and so investors must receive the control rights. The details of the argument have not yet been worked out. Conversely, the proponents of the stakeholder society have not made a convincing case that efficient institutions can be designed that promote the underlying concept.

This paper makes no attempt at providing a comprehensive review of the corporate finance literature or at covering its main themes in depth. For example, it will discuss the general issues relative to investor activism without entering the details (mentioned above) of its implementation. It is organized as follows. Sections 2 and 3 present an integrated economic analysis of the concept of shareholder value, describing its approach and discussing some open questions. Section 2 explores some general themes from the corporate finance literature and emphasizes managerial incentives. Section 3 focuses on the specific issue of the allocation of control rights and its relationship to pledgeable income. Section 4 considers the broader and a priori more appealing concept of the stakeholder society, and, using recent developments in the economics of multi-task incentives, points at some difficulties involved in providing managers with good incentives to accomplish their modified mission. Section 5 analyzes the tradeoff between ownership structures in which control is shared among

multiple stakeholders (as presumably would be the case if the stakeholder society is to be taken seriously) and those in which a single constituency enjoys undivided control (as exemplified by the shareholder value concept). Section 6 discusses the protection of noncontrolling stakeholders. The concluding remarks, Section 7, then return to the overall debate between shareholder value and stakeholder society.

2. THE SHAREHOLDER-VALUE PERSPECTIVE: MANAGERIAL INCENTIVES

Recent economic analysis has stressed the contribution of three mechanisms toward a partial alignment of the firm's decision-making with the interests of its shareholders (or more generally investors). Two of these, explicit and implicit incentives, relate to *managerial incentives*. First, management responds to monetary compensation. Bonuses, based on accounting data, and stock options, indexed on market data, encourage the managers to behave in the shareholders' interests. Second, even in the absence of the explicit incentives provided by bonuses and stock options, managers' career concerns may induce them to try to please their shareholders. Managers value their tenure on the job as well as a lenient oversight, and of course are averse to hostile takeovers.

The third mechanism relates to the *control structure*. Investors may engage in monitoring and exercise voice (in the terminology of Hirschman (1970)). Such "active monitoring" by the board of directors, a pension fund, a mutual fund, a raider, a venture capitalist, an LBO artist, or a bank, aims to alter the firm's course of action and thereby make it more efficient. It is prospective in that it raises the firm's net present value (NPV). For example, active monitors may turn down a negative NPV project sponsored by management, force the divestiture of a noncore division, or remove management altogether.

We discuss managerial incentives and the control structure (and the relation between the two) with the help of a simple model. Section 2 emphasizes the role of pledgeable income and its implications. The dearth of pledgeable income associated with agency problems is shown to account for a variety of financing institutions. It is also, as we will see in Section 3, one of the key determinants of the allocation of control rights.

2.1. *The Basic Model and the Notion of Pledgeable Income*

Formal analyses of the shareholder value model all depart from the Arrow-Debreu paradigm by introducing an agency problem between insiders and investors. Among the many different ways of doing so, the most popular ones posit an adverse selection or a moral hazard problem, or the existence of a private benefit enjoyed by insiders when running the firm, or else the complete or partial nonverifiability of the firm's income. Fortunately, these different approaches give broadly consistent predictions on a number of corporate finance questions. For the purpose of this paper, I will select a particularly tractable

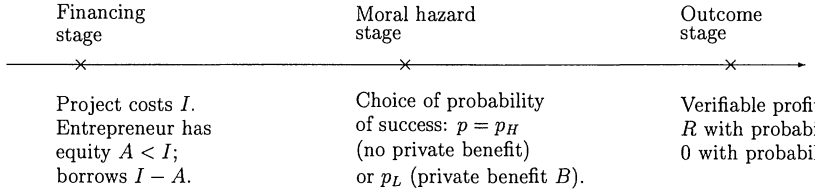

FIGURE 1.—Timing.

one[7] in order to illustrate some typical implications. Its timing is summarized in Figure 1.

A risk-neutral entrepreneur has one idea or project that requires outside financing. The project involves set up cost I, and the entrepreneur has equity $A < I$. For simplicity think of A as being cash that the entrepreneur can contribute to cover part of the investment cost (the corporate finance literature has also investigated alternative interpretations of A, such as the value of the entrepreneur's collateral or the salvage value of the assets at the end of the production process). The amount A is usually called "initial equity," "inside equity," or "entrepreneurial net worth." The investors' outlay is $I - A$. For simplicity, we will further assume that the entrepreneur is protected by limited liability (her income cannot take negative values), and that the parties do not discount the future.

The project generates some verifiable income or profit at the end. The outcome may be a success (yield income $R > 0$) or a failure (yield no income). The probability of success is denoted by p. An agency problem arises when this probability is endogenous. Let us adopt the familiar two-effort formulation in which the entrepreneur may "work" or "shirk," or "behave" or "misbehave" (see the introduction for examples of behaviors that we have in mind). The probability of success is p_H (respectively, $p_L = p_H - \Delta p$, where $\Delta p > 0$) if the entrepreneur behaves (respectively, misbehaves). Despite the lower probability of success, the entrepreneur may choose to misbehave, since she then enjoys a private benefit $B > 0$ while she enjoys none when she behaves. In the following, we will always assume that investment is worth funding only if the financial contract with the investors induces the entrepreneur to behave.[8] And to create scope for funding, we assume that the project's NPV is positive:

$$p_H R - I > 0. \tag{1}$$

As we will see, a positive NPV does not guarantee that the project is funded.

The standard way of determining whether the investors are willing to finance the project goes as follows: To be induced to behave the entrepreneur must be

[7] As the reader will recognize, the model is nothing but a simplified version of the principal-agent model. I have used straightforward extensions of this model in some of my work with Bengt Holmström on the credit crunch and on aggregate liquidity (Holmström-Tirole (1997, 1998, 2000)).

[8] For this, it suffices that total surplus for the low effort, $p_L R - I + B$, be negative.

compensated more in case of success than in case of failure. Because of risk neutrality, it is optimal for the entrepreneur to receive 0 in case of failure and some compensation w in case of success, that induces her to forego the private benefit of misbehaving. That is, the reduction, $p_H - p_L$, in the probability of success times the reward in case of success must outweigh the private benefit:

$$(2) \qquad (p_H - p_L)w \geq B.$$

The implication of this incentive compatibility constraint is that the entrepreneur must be given a share of the pie in case of success. Or, put differently, the investors cannot lay their hands on more than $R - [B/(p_H - p_L)]$ in case of success without destroying insider incentives.

A necessary and sufficient condition for financing is then that the "*pledgeable income*" *exceed the investors' outlay*, or

$$(3) \qquad p_H\left(R - \frac{B}{p_H - p_L}\right) \geq I - A.$$

When this investor break-even condition is satisfied, the project is financed. Assuming a competitive capital market, the investors just break even in equilibrium, and the entrepreneur receives a (positive) net surplus equal to the NPV.[9]

2.2. *Determinants of Borrowing*

This straightforward model delivers a couple of simple and realistic predictions, as illustrated below:

- *Credit rationing*. Assume first that the entrepreneur has no initial equity ($A = 0$). Comparing (1) and (3), we observe that the presence of moral hazard ($B > 0$) makes it possible that a positive NPV project not be funded ($p_H R - I > 0 > p_H[R - (B/\Delta p)] - I$). This familiar conclusion stems from the inability of the entrepreneur to pledge the entirety of the proceeds of the investment to the investors; that is, the pledgeable income is smaller than the entire income generated by the project. More generally, a positive NPV project may not be funded even when the entrepreneur has positive inside equity.
- *Role of inside equity*. While the project's NPV is independent of the level A of inside equity, the financing condition (3) is not. This condition shows that the entrepreneur is more likely to be financed (in the sense that the set of parameters for which (3) is satisfied is larger) when the entrepreneur has more equity. The intuition goes as follows: A wealthier entrepreneur needs to borrow

[9] That is, the total surplus associated with the investment. The entrepreneur's compensation w in case of success is determined by the break even condition

$$p_H(R - w) = I - A,$$

and so the entrepreneur's net surplus (relative to the absence of investment) is equal to the NPV:

$$p_H w - A = p_H R - I.$$

less and therefore must reimburse less. Her compensation in case of success increases, which alleviates the moral hazard problem and facilitates financing.

• *Reputational capital.* When deciding whether to finance a project, lenders usually consider, among other criteria, the entrepreneur's "character" and "track record." Both may be indicative of the extent of moral hazard. For example, an entrepreneur who, ceteris paribus, has fewer outside demands on her time, less scope for channeling money to affiliated entities, or fewer opportunities to hire friends and family as employees, can be thought of as having a low B. Alternatively, the private benefit of misbehaving may not be observable directly, but it may, as in Diamond (1991), be partially inferred from her repayment of previous loans. As is the case for inside equity A, the extent of moral hazard B does not in this model affect the NPV (see condition (1)), but it does condition the funding of the project. As one would expect, reduced moral hazard is conducive to the availability of external financing. In this sense, reputational capital can substitute for inside equity.

2.3. *Active Monitoring*

We have provided two illustrations of the general idea that firms with low agency costs (here, high inside equity, low private benefits from misbehaving) are more likely to be financed. Another classic implication of the corporate finance literature is that firms with low agency costs are more likely to have access to *cheap* finance.

To see this, let us introduce the distinction between "market finance" and "intermediated finance." Market finance refers to issues of securities such as commercial paper and corporate bonds to a dispersed set of investors. Intermediated finance in contrast involves financing by a large investor (bank, large shareholder, venture capitalist, etc.) who monitors the firm.[10] The distinction between intermediated and market finance is sometimes referred to as one between "informed" and "uninformed" capital.

The stylized fact is that intermediated finance is more expensive than market finance. There are two reasons for this. The first is that the monitor must be compensated for his monitoring activity. The second is that there may be a scarce supply of monitoring capital. Monitors in general do not finance from their own money the entire investment needs of the borrowers and are therefore themselves agents for other investors (depositors, junior partners, etc.) who are concerned about potential moral hazard at the monitor's level. The logic of credit rationing that prevails at the firms' level also applies one tier up at the intermediaries' level. The scarcity of intermediary capital then translates into more expensive borrowing, for example into a larger wedge between the interest rate charged by banks and commercial paper or bond rates.

[10] The financing by a large investor may then attract complementary financing by dispersed investors who benefit from the certification provided by the large investor (lead investment bank, senior partner in venture capital, etc.)

Why would firms then resort to intermediated finance if market finance is cheaper? The answer is that many do not have access to market finance and have no choice but borrowing from intermediaries. Suppose in the context of the basic model that

$$p_H[R - (B/\Delta p)] < I - A,$$

so that the firm cannot resort to market finance. Oversimplifying, let us assume that at cost c_A, an active monitor can bring the private benefit down from B to $b < B$; so the monitor can reduce moral hazard by preventing the most egregious forms of misbehavior, and there is no moral hazard at the monitor's level. Using a monitor reduces the NPV from $p_H R - I$ to

$$p_H R - I - c_A,$$

and therefore is not attractive to the borrower (who in a competitive financial environment receives the NPV) unless he has no choice. The pledgeable income, namely the expected income that can be pledged to uninformed investors, becomes

$$p_H[R - (b/\Delta p)] - c_A$$

and so for b and c_A sufficiently small, exceeds $I - A$. Thus, monitoring may facilitate financing. Firms with a strong balance sheet (say, a high A) use market finance while firms with a weaker balance sheet use intermediated finance (of course, those with a very weak balance sheet have no access to finance at all).

As we noted we have simplified the exposition by assuming that the intermediary is not subject to moral hazard. In practice, it is and so it itself needs equity in order to be able to lend (for banks, this takes the form of capital adequacy requirements). This implies that firms with weak balance sheets and therefore dependent on intermediated finance suffer more than healthier firms during a credit crunch, where a credit crunch is defined as a situation in which financial intermediaries themselves have weak balance sheets.[11] The theoretical predictions that firms with strong balance sheets have better access to market finance and are less affected by a credit crunch are strongly supported by empirical evidence.[12]

2.4. *Passive Monitoring*

An easy extension of the basic model allows us to analyze another important form of monitoring, namely passive or speculative monitoring. Passive monitoring refers to investor behaviors that aim at *measuring* rather than affecting the value of assets in place. It does not raise NPV directly, but rather takes a picture of the health of the firm at various points of time. Passive monitoring is retrospective whereas active monitoring is prospective. The passive or specula-

[11] See Holmström-Tirole (1997).

[12] See, e.g., Bernanke-Gertler-Gilchrist (1994).

tive monitors are many in practice: stock market analysts, underwriters and investors at initial public offerings, banks that purchase and roll over short-term debt and monitor the firm so as to be able to get out on time. Some passive monitors do not even invest in claims issued by the firm, as in the case of rating agencies who put their reputation rather than their capital at stake.

Passive monitoring, like any monitoring activity, is costly. Given that passive monitors do not interfere with management to raise NPV, why should a firm encourage and pay for passive monitoring by going public, issuing short-term debt, or hiring a rating agency? The answer is performance measurement. As argued in Holmström-Tirole (1993), financial markets provide firms with measures of managerial performance that cannot be extracted from accounting data. These measures furthermore have some amount of integrity since investors back their assessments with their own money and since (for some forms of passive monitoring) there is free entry into the monitoring activity.

Suppose a manager selects a long-term R&D project that may pay off in 10 or 15 years. Even ignoring the fact that the manager will probably no longer manage the firm when the outcome is realized, relying solely on the final outcome to reward the manager is likely to provide weak incentives. Managerial compensation then embodies too much of the noise that during this long interval of time affects the final outcome. For example, a project that is excellent from an ex ante point of view may turn out to be irrelevant because a new technology will come in ten years that renders the innovation obsolete. The manager would then receive no reward even though she exerted much care in selecting the project. Suppose now that after a few months or years analysts can figure out whether the project design and specification are the right ones. While there is still uncertainty about demand and the introduction of rival products, such "good news" should lead to a managerial reward. (In practice, these "early measurements" of the value of assets in place are often provided by stock prices, but alternatives exist as our examples show.) Furthermore, managerial compensation should not be affected by events such as demand shocks or arrivals of substitute technologies, that she may not be able to control.[13]

To illustrate how passive monitoring fits within the context of the basic model, let us first add an early signal of performance and then analyze the investors' incentive to acquire the corresponding information. The timing of this extension is provided in Figure 2, where the new element of the model is described in bold letters.

The new ingredient is the monitoring stage. Let us for the moment assume that a signal σ about the final outcome can be acquired at cost c_P. That is, we do not yet look at the incentives of the player in charge of acquiring this signal.

[13] The need for forward-looking measures at the firm's level to complement backward-looking accounting measures echoes recent managerial emphasis of the need to recognize a division's value of building intangible assets and competitive capabilities. The latter need gave rise to concepts such as the "balanced scorecard" (Kaplan-Norton (1996)) and "economic value-added" (Steward (1994)). (While their names might suggest adherence to a broader concept, such management tools are built along the shareholder value paradigm.)

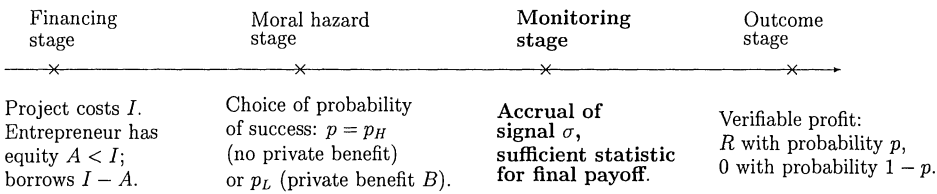

FIGURE 2.—Passive monitoring.

For simplicity, we further assume that the signal is a sufficient statistic for the final outcome. The signal can be "good" or "bad". Let $q_H > p_H$ denote the probability that the good signal accrues when the manager chooses to behave, and $q_L < p_L$ denote the probability that the good signal accrues when the manager misbehaves. The conditional probability of success is then ν_G in case of a good signal and $\nu_B < \nu_G$ in case of a bad signal.[14] That the signal dominates informationally the final outcome is reflected in the comparison of the likelihood ratios:

$$\frac{q_H - q_L}{q_H} > \frac{p_H - p_L}{p_H}. \tag{4}$$

Managers should be rewarded as a function only of the measurements of variables that their behavior can affect. In this simplified framework, Holmström (1979)'s sufficient statistic theorem implies that managerial compensation should be based on the signal but not on the final profit.[15] Risk neutrality then implies that the optimal contract specifies a reward $\hat{w}$ in case of a good signal and no reward in case of a bad signal.

The entrepreneur's incentive compatibility constraint is derived as earlier. The entrepreneur forgoes private benefit B by behaving, but increases the probability of receiving compensation $\hat{w}$ from q_L to q_H. And so, $\hat{w}$ must satisfy

$$(q_H - q_L)\hat{w} \geq B. \tag{5}$$

The maximum income that can be pledged to uninformed investors is given by

$$p_H R - q_H \frac{B}{q_H - q_L} - c_P.$$

Using (4), we see that for a sufficiently low cost of monitoring, the income that is pledgeable to uninformed investors is increased by passive monitoring. As is the case for active monitoring, passive monitoring facilitates access to funds.

[14] So $p_H = q_H \nu_G + (1 - q_H)\nu_B$, and $p_L = q_L \nu_G + (1 - q_L)\nu_B$.

[15] In a more general model, the signal would not necessarily be a sufficient statistic, and compensation would depend on both the signal and the final profit.

And indeed, if

$$(6) \qquad p_H R - p_H \frac{B}{\Delta p} < I - A < p_H R - q_H \frac{B}{\Delta q} - c_P,$$

then the borrower encourages passive monitoring. The channel through which the moral hazard problem is alleviated differs from that for active monitoring. Under active monitoring, an investor interferes to prevent bad behaviors whereas passive monitoring provides superior performance measurement. In both cases, though, monitoring reduces the share of the cake that needs to be allocated to the entrepreneur to provide him with adequate incentives.

In practice, the signal results from costly information acquisition by (at least) one strategic player. This raises two questions: will the monitor have incentives to perform the monitoring function? And how should one elicit the information held by the monitor? Without attempting to provide a complete treatment of these questions, here is how one may proceed: A natural approach would be to hire a *designated monitor* and to provide this monitor with adequate incentives. Suppose for instance that the monitor is given at the initial stage s *options* at striking price equal to par, namely, $p_H R$. That is, the potential monitor will be able to buy (before the final outcome is realized) s *shares* costing $p_H R$ each and paying dividend R each in case of success and 0 in case of failure.

Assume that the entrepreneur indeed behaves. The passive monitor's options are valueless if there is no monitoring. Their expected dividend is then $p_H R$ and is equal to the striking price. Suppose in contrast that the monitor incurs cost c_P and thereby receives (privately) the signal. In case of a bad signal he knows that the shares are overvalued ($\nu_B R < p_H R$) and therefore does not exercise the options. A good signal implies an undervaluation and an expected profit of ($\nu_G R - p_H R$) per option; so the monitor exercises the options, which reveals that he has received the good signal. The ex ante incentive constraint for the monitor is therefore

$$(7) \qquad q_H s[\nu_G R - p_H R] - c_P \geq 0.$$

The entrepreneur then receives $\hat{w}$ when the monitor exercises his options to buy shares, and 0 otherwise.[16]

In practice, though, this natural way of creating passive monitoring is not frequently observed. This is perhaps due to the fact that the entrepreneur and the designated monitor have an incentive to collude. Suppose for example that the monitor commits, in exchange of a bribe, to always exercise the options. Incentives to monitor are then destroyed and so are the incentives for the entrepreneur to behave.[17] (One possibility is that the bribe is paid from corporate resources (reducing the probability of success even below p_L, but

[16] Letting (7) be satisfied with equality, then (6) implies that passive monitoring is indeed encouraged.

[17] The monitor loses $s(\Delta p)R = (\Delta p)c_P/[q_H(\nu_G - p_H)]$ by exercising the options. So, if c_P is small enough, the bribe need not be large.

without any consequence for the entrepreneur, who receives compensation based on the exercise on the options).)

A market has more integrity. Any participant in a stock market for example de facto has call (as well as put) options on the shares of the firm, in very much the same way our designated monitor had call options. But with a market (cum insider trading rules) it becomes much harder for the entrepreneur to capture the passive monitoring process. This may explain why in practice managerial compensation is based on the value of the firm's stock and thus on "anonymous passive monitoring" rather than on the exercise of options by a designated monitor. More work on the relationship between market monitoring and the "optimal collusion-proof passive monitoring scheme" is warranted, though.

There is a difference between designated and anonymous passive monitoring. The striking price of the call options held by all speculators in a stock market is equal to the market price rather than to some prespecified exercise price. It is therefore *endogenous*. As is well-known from the literature on market microstructure, a purchase of shares is often interpreted as the event that some participant has favorable information about the firm's value and therefore tends to drive the price up.[18] This raises an issue that was absent in the analysis of the designated monitor: The incentives to monitor depend on the liquidity of the market for shares. We do not analyze this further in order not to deviate too much from the main themes of this lecture.[19]

3. THE SHAREHOLDER VALUE PERSPECTIVE: ALLOCATION OF CONTROL RIGHTS

Now that we have discussed performance measurement and managerial incentives, we turn to external interference and control rights. By "control right," I mean the right for a player (or a group of players) to affect the course of action once the firm has gotten started. In a sense, we already touched on the issue of control rights when we looked at active monitoring in Section 2.3. We assumed that the active monitor could reduce the extent of moral hazard by ruling out some egregious forms of managerial misbehavior. Conditionally on the active monitor being informed, there was no issue as to whom the control right should go: Interference by the monitor increased *both* the NPV and the pledgeable income. It was trivially optimal to let the monitor interfere, and there was therefore no interesting allocation of the control right. Section 3.1 studies situations in which there is a real trade-off. Section 3.2 argues that some corporate behaviors cannot be fully understood by looking solely at the formal allocation of control rights, and that they require an examination of who is actually in control. Section 3.3 makes a few remarks concerning security design.

[18] See, e.g., Kyle (1985).

[19] See, e.g., Holmström-Tirole (1993) for more detail.

REMARK: I will not here dwell on the issue of whether control rights are best formalized in a complete or an incomplete contract setting.[20] The distinction is irrelevant for what follows. It is worth emphasizing, though, that complete contracting does not mean that the future course of action is described in the initial contract (otherwise, the notion of control right would be meaningless). For one thing, the parties' preferences over known alternative actions may not be known ex ante; furthermore, future actions may not be describable when designing the contract. A control right allocated to one of the two parties is a simple way to elicit this information. Complete contracting simply means that the parties write an optimal contract given their limited knowledge of their future preferences and of the set of future alternatives.

3.1. *Pledgeable Income and the Allocation of Control Rights Between Insiders and Outsiders*

The importance of control rights in corporate finance was first noted by Aghion-Bolton (1992), and substantially developed by Hart (1995a) and Hart-Moore (1998); for the purpose of this paper, I would rephrase their finding in the following way: *The transfer of control rights to investors increases the pledgeable income and facilitates financing.* Or, put it differently, control rights may substitute for necessarily limited cash flow rights.

To illustrate this in the simplest possible way, let us introduce the possibility of taking an interim action that (i) raises the probability of success uniformly by $\tau > 0$ (so the probability of success becomes $p_H + \tau$ or $p_L + \tau$, depending on the entrepreneur's behavior, if the action is taken, and remains p_H or p_L if the status quo action is selected); and (ii) engenders private cost $\gamma > 0$ for the insiders. For example, the interim action could consist of firing workers or divesting a division that management is eager to run. There is then a trade-off between profitability and insiders' welfare. We look at whether the choice between this action and the status quo action is to be allocated either to investors or to insiders.[21] The modified timing is described in Figure 3, where we again indicate with bold letters the modification to the basic model.

[20] See Maskin-Tirole (1999a, 1999b) and Tirole (1999) for discussions of this issue.

[21] As discussed above, if the interim action and the status quo are identified at the contract design stage, the contract can simply specify which course of action will be selected. In contrast, suppose that *either* the payoffs attached to the various actions known at the initial date are not yet known at this date or that the actions cannot even be described ex ante. In that case, the players' interim information about the actions and their payoffs must be elicited at the interim stage. It turns out that in this model a focus on control rights is not restrictive, although the optimal (complete) contract may involve a randomization over who will have the control right (which does not affect the qualitative implications derived below).

For other and more sophisticated examples of situations in which the optimal complete contract takes the form of a simple institution, see, e.g., Aghion-Tirole (1997), Che-Hausch (1999), Hart-Moore (1999), Maskin-Tirole (1999b), Nöldeke-Schmidt (1998), Rey-Tirole (1999), Segal (1995, 1999), and Tirole (1999). A broad and very useful framework for the analysis of the limits on the effectiveness of complete contracts when these can be renegotiated was recently developed by Segal-Whinston (1998), building on Maskin-Moore (1999) and Green-Laffont (1992, 1994).

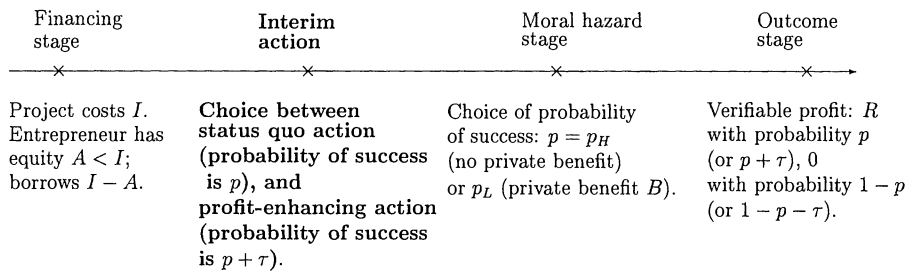

FIGURE 3.—Control rights.

The assumption that the profit-enhancing action is orthogonal to managerial moral hazard, i.e., raises the probability of success uniformly, simplifies the analysis since it does not affect the incentive compatibility condition (2): If the profit-enhancing action is to be taken, then the incentive constraint becomes

$$[(p_H + \tau) - (p_L + \tau)]w \geq B,$$

and thus is identical to (2).

Let us assume further that

$$\tau R < \gamma.$$

That is, the profit-enhancing action reduces aggregate welfare and is thus *first-best* suboptimal.

Suppose first that the control right is given to the investors. Because they share part of the profit and bear none of the cost, they indeed select the profit-enhancing action, resulting in pledgeable income

$$(p_H + \tau)\left[R - \frac{B}{(p_H + \tau) - (p_L + \tau)}\right] = (p_H + \tau)\left[R - \frac{B}{\Delta p}\right],$$

and the NPV, that is the entrepreneur's welfare when raising funds, is

$$(p_H + \tau)R - I - \gamma.$$

Suppose in contrast that the entrepreneur does not relinquish control. Because $w \leq R$, $\tau w < \gamma$ and therefore the entrepreneur does not pick the profit-enhancing action. In words, the entrepreneur bears the entire cost and gets only part of the benefits of the profit-enhancing action. The pledgeable income is, as in Section 2.1,

$$p_H\left(R - \frac{B}{\Delta p}\right),$$

and the NPV

$$p_H R - I > (p_H + \tau)R - I - \gamma.$$

Suppose now that

$$p_H\left(R-\frac{B}{\Delta p}\right)<I-A<(p_H+\tau)\left(R-\frac{B}{\Delta p}\right).$$

Then the entrepreneur has insufficient equity and can raise funds only by relinquishing the control right to the investors. This first-best suboptimal choice can thus be second-best optimal once imperfections in the credit market are accounted for.

Incidentally, this reasoning provides us with a *first argument in favor of shareholder value* (or more precisely in favor of "investor value" since we have not introduced into the model any consideration that could help us distinguish among different types of investors): A substantial initial investment by investors requires sufficient pledgeable income and therefore may force the entrepreneur to relinquish a right when this reduces value in a first-best sense.[22]

In practice, there are *multiple control rights* to be divided between insiders and outsiders: day-to-day management vs. long-term strategic decisions, hiring decisions, mergers, alliance building, etc. The analysis above is straightforwardly generalized.[23] It is easy to see that it is always optimal for the entrepreneur to abandon *all* rights for which investor control is first-best optimal as well as, possibly, *some* rights for which it is not. That is, the optimal split of rights accounts not only for the value (NPV) impact of the allocation, but also for its impact on pledgeable income. If the two criteria coincide, then investor control is first- and second-best optimal; otherwise, entrepreneur control may be optimal.

As one would expect, it is optimal for the entrepreneur to abandon to investors those rights that matter most to them and for which investor control will not create large negative externalities on the entrepreneur. Another interesting implication of this analysis is that, ceteris paribus, *firms with stronger balance sheets* (say, with a higher A) *abandon fewer rights*. This prediction fits with the evidence. Firms with strong balance sheets (high initial equity, strong collateral, safe income stream) obtain financing on markets, where they relinquish only a few control rights by including some covenants. Firms with intermediate balance sheets relinquish a few more control rights through more restrictive and extensive covenants when they deal with banks. Firms with weak balance sheets such as high-tech start ups that have little equity, collateral, and guaranteed income, relinquish most control rights to, say, venture capitalists.

[22] Hart (1995b) makes a similar argument when discussing the possibility of a statutory rule requesting companies to have worker representatives on the board. He observes that such a rule may discourage a company from setting up in the first place, given that it may no longer lay off workers in the event of an adverse demand shock (p. 687).

[23] See Aghion-Tirole (1997) for the derivation in a different context.

3.2. *Formal vs. Real Control*

Often players without formal control rights actually enjoy substantial control over their organizations.[24] To give two standard examples in the corporate finance area, it is well-known that boards of directors often rubberstamp the top management's decisions, and that large minority shareholders often decide for the majority group of smaller ones. The allocation of formal control thus cannot be the full story.

In my view, the theory of corporate finance should establish a clearer distinction between formal and real control. Leading theories sometimes assume that *management* has the formal right to select various decisions such as long-term investments, dividends and retained earnings, new debt and other securities issues, the CEO's successor, and takeover defenses. This assumption is for the most part factually inaccurate—in practice, management needs to refer to higher authorities (board, general assembly) for permission concerning many of these decisions. The assumption is also partly nonintuitive. To the extent that the governance structure is in charge of controlling management, it would seem that management would face strong conflicts of interest in particular when making decisions that affect the firm's corporate governance.

This is not to say that management does not have a substantial influence on such decisions in practice. It does. The reason why management has so much power, though, is that managers have proprietary information that often enables them to get their way. So, while shareholders have formal control over a number of decisions, managers often have real control.

If managers end up making the decisions in the end, wouldn't it be appropriate to assume directly that they have formal control? I don't think so. By presuming that management decides in the first place, we are unable to analyze two key aspects of the corporate governance debate: first, the allocation of formal control rights (why must management defer to shareholders for some decisions, but not others? How is the allocation of control rights influenced by the firm's balance sheet?); and, second, for given formal rights, the extent of actual control enjoyed by management as a function of the presence and incentives of active monitors, of the divergence of objectives among investors, and so forth. I would therefore argue in favor of starting from first principles and then deriving the conditions under which management gets its way either by procedural design or by lack of alternative for its principals.

To illustrate the benefits of starting from first principles, let me discuss the *extent* of real control by management. Assume that a number of actions are available, but an action away from the status quo and chosen at random would have disastrous consequences. Only one action besides the status quo is "relevant" and the identity of this action is not known ex ante. Let us slightly generalize the model of Section 3.1 by assuming that (a) the values of the

[24] This section is influenced by my joint work with Philippe Aghion (1997) on formal vs. real authority.

increase, τ, in the probability of success and the cost to the insiders, γ, are random and unknown at the date of contracting; (b) these values are no longer constrained to be positive, so

$$\tau \gtrless 0 \qquad \text{and} \qquad \gamma \gtrless 0.$$

A negative τ means a profit-decreasing action, and a negative γ refers to a private benefit (beyond the one, B, obtained by shirking) for the entrepreneur. Assume that the initial contract allocates formal control to investors, and specifies a compensation w for the entrepreneur in case of success.

Suppose in a first step that the entrepreneur learns the identity of the relevant action as well as its payoff characteristics $\{\tau, \gamma\}$ at the interim stage, and that investors learn nothing. The entrepreneur can propose the action to investors, and will do so if the action yields the entrepreneur a payoff superior to the status quo action, that is if

$$\tau w - \gamma \geq 0.$$

Should investors then rubberstamp the entrepreneur's proposal or refuse to go along with it, resulting in a deadlock? Since they bear or receive none of the private cost or benefit γ, investors try to figure out whether the proposed action is on average profit-enhancing. To this purpose their only piece of information is that it is in the interest of the entrepreneur to recommend the action. Investors therefore rubberstamp if and only if

$$E(\tau \mid \tau w - \gamma \geq 0) \geq 0. \tag{8}$$

Condition (8) shows that the key to managerial real control is congruence. Because for any joint distribution on $\{\tau, \gamma\}$, the left-hand side is positive when the entrepreneur's stake is w provided it is positive for some stake $w' < w$,[25] the higher the power of the managerial incentive scheme, the more likely it is that investors will go along with the entrepreneur's proposal.

Conversely, a firm with a weak balance sheet (a low A) has a low w and therefore a low congruence between the entrepreneur and investors. This will result in frequent deadlock, as one would expect. This brings us to a discussion of active monitoring. When deadlocks are frequent, an active monitor who can bring further information to bear on the decision, may break deadlocks and therefore be particularly helpful, as argued by Burkart-Gromb-Panunzi (1997) (who, citing Franks-Mayer-Renneboog (1996), note that ownership concentration in the U.K. increases during periods of financial difficulty). With an active monitor collecting a signal σ_A about the quality of the entrepreneur's proposal, and provided that this active monitor has interests that are sufficiently congruent with those of other investors, and therefore is trusted by other investors when recommending to rubberstamp or veto the entrepreneur's proposal, the

[25] To see this, it suffices to represent the set defined by $\tau w \geq \gamma$ in the $\{\tau, \gamma\}$ space. An increase in w adds to this set only points with $\tau > 0$ and subtracts only points with $\tau < 0$.

new criterion for rubberstamping the proposal is[26]

$$E(\tau \mid \tau w - \gamma \geq 0, \sigma_A) \geq 0.$$

When the monitor does not have a majority of voting shares and has a conflict of interest with the other investors (for example because the decision may affect one of his affiliated entities, or because the monitor certified the initial financing to the other investors in the first place and may want to try to cover up his mistake), the other investors should assess their relative congruence with the entrepreneur and the monitor for the type of decision that is at stake.

3.3. *Multiple Securities and Outside Equity*

Up to now we have distinguished between informed investors (active or passive monitors) and uninformed investors; because monitors are subject to moral hazard themselves, they may face income streams that differ from those of other investors. But there is a sense in which we have still been considering a single class of securities: We have introduced no reason why one should design different classes of securities with different control rights. In the case in which control rights are relevant (active monitoring), it was optimal to achieve as much congruence among the active monitor and other investors as is consistent with incentives to monitor. That is, there was no gain attached to creating conflicting goals and externalities from decision making among investors. In practice, though, we observe claims, such as outside equity and debt, with very conflicting interests and different control rights. The cost of such security designs is obvious: those investors in control may not internalize the welfare of other investors. Divergence of objectives create externalities. For example, it is well-known that shareholders may want to select negative NPV actions that increase risk and "expropriate" debtholders, and that costly covenants and exit options protecting debtholders (short-term debt, convertible debt) must be put in place so as to limit the importance of this phenomenon (Jensen-Meckling (1976)). The puzzle is thus to find the benefits, not the costs of the coexistence of multiple securities. Explaining the coexistence of multiple securities with differentiated control rights is one of the main challenges currently facing corporate finance theory.

Starting with a broader perspective, there are four possible explanations for the multiplicity of securities. Each probably has some relevance, but none is immune to criticism.

[26] While I am unaware of general results to this effect, it is straightforward to construct robust examples where, say, a small reduction in net worth calls for the presence of an active monitor. For example, for a continuous joint distribution over $\{\tau, \gamma\}$, the pledgeable income is continuous in w (with or without active monitoring). In contrast, in the absence of active monitoring, the NPV jumps down when $E(\tau \mid \tau w - \gamma \geq 0) = 0$ and w decreases slightly. So, under regularity conditions, if active monitoring is almost optimal before w decreases, then it becomes strictly optimal after the decrease. Last, we should note that we need to add some other (say, exogenous) signal received by the investors in order not to make entrepreneurial control optimal in such circumstances.

(*a*) *Investors' demand for specific securities*

Investors do not have identical preferences as to the characteristics of securities. They may for example face different tax treatments or marginal rates, or have different liquidity needs. Thus, they may demand differentiated securities. An important contribution along this line is due to Gorton and Pennacchi (1990): Consider an economy with "short-term" and "long-term" investors. The difference between the two categories of investors is that short-term investors anticipate buying a house, facing possible unemployment, or being sick, say, and therefore are likely to be forced to sell their assets. Unlike long-term investors, short-term investors are concerned about losing money to better informed traders in the market when they resell their assets.[27] They will thus be eager to buy "low-information-intensity assets," that is assets for which private information held by speculators is less likely to be an important factor. In a nutshell, triple *A* bonds (which by definition are unlikely to default, and on whose payoff there is therefore little asymmetric information) will probably be resold on the market at a fair value, while the stock of a firm will be subject to substantial adverse selection in the market and therefore probably sold at a discount. Assuming that the speculative monitoring considerations discussed in Section 2.4 are minor for this firm, it pays the firm to tailor the securities to the needs of its clientele: issue stocks for long-term investors and bonds for those with more pressing liquidity needs.

While this explanation for the multiplicity of securities seems to make sense, more work is still required to make it tight. In particular, it is unclear whether security design and repackaging for the clientele's benefit should be performed at the firm's or at an intermediary's level. Couldn't one obtain the benefits of congruence among investors at the firm's level and create the benefits from diversity for investors through unbundling at the intermediary's level? A different issue related to the existence of intermediaries is whether intermediaries could not bundle high-information-intensity assets from different firms in order to create low-information-intensity securities desired by short-term investors? This bundling is actually performed on a routine basis, for example, by funds offering market indices such as the S&P 500, which are less subject to asymmetric information than individual stocks.[28]

(*b*) *Liquidity management*

Another important dimension of security design is the timing of the firm's liquidity needs. A high-tech start up usually generates little or no income for a long while and must therefore be financed mainly through equity; short- and medium-term debt would create serious liquidity problems and would result in

[27] As in Kyle (1985), for example.

[28] See Subrahmanyam (1991) and Gorton-Pennacchi (1993).

inefficiencies.[29] In contrast, a firm in a mature industry with large cash flows and few investment needs should be subject to substantial leverage in order to ensure that the firm disgorges the excess cash.[30] Because refinancing is subject to the same credit rationing problems as the initial financing, the firm's future liquidity must be carefully planned at the initial stage.

Different securities have different impacts on the firm's available liquidity. Short-term debt drains liquidity whereas equity does not: While stockholdings are liquid at the level of the individual investor, they are illiquid for the collectivity of investors as a whole since an investor must resell his/her shares to another investor, without any flow of money out of the firm. Long-term debt in this respect is somewhat akin to equity, which explains why it is often proposed[31] that part of the long-term debt be counted as equity, even though long-term debt has very different cash flow and control rights characteristics compared to equity.

In my view, liquidity management represents an important dimension of security design. But per se it does not explain the multiplicity of securities. One might think of replacing this array of securities (short-term debt, equity, etc.) with different cash-draining characteristics by a single, composite one that would have the same timing and amount of liquidity demands on the firm. Thus, liquidity management can offer a clue as to the multiplicity of securities only if it is combined with one of the last two explanations, which we now describe.

(*c*) *Monitoring*

Another, relatively unexplored approach to explaining the multiplicity of claims would focus on the multidimensional nature of monitoring, together with a conflict of interest between the various monitoring tasks (otherwise the multiple monitoring tasks could be performed by the same monitor).[32] For instance, it may be optimal to separate the monitoring of moral hazard along the first- and second-order stochastic dominance dimensions. Monitoring of first-order stochastic dominance (profit enhancement) usually requires compensating the monitor with a claim on profit that puts heavy weight on the upside. Such claims however may discourage the monitor from paying attention to risk taking. Similarly, it may be odd to ask a monitor in charge of preventing distress to also monitor that the firm maintains the resale value of its collateral in case of distress.

To sum up, multitask monitoring may give rise to the creation of conflicting claims for different active monitors; yet, per se, it will not explain the multiplic-

[29] See, e.g., Holmström-Tirole (1998, 1999).

[30] See, e.g., Jensen (1986).

[31] For example in prudential regulation.

[32] See Dewatripont-Tirole (1999) for a theoretical perspective on the rationale for advocacy in a situation in which an agent must perform conflicting tasks (which echoes on the output side Holmström and Milgrom's (1991) work on multi-task effort substitution on the input side). These remarks borrow from discussions with Mathias Dewatripont.

ity of claims offered to *uninformed* investors (e.g., corporate bonds and equities held by small investors). In this respect, it would be interesting to analyze the coexistence of multidimensional speculative monitoring as well.

(*d*) *Control rights*: *multiple securities as a disciplining device*

The return structure of a claim determines its holder's monitoring focus on some aspects of management as well as the intensity of monitoring, as we just saw. But the return also determines the holder's choice of intervention if control rights are bundled with the return stream. Thus security design also matters from a control rights perspective. Now, as we already observed, decision-making that is efficient from the investors' perspective would seem to call for a congruence between the rights holders and the other investors in order to prevent externalities. So, allocating control to claimholders who do not represent the collective interest of all investors in the firm would seem to make little sense unless this allocation serves to discipline management.

A carrot-and-stick view of security design is developed in Dewatripont-Tirole (1994) on the coexistence of debt and equity, and by Berglof-von Thadden (1994) on the coexistence of short- and long-term debt. The basic idea of these papers is straightforward. Managers' welfare in general depends on their firm's course of action as well as on their monetary compensation scheme. That is, interim decisions chosen by investors should be treated as part of the managerial incentives package. In particular, allocating control to "tough investors," namely investors whose preferences (as defined by the return stream of their claim) have little congruence with those of managers, when interim managerial performance is weak, and to "soft investors," namely investors whose preferences are rather congruent with those of management, when interim managerial performance is satisfactory, creates good incentives for management. To be more concrete, debtholders, who by their conservative slant are inclined to liquidate assets, downsize, encourage routine management, and more generally interfere to make the firm's return safer, are feared by managers and should therefore be given control when the firm's performance is poor. In contrast, equityholders, who are compensated on the upside, are somewhat less likely than debtholders to interfere with management (although they of course have substantial conflicts of interest with management) and should receive control in good times.

A crucial assumption for this theory as for other potential theories of the multiplicity of securities is that the securityholders do not undo the multiplicity. In the context of control rights, it must be the case that whoever is in control does not negotiate with other securityholders so as to internalize the externality imposed upon the latter by the former's decision. Were all securityholders to renegotiate, we would be back to the single-claim case and the theory would have no content.

One of two assumptions is usually made to avoid this strong implication of the Coase theorem. The first is that for some reason (transaction costs, asymmetric

information among investors, or cash constraints) renegotiation does not work well or does not happen at all. This failure of renegotiation among investors creates ex post inefficiencies, but preserves the commitment created by the multiplicity of securities. Mathias Dewatripont has remarked[33] that there is currently a tension between, on the one hand, the practice of facilitating renegotiation involving dispersed securityholders, such as exchange offers and the nomination of bondholder trustees in the case of corporate bonds, and the premise of much work on the economics of bankruptcy[34] that efficient renegotiation should be facilitated, and, on the other hand, the existence of multiple securities in the first place. Or, put differently, why should one bother designing multiple securities if the desired outcome is that produced by a 100 percent equity firm? Further research should clarify the consistency of the various theoretical and institutional pieces of the security design puzzle.

The alternative approach to reestablishing the commitment value afforded by the existence of multiple securities with contingent control rights is to assume that the entrepreneur is somehow brought into the renegotiation process and that her post renegotiation utility increases with her utility in the absence of renegotiation. The key modeling element is then the description of the concession made by the entrepreneur.[35]

4. A BROADER VIEW: THE STAKEHOLDER SOCIETY

Economists traditionally emphasize the firm's responsibility vis-a-vis its shareholders. As we discussed in the introduction this view is not widely accepted in other circles. Opponents of the shareholder value concept point at various externalities imposed by profit maximizing choices on other stakeholders: on the welfare of management and workers who have invested their human capital as well as off-work related capital (housing, spouse employment, schools, social relationships, etc.) in the employment relationship; on suppliers and customers who also have sunk investments in the relationship and foregone alternative opportunities; on communities who suffer from the closure of a plant; and so forth. The firm's social responsibility is sometimes viewed even more broadly to include the protection of stakeholders who do not have a contractual relationship with the firm; namely, the firm should refrain from bribing officials in less developed countries even if the probability of being caught is small, or from polluting when pollution taxes or permits are not yet put in place.[36] In a

[33] At the Nobel foundation conference on corporate finance (Stockholm, August 1995).

[34] See, in particular, Aghion et al. (1992) and Bebchuk (1988) for innovative work in the area.

[35] Because the latter is by assumption cash constrained (this is why she borrows in the first place), this concession must be of a different nature. For example, it may be the revelation by the entrepreneur of hard information about a first-best suboptimal profit-enhancing action.

[36] Consumers are often best protected by competition (together with quality regulation in the case of credence goods).

nutshell, the firm should internalize the *externalities* on the various stakeholders.[37]

Economists have long argued in favor of a proper internalization of externalities. And certainly the vast majority of them have no objections to the goals advanced by the proponents of the stakeholder society. A scientific debate therefore focuses on how to achieve these goals, rather than on the goals themselves.

Before discussing the implementation of the stakeholder society, let me address the issue of what the concept exactly refers to. On the one hand, the stakeholder society may refer to a *broad mission of management.* According to this view, management should aim at maximizing the sum of the various stakeholders' surpluses (adopting an utilitarian approach); and, if management is not naturally inclined to do so, incentives should be designed that induce management to account for the externalities imposed on all stakeholders. On the other hand, the stakeholder society may refer to the *sharing of control by stakeholders*, as is for example the case for codetermination in Germany.[38] Presumably, the two notions are related; for instance, it would be hard for a manager to sacrifice profit to benefit some stakeholder if a profit maximizing raider can take over the firm and replace her.[39]

In what follows, we will take the view that the stakeholder society means both a broad managerial mission and divided control. Our strategy will be to return to the three broad types of incentives discussed in the context of the shareholder value context, namely explicit compensation, implicit incentives (career concerns), and allocation of control rights, and to wonder whether these incentives can be transposed to promote effectively the stakeholder society concept.

REMARK (private contracting vs. government intervention): I focus on optimal contracting among stakeholders (including investors) and wonder whether managerial incentives and a control structure can be put in place, that efficiently implements the concept of stakeholder society. Another layer of difficulty is added by the existence of a regulatory environment that restricts the set of contracts that can be signed among stakeholders. Interestingly, countries such as France, Germany, and Japan, which traditionally are more sympathetic to the stakeholder society than the U.S. and the U.K., also have legal, regulatory, and fiscal environments that are assessed by most economists as creating weaker governance systems.[40] Clearly, a mutually agreeable contract between investors and employees allowing employee representation on the board, stipulating

[37] See Aoki (1994), Blair (1995), Hellwig (1998), Schmidt (1997), and Turnbull (1997) for discussions of the stakeholder society.

[38] Porter (1992) argues in favor of board representation of customers, suppliers, financial advisors, employees, and community representatives.

[39] In this sense, there may be some consistency in the German corporate governance system between shared control, the absence or small level of managerial stock options, and the inactivity of the takeover market.

[40] See La Porta et al. (1997, 1998).

severance pay for laid off workers and creating incentives that will induce management to internalize the welfare of employees is not the same as an enlarged fiduciary duty by the management toward employees, legal restrictions on layoffs, or mandated collective bargaining. Economists often view the heavy legal protection of employees in continental Europe as preventing new businesses from raising capital.

As in other areas of contract law, a hard question is, why does one need a law in the first place? Couldn't the parties reach efficient agreements by themselves, in which case the role of courts and of the government is to enforce private contracts and not to reduce welfare by constraining feasible agreements? Economists and legal scholars have enunciated various hypotheses to rationalize the very existence of laws: transaction-costs benefits of standard form contracts well understood by all parties, ex post completion of a (perhaps rationally) incomplete contract by judges in the spirit of the original contract, contract writing under asymmetric information or under duress, etc. In this preliminary investigation of the concept of stakeholder society, I will ignore regulatory intervention while noting, first, that its existence needs to be rationalized, and, second, that it plays an important role in many countries.

Incidentally, besides the normative question of whether laws protecting stakeholders can be justified on efficiency grounds, the positive question of how such laws actually emerge is also worthy of study. Clearly political economy considerations loom large in the enacting of pro-stakeholder regulations. In this respect, one may also be suspicious of the motives behind the endorsement of the stakeholder society concept by some managers, to the extent that they do not propose to replace shareholder control by a different, but strong governance structure. That is, the shareholder society sometimes is viewed as synonymous with the absence of effective control over management. (That the "shareholder-stakeholder" debate neglects the role of management as a party with specific interests has been strongly emphasized by Hellwig (1998), who discusses extensively the "political economy" of corporate governance.)

4.1. *Provision of Managerial Incentives to Implement the Stakeholder Society: Monetary Incentives*

To implement the stakeholder society, managerial incentives should be designed so as to align the managers' incentives with the sum of the stakeholders' surpluses rather than just the equityholders' surplus. We thus consider sequentially the provision of explicit and implicit incentives.

Shareholder-value explicit managerial incentives are provided through bonuses and stock options that encourage management to devote most of its effort to enhancing profitability and favor this objective when trading off the costs and benefits of alternative decisions. Similarly, stakeholder-society explicit managerial incentives would be provided by rewarding management on the basis of some measure of the aggregate welfare of the stakeholders (including investors). The key issue here is whether such a measure of aggregate welfare is readily

available. I would argue that it is harder to measure the firm's contribution to the welfare of employees, of suppliers, or of customers than to measure its profitability. For one thing, there is no *accounting* measure of this welfare, although in some examples one can find imperfect proxies, such as the number of layoffs. For another thing, there is no *market* value of the impact of past and current managerial decisions on the future welfare of stakeholders; that is, there is no counterpart to the stock market measurement of the value of assets in place, since the employment, supply or other relationships with the firm are not traded in liquid markets unlike the shareholder relationship. (Besides, if a measure of the impact of managerial decisions upon stakeholders welfare were available (which I don't believe to be the case), then there would be no objection to shareholder value since the firm could be forced to internalize the externalities through contracts specifying that the firm will compensate the stakeholders for the externalities!)

Relatedly, to avoid giving management a blank check to pursue whatever policy pleases it, management could be made subject to an enlarged fiduciary duty: stakeholders could take management to court and try to demonstrate that managerial actions do not follow the mandate of the stakeholder society. An enlarged fiduciary duty would therefore be an attempt to make management accountable for the welfare of stakeholders.

Those familiar with the difficulty of implementing the restricted concept of fiduciary duty toward shareholders will easily imagine the limitations of an enlarged fiduciary duty. In a nutshell, management can almost always rationalize any action by invoking its impact on the welfare of *some* stakeholder. An empire builder can justify a costly acquisition by a claim that the purchase will save a couple of jobs in the acquired firm; a manager can choose his brother-in-law as supplier on the grounds that the latter's production process is environmentally friendly.

In the absence of reliable measure of stakeholders' welfare that could be incorporated into a formal compensation contract, managers could still receive profit-based compensation as under the shareholder value paradigm. Alas, multitask explicit incentives theory (Holmström-Milgrom (1991)) has taught us that designing pay that is sensitive to the performance of a single task leads to a neglect of the other tasks.[41] We therefore infer that the stakeholder society is likely to be best promoted through *flat* managerial compensation, that is through a fixed wage rather than performance-based incentives. There is in this respect some consistency between the lenient views in the French, German, and Japanese populations toward the stakeholder society and the low power of the managerial incentive schemes in these countries.

[41] Unlike Sinclair-Desgagné (1999), we assume that the nonmonetary dimension cannot be subjected to an audit. Otherwise, high-powered multitask incentives could be provided (as Sinclair-Desgagné shows) through a combination of compensation based on the monetary dimension together with an audit of the other tasks when monetary performance is high.

4.2. *Implicit Incentives and Managerial Missions*

The previous discussion raises the issue of what management will maximize under flat explicit incentive schemes. The optimistic view is that management will choose what's best for society, that is will maximize the sum of the stakeholders' surpluses. This view is sometimes vindicated: Consider caritative organizations. Such organizations by definition aim at raising the welfare of the poor, of the hungry, or at providing access to cultural services to a broad audience, to give a few examples. Profit-maximizing behaviors would obviously defeat the purpose of such organizations. The key to success for caritative organizations is to empower idealistic employees who will derive private benefits from promoting social welfare.

While this paradigm works relatively well in some contexts, it would however be naive to trust it can be transposed to general environments. Most economic agents indeed place their own welfare above that of society. Thus, we cannot assume that managers facing flat compensation schemes will maximize the total surplus. Their incentives are then generally governed by their career concerns. The existence of multiple missions associated with the welfare of each stakeholding group suggests an investigation of the economics of multi-task career concerns (which actually are the incentives faced by politicians, bureaucrats, and most employees, who have little performance-related pay).

Implicit incentives stem from an economic agent's desire to signal characteristics such as ability to what is broadly called the agent's "labor market," namely whoever will in the future take actions that reflect beliefs about these characteristics and will impact the agent's welfare: board of directors, potential employers, voters, and so forth (Holmström (1999)). Implicit incentives substitute (imperfectly) for explicit ones in environments in which performance cannot be well described ex ante, but can be better assessed after the fact due to the accrual of new information.[42]

Implicit incentives are less proficient than explicit ones simply because the link from performance to reward cannot be fully controlled by a contract. This is particularly the case in a multi-task environment. Indeed, multitasking impairs informal incentives just as it impairs formal ones (Dewatripont et al. (1999a, 1999b)). One reason is that managerial performance becomes noisier when the manager pursues multiple missions; the absence of "focus" on a specific task is therefore costly. Another reason is that multitasking may give rise to "fuzzy missions," that is to situations in which the agent's labor market no longer knows which missions the agent is trying to pursue (although it tries to infer them by looking at what the agent has done best). The manager then does not know along which lines he will be evaluated. This uncertainty can be shown to further reduce the agent's incentives.

[42] More technically, a missing "deciphering key" does not allow the contracting parties to describe at the contracting stage the meaning of a "good performance;" it is only later when the uncertainty unfolds that it becomes clearer what a good performance means.

We are thus led to the view that the design of (explicit and implicit) managerial incentives for the stakeholder society is a particularly complex issue. This conclusion should not come as a surprise. After all, governments may be the ultimate stakeholder-society organizations, since they are instructed to balance the welfares of many different interest groups. It is well-known that proper incentives for bureaucrats and politicians are hard to design.

5. THE COSTS AND BENEFITS OF SHARED CONTROL: LESSONS FROM INPUT JOINT VENTURES FOR THE STAKEHOLDERS SOCIETY

We now come to the second aspect of the stakeholder society: the control structure. As we noted, the stakeholder society is unlikely to be promoted by the undivided control structure that prevails under the shareholder value paradigm. Nor is it likely to be sustainable if control goes entirely to nonfinanciers; for, consider undivided control by other stakeholders such as employees or customers. Such control structures are not mirror images of shareholder control. The problem with employee or customer control is that it is difficult to protect investors by contractual means. While covenants can restrict the payment of dividends to shareholders (so as to prevent shareholders from leaving creditors and other stakeholders with an empty shell), it is much harder to prevent employees or customers from paying themselves large "dividends" when they have control. For this point, the distinction between "natural stakeholder" and "stakeholder by design" that we drew at the beginning is crucial. Dividends paid to shareholders are highly visible and verifiable; dividends paid to natural stakeholders may not be: employees may enjoy large perks and customers may select gold-plated designs. The partial lack of control over dividends in kind severely impairs the effectiveness of governance structures in which investors are not represented.

This section therefore discusses the sharing of control among stakeholders in the form of a generalized codetermination.[43] To help us think through alternative control structures, let us use the analogy of the organization of production processes. Consider the case of multiple users needing a common input. This input can be manufactured by a third party, either a nonprofit or a for-profit corporation, in either case controlled by players that are independent from the

[43] We here focus on the sharing of all major control rights among stakeholders. Alternatively, multiple control rights could be shared among stakeholders, but some could be allocated fully to specific shareholders (on this, see our discussion in Section 3.1). In some circumstances, the two can be closely related: Different stakeholders may threaten to hurt each other substantially through the exercise of their proprietary control rights; the parties then must cooperate on a global deal as if they shared all control rights. A case in point is the failed attempt by Mr. Schrempp, the chairman of Daimler-Benz, to take advantage of a newly passed law in Germany offering firms the possibility to limit the payments to sick employees (cited by Schmidt (1997)). The board of directors took back the decision a few days later because the envisioned restructuring of Daimler-Benz required the cooperation of employees. The chairman, up to that time a strong proponent of shareholder value, declared that he would never mention the phrase shareholder value again.

users (structural separation); or by one of the users, who then sells it to the other users (vertical integration); or else by a specific-purpose entity controlled jointly by the users (joint venture or association). For example, an electricity transmission network may be controlled by a distribution company or a generator (vertical integration), a group of users (joint venture, called a pool), or an independent organization (nonprofit as in the case of an Independent System Operator, or for-profit as in the case of a Transmission Company).

We can learn some insights about the costs and benefits of shared control from looking at the familiar case of a production of a joint input and apply them to the corporate governance debate. Indeed, input joint ventures are quite common: credit card associations such as Visa and MasterCard, stock exchanges, Airbus, research and farm cooperatives, telecommunications, biotechnology, and automobile alliances are all examples of joint ventures. *Joint ventures, partnerships, and associations can be viewed as instances of stakeholder societies to the extent that players with conflicting interests share the control.* But it should also be noted that *our first argument in favor of shareholder value, the dearth of pledgeable income* (see Section 3.1), *does not apply to them*: Partners in joint ventures can more easily bring capital than employees in a corporation; the need for borrowing from independent parties is therefore much reduced. In other words, self-financing by the users of the input of a joint venture implies that the dearth of pledgeable income is not a key factor here.

An interesting lesson drawn from the work of Hansmann (1996) and from much related evidence is that the heterogeneity of interests among the partners of a joint venture seriously impedes the joint venture's efficacy. As one might expect, conflicts of interest among the partners create mistrust and lead to deadlocks in decision-making.[44] This interesting observation however does not fully resolve the issue of institution design; for, what matters for the choice of institutions is their relative efficiency. It is conceivable that alternatives to joint ventures also perform poorly in the presence of strong divergences in objectives among the users. (To return for a moment to the corporate governance debate, the fact that workers and shareholders may have trouble coming to terms because of a conflict of interest does not mean that shareholder control will satisfactorily resolve the corresponding conflict.) And indeed, one might imagine that in a situation of conflicting interests, shared control, by protecting the various stakeholders, could be a lesser evil.

Consider a situation in which two users must monitor the adequacy of the management's input choice to their needs. The management in charge of manufacturing the common input proposes a design. Each user may then invest in information acquisition in order to assess whether the proposed design fits his needs and may suggest a modification to the management's design. Under a joint venture, the monitoring user needs the consent of the other user. If the other user himself has invested in information acquisition, there is no issue:

[44] These deadlocks can be attributed primarily to asymmetries of information, but also may stem from limited compensation abilities of some of the parties. This is where the Coase theorem fails.

Consent will be given provided the modification benefits both users. That is, the Coase theorem applies. If the other user has not done so, there is asymmetric information, and the uninformed user is likely to distrust his partner if their objectives are dissonant. There is then the possibility of a deadlock. In Rey-Tirole (1999), which analyzes this situation, it is shown that incentives to become informed and thus to contribute to the success of the joint venture are weak when conflicts are likely. In other words, even though the joint venture has the desirable property of protecting both users against biased design choices, it is unlikely to be effective precisely when interests diverge.[45]

The comparison with the case of vertical integration (one of the users has control over the design) confirms common sense intuition. Undivided control is conducive to monitoring and generates expedient decision-making. Efficient monitoring stems from the fact that the incentive to monitor covaries with the extent of control: A user fully benefits from his monitoring activity if he does not have to bargain to affect the design choice. Expedient decision-making is of course attached to undivided control. Undivided control has a cost, though: It creates biased decision-making.

By analogy, shareholder control provides for more expedient, although biased, decision-making than control shared between shareholders and other stakeholders.

6. UNDIVIDED CONTROL: PROTECTING NONCONTROLLING STAKEHOLDERS

Suppose that the interests of stakeholders are too dissonant for shared control to be effective, so that undivided control is called for. Undivided control however creates biased decision-making, and the cost of this bias is particularly large when interests are strongly dissonant. It is then important to use the contractual apparatus in order to reduce the externalities imposed by the choices of the controlling stakeholder. (When private contracts are inoperative,

[45] Kremer (1998) and Hart-Moore (1998) emphasize different channels through which the divergence of interest among members of a cooperative impacts the efficacy of decision-making. Kremer's paper stages two dimensions of employee moral hazard: investment in firm specific human capital and current effort. Workers are ex ante identical but have different productivities ex post. It assumes that the relationship between a worker's (verifiable) performance and wage cannot be contracted upon ex ante and so there is a risk of expropriation of the workers' investments. The paper compares two institutions: worker cooperative (the workers ex post vote on a linear incentive scheme) and capitalist firm (shareholders ex post choose this scheme). The benefit of a worker cooperative is that the workers have no incentive to expropriate themselves and so invest more in firm-specific human capital. But if the median voter has less than average ability, incentives for contemporaneous effort are dulled.

Hart and Moore (1998) compare input supply by an independent producer and by a cooperative. The independent producer charges a monopoly price to users and so induces underconsumption of the input; in contrast, a not-for-profit cooperative leads to overconsumption of the input by members of the cooperative relative to outsiders because the members cannot pay themselves dividends in cash and therefore opt for "dividends in kind." Hart and Moore also analyze the impact of median voter choices on the quality of the input.

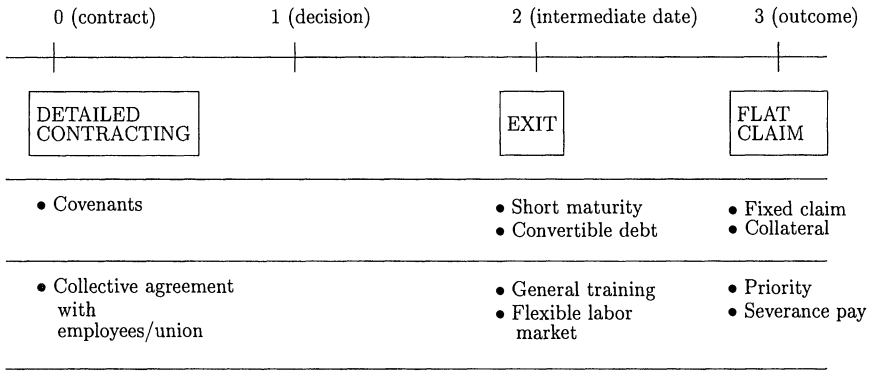

FIGURE 4.—Protecting noncontrolling stakeholders.

as in the case of pollution externalities, the legal and regulatory environment must substitute for the missing contracts.)

There are *two ways of creating contractual protections* for the noncontrolling stakeholders. The first is to circumscribe the action set available to the controlling stakeholder by ruling out those actions that are more likely to involve strong negative externalities on other stakeholders; this reduction in the size of the action set involves transaction and flexibility costs, but it may still create value. The second is to make the claims of noncontrolling stakeholders as insensitive to biased decision-making as possible. This idea is illustrated in Figure 4 for the case of creditors and employees, under shareholder control.[46]

Debt contracts impose a large number of positive and negative covenants, which can be summarized as defining the action set for shareholders. Making the creditors' claim less sensitive to shareholders' actions has two aspects: *flat claims and exit options*: First, the creditors' final claim is often a fixed nominal claim; and collateral further helps limiting the creditors' potential losses in case of nonreimbursement of the debt. Second, debt contracts often provide creditors with exit options that can be exercised before the value of the claim's "dividend" is realized. This is most evident in the case of short-term debt, which gives debtholders the choice between rolling over the debt and getting out if bad news accrues; debt that is convertible into equity also protects debtholders against excessive risk taking by shareholders. Debt contracts are thus basically designed so as to limit the creditors' exposure to biased decision-making by shareholders.

[46] It is interesting to note that the policies that make, say, joint ventures successful are often the opposite of the ones that are desirable under undivided control. Under undivided control, noncontrolling stakeholders must be protected against biased decision-making through restrictions in the action set, exit options, and flat claims. Such protection may be unneeded under shared control since stakeholders are then already protected by their control rights. Worse still: measures that aim at protecting stakeholders often discourage them from investing in the joint enterprise and are therefore often counterproductive (see Rey-Tirole (1999) for more details).

The same logic can be applied to the protection of employees. Here, I would like to focus on the exit options. Exit options are of course facilitated by the firm's policies with respect to general training, vesting of retirement plans, and so forth. But quite importantly, exit options for employees as well as their welfare when they are laid off depend heavily on the firm's economic environment and on the flexibility of the labor market. While being laid-off is always very costly to a worker, this cost is currently much higher in a country like France, which has high unemployment (in particular long-term unemployment) and low mobility for a variety of reasons (such as close family ties and the fiscal environment), than in Anglo-Saxon economies where it is currently much easier for laid-off workers to find a comparable-quality job. I therefore conjecture that one of the reasons why shareholder value is currently less controversial in Anglo-Saxon countries than in Continental Europe is that the externalities exerted by shareholder control on employees are smaller in the former.[47]

7. SHAREHOLDER VALUE OR STAKEHOLDER SOCIETY? EPILOGUE

The paper began with an expression of uneasiness concerning the lack of scientific debate about alternatives to shareholder value. Its goal was of course not to provide a definitive answer to this important question, but rather to suggest that the economists' modern conceptual apparatus may be employed to shed some light. To this purpose I first stepped back and provided some background on the wheels behind the implementation of the shareholder value paradigm. I then wondered whether similar institutions could be built in order to promote the stakeholder society. Here is what I learned in those *preliminary* investigations.

I came to the view that modern incentive theory provides some foundations for the narrow and a priori peculiar concept of shareholder value which has dominated our thinking since the eighteenth century. To repeat, shareholder value in certain environments is a second-best optimum once incentive considerations have been considered. I gave three arguments in favor of shareholder value: (1) It makes up for the dearth of pledgeable income. (2) It provides more focus and sharper incentives to managers. (3) Undivided control prevents foot-dragging and deadlock in decision-making.

These important benefits do not quite vindicate a hard-line position on shareholder value, though. For one thing, shareholder value generates choices that are biased. Despite substantial attention paid to the protection (in the form of covenants, exit options, and flat claims) granted to noncontrolling stakeholders, shareholder value still leaves scope for important externalities and has some distateful implications. Besides, we observe other types of governance structures such as associations, joint ventures, or partnerships that seem to work well in

[47] This relationship between corporate governance and various government policies (labor and fiscal ones in particular) is but one example of complementarity between policies. See Blanchard-Giavazzi (1999) for a case of complementarity between labor and product market regulations.

the specific environments to which they are applied. Rather, I would emphasize the need for any design of governance structures that depart from shareholder value to be in accordance with the lessons of the new economics of incentives and control.

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