Conglomeration: Good, Bad, or Unavoidable?∗

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Abstract

Corporate finance and investment theory are undergoing substantial changes, away from the traditional paradigm in which each firm has a single project and a single owner/manager, and toward a richer, more complex setting in which firms have multiple projects and multiple managers. The different managers are coordinated by headquarters, an agent to whom owners have delegated authority and whose interests may or may not coincide with those of the firm’s owners. This shift in focus has generated a host of new questions. What guides the allocation of funds inside firms? Is the resulting allocation more efficient than the allocation via external capital markets? What incentive effects are induced by the prospect of having discretion over the retention and reinvestment of future returns? In the background lies the old, fundamental question of what are the boundaries of the firm. This paper addresses these issues by discussing some selected recent research on internal capital markets and conglomeration.

∗Martin Hellwig and Christian Laux are from the University of Mannheim, and Holger Müller is from New York University and the University of Mannheim. We are grateful for very helpful comments from an anonymous referee and the editor of this issue, Günter Franke, as well as for financial support from the Deutsche Forschungsgemeinschaft.
1 Introduction

A little over twenty-five years ago Jensen and Meckling (1976) proposed to explain observed financial contracts and financial institutions as optimal solutions to certain incentive and information problems in relations between entrepreneurs and financiers. This marked the beginning of the modern institutional approach to corporate finance. Jensen and Meckling themselves used it to propose an explanation of external debt and equity finance, along the following lines:

- Managerial decision making cannot be fully and costlessly controlled by outside financiers. Because managerial decisions are relevant to outside financiers, any form of outside finance gives rise to agency costs, i.e., inefficiencies that are due to decision makers not taking sufficient account of the external effects of their choices on outside financiers.

- Different financial instruments (debt, equity, etc.) give rise to different types of agency costs.

- Observed financing patterns are the results of optimal financial contracting in that they minimize total agency costs of outside finance.

In this analysis, the firm itself is considered as a homogeneous unit, a kind of black box which transforms investment resources and managerial effort into return prospects. At the investment stage, an owner/manager running the firm is looking for outside funds to finance a given investment project that bears a random return. With a clear distinction between the investment stage and the return stage of the investment project, financial contracting determines both, the division of returns between the owner/manager and his financiers at the return stage and the provision of outside funds at the investment stage. Contracts are designed so as to minimize the negative effects of outsiders’ claims on the owner/manager’s incentives in running the firm.

The literature that followed Jensen and Meckling relied on the same pattern of analysis. However, in many contexts, the identification of a firm with a single one-shot project and a single managing person is misplaced. Such an approach neglects some phenomena...
which are important for the questions in which the institutional approach to corporate finance is interested:

- “Managerial effort” is usually a matter of multi-person interaction rather than a single person’s decision to work or shirk.
- Many firms engage in multiple activities, some of them quite heterogeneous. The proper degree of diversification of activities is a major concern in the development of business strategy.
- Firms’ activities involve multiple investment and return stages. These stages overlap, retained earnings from earlier investments are a major source of funds for new investments.

These concerns are particularly relevant for large publicly held corporations. Such corporations often reach out from traditional activities into new fields, using their earnings from established activities to finance these new ventures. A striking example is provided by the transformation of Mannesmann from a steel producer into an engineering conglomerate and, more recently, into a telecommunications company. To come to terms with such a phenomenon, the institutional approach to corporate finance must go beyond the simple paradigm of the firm as a single one-shot project with a single managing person.

The literature has recently begun to meet this challenge. There has been a spate of papers, both theoretical and empirical, which propose to assess the phenomenon of conglomeration of activities within given firms. In this paper, we review some of this work, using the occasion to highlight contributions made in a research project at the University of Mannheim, which we try to place in a larger context.

Before we turn to the actual review, we explain why we consider the research program of Jensen and Meckling and the institutional approach to corporate finance to be profoundly affected by the three considerations listed above. We begin with the observation that the nature of agency problems changes dramatically when “managerial effort” is a matter of multi-person interaction rather than a single person’s decision to work or shirk. In a firm with many people, internal control mechanisms may substitute for external control. The provision of “managerial effort” may be enhanced by mutual supervision or internal competition. It may also be impeded by internal politicking, rent seeking and the like. Further, when multiple projects are available, the costs and
benefits of diversification must be a matter of concern even if there is just a single owner/manager. When there are many people, the identification of individual people with individual projects serves to channel interactions, i.e., supervision, competition, politicking, etc. inside the organization. In a nutshell, the determination of “managerial effort” becomes a subject for organization theory, which must be fully integrated into the institutional approach to corporate finance.

On the financing side, it is important to note that the allocation of funds to individual activities inside the firm is largely handled as an internal concern of the organization, without much interference from outside financiers. This observation provides a new perspective on the role of the firm in the financial system. In the Jensen-Meckling approach, in which each firm is identified with a single one-shot project, the allocation of funds across projects is altogether the result of financial contracting, and financiers have the power to approve or disapprove each project. In reality, the allocation of funds across projects results from (i) the allocation of funds across firms and (ii) the allocations of funds across projects inside the firms. To the extent that firms rely on external finance, financial contracting determines the allocation of funds across firms, but, typically, it does not determine the allocation of funds inside firms. The latter is determined by the firms’ “internal capital markets”, which we can think of as financial institutions in their own right.

This point is reinforced by the role of retentions as a source of funds. The more a firm can rely on retained earnings, the less need it has to call on outside sources, and the more discretion it has over the use of funds. To be sure, in a publicly held corporation, decisions on retentions and distributions of earnings must be approved by shareholder meetings. However, the costs of organizing shareholders in opposition to management are so high and the prospects of success so poor that such opposition rarely plays much of a role. Shareholder meeting approval of management proposals can usually be taken for granted.

The use of retentions as a source of funds raises additional questions about the firm as a multi-person/multi-project organization. To what extent does the allocation of funds across divisions reflect the divisions’ contributions to earnings? To what extent should it do so? To what extent should “cash cows” be milked in order to fund new ventures? Making the internal allocation of funds reflect the different divisions’ contributions to earnings may induce people to work harder for the success of their divisions. It may also leave little room for funding new ventures. The overall structure of the firm’s activities
would then be inflexible. The firm would find it difficult to prepare for a time when current activities will have their futures behind them. How should this tradeoff be handled? How is this tradeoff handled in the real world? To what extent are internal capital markets driven by considerations of optimal incentive contracting? To what extent are they driven by politicking and power play inside the organization? As we formulate these questions, we see that concerns of internal organization are at the very heart of the problem of how funds are allocated across activities.

The paper proceeds as follows: Section 2 gives a brief introduction to the recent literature, focussing on two key empirical findings that stand at the center of current research on the pros and cons of conglomeration. Section 3 discusses the impact of conglomeration on optimal contracting between outside investors and management (headquarters). We argue that incentive problems in relations between outside investors and management can be a natural source of economies of scope in firms and that increasing headquarters’ discretion regarding the allocation of funds, i.e., creating an internal capital market may be beneficial for some, but nor necessarily all types of enterprises. Section 4 discusses conflicts of interest inside the multi-divisional firm, focusing on incentive problems between headquarters and division (project) managers. In this discussion, conflicts of interest between headquarters and outside investors are ignored, and headquarters is autonomous in allocating capital. Even though, by assumption, headquarters has no incentives to waste funds, conglomeration can be costly: the redistribution of funds and the easier availability of funds in internal capital markets could weaken division managers’ incentives to improve their investment opportunities. Section 5 leaves the contract theoretic paradigm and considers the role of conglomeration in a setting in which external control of the firm is weak, and management has discretion over retentions. In such a world, conglomeration of different activities in given corporate shells provides a basis for structural change, away from the activities that generate current profits, and toward new activities that may generate profits in the future. Such structural change is important for the economy as a whole, not just for the individual firm. Section 6 concludes.

Other important issues, which we do not address here, concern (i) the way in which information is elicited inside the firm through the capital budgeting process (see, in particular, Harris and Raviv 1997) and how the capital budgeting process is organized (see Laux 2001c) and (ii) the implications of conglomeration for the informational efficiency of capital markets and the effects of capital asset pricing on the allocation of resources for investment (see Chang and Yu 2000).
2 Is Conglomeration Inefficient? A Review of Empirical Findings

The literature on conglomeration has been driven by the question of whether conglomeration is efficient or inefficient. Early theoretical work stresses efficiency gains from conglomeration. Thus, Alchian (1969), Williamson (1975), and Stein (1997) emphasize the positive role of an improved capital allocation as a benefit of conglomeration.³

In contrast, the empirical literature has been more skeptical about the effects of conglomeration on efficiency. Current discussion focuses on the following two observations, which seem to be at odds with the view that conglomeration creates value by allowing for an improved allocation of capital:

(O1) Observation 1 (Conglomerate or Diversification Discount). On average, stock market values of conglomerates are at a discount relative to the values of comparable portfolios of stand-alone firms.

(O2) Observation 2 (Inefficient Cross-Subsidization or “Socialism”). Less productive divisions, or divisions with bad investment opportunities, tend to receive disproportionately large shares of investment resources.

Evidence for (O1) is provided by, e.g., Lang and Stulz (1994), Berger and Ofek (1995), Servaes (1996), and Lins and Servaes (1999).⁴ Evidence for (O2) is found in, e.g., Lamont (1997), Shin and Stulz (1998), Scharfstein (1998), and Rajan, Servaes and Zingales (2000).

When taken at face value, (O1) suggests that, from the shareholders’ perspective, the combination of diverse activities in a single corporation destroys value. (O2) suggests that the combination of diverse activities in a single firm goes along with a poor allocation of capital, which would explain (O1). Conglomeration would thus seem to be the result of insufficient outside control permitting corporate management to pursue its own interests at the expense of shareholders. Even before the systematic recent empirical work, this view was prominent in discussions of the 1980s takeover wave. According to some interpretations, this takeover wave was a case of the “market for corporate control” (Jensen and Ruback 1983) taking over in order to dismantle the inefficient conglomerates

³Other examples include Thakor (1990) and Matsusaka and Nanda (2000).
⁴However, conglomerates trade at a discount only on average. By a rough estimate, around 40% of conglomerates are found to trade at a premium; the precise number varies from study to study.
that had been formed in the 1960s and to stop wasteful cross-subsidization, e.g., in the US oil industry, from known wells to new exploration (Jensen 1986, 1991).

The negative assessment of the conglomerate merger wave of the 1960s is not uncontested. Matsusaka (1993) suggests that stock market responses to diversifying acquisition announcements during that period were positive if the bidder retained target management and negative if it replaced target management. According to Hubbard and Palia (1998) the sixties witnessed relatively high bidder returns in diversifying acquisitions when a financially “unconstrained” buyer acquired a financially constrained target or vice versa. This finding would support the view of conglomeration as creating value by relaxing financing constraints. Along the same lines, Klein (2001) finds that in the 60s, diversifying mergers which created internal capital markets might have added value.

Even for the more recent research, it not clear that either (O1) or (O2) should be taken at face value. There is probably a reason for why a firm diversifies in the first place. Therefore (O1) may be subject to sample selection bias, i.e., the index for “diversification” that is deemed to “explain” stock market valuations may itself be endogenous. To really find out whether diversification destroys value, it would in principle be necessary to break up the conglomerate, take each division public, sum the market values of the former divisions, and compare this sum to the former market value of the conglomerate.5 Because this is not possible (and because divisions of existing conglomerates are not publicly traded), researchers have taken as a proxy for the divisional market value the value of the median stand-alone firm operating in the same industry. Clearly, if there is a systematic difference between the divisions that form a conglomerate and these benchmark firms, then the alleged discount may merely reflect this (overlooked) difference and may have nothing to do with an effect of diversification on value as such. Indeed, Campa and Kedia (1999) find that after controlling for the endogeneity of diversification decisions, the discount is always lower and sometimes may actually be a premium. Graham, Lemmon, and Wolf (2002), Hyland (1999), and Maksimovic and Phillips (2002) make similar criticisms.

(O2) could also be due to selection bias. For instance, Whited (2001) and Chevalier (2000) provide arguments that cast doubt on the appropriateness of industry Qs as proxies for the investment opportunities of conglomerate divisions. Moreover, Chevalier obtains the puzzling result that the cross-subsidization allegedly present in conglomer-

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5There are studies that examine spin-offs or bust-ups of conglomerates (e.g., Comment and Jarrell 1995). However, these studies potentially suffer from the same kind of selection-bias problem, for the spin-off or bust-up decision is likely to be endogenous.
ates already exists between independent firms prior to the diversifying merger, i.e., at a time when there should be clearly no cross-subsidization. Therefore, she concludes that (O2) is likely to be driven by selection and measurement problems.

From a theoretical perspective, it is not clear that (O1) and (O2) provide for a suitable assessment of efficiency. If we think of structural change in the economy as being financed either through disbursements of returns and reinvestments through the market or through retentions and reinvestments by existing corporations, then the relative efficiency of either regime will depend on the ratios of successes to failures in the search for new activities. In this respect, the benchmark firms in (O1) are subject to survivorship bias; all those start-ups that disappear for lack of success are ignored. In contrast, market valuations of conglomerate firms take account of diversification experiments that fail, which are the analogues of the failing start-ups in a system of reinvestment of funds through the market. Similarly, (O2) might be the result of experimentation inside the organization as well as the pursuit of managerial self-interest, or it could be the result of political economy of rent-seeking and inter-division infighting.

Going one step further, if we see conglomerates as a result of management withholding earnings and effectively expropriating shareholders, we should expect to see a conglomerate discount even if the different divisions of the conglomerate firm were completely up to standard for efficiency and profitability. After all, shareholder expropriation or the prospect thereof will drive a wedge between the firm’s market capitalization and the discounted present value of the firm’s returns.

Recent theoretical research on the efficiency implications of conglomerates has been broadly divided between two lines: One line corresponds to the view that large conglomerate firms are inefficient because they offer more scope for rent-seeking biasing the capital allocation in favor of low-productivity divisions (e.g., Rajan, Servaes, and Zingales 2000; Scharfstein and Stein 2000) or simply in favor of “old”, established divisions that happen to wield the most influence in the organization (Hellwig 2000, 2001). Another line corresponds to the older view that conglomerates might improve the allocation of capital because it provides more flexibility. According to this view, (O1) and (O2) may simply be explained from firms’ optimal, endogenous choices (e.g., Berkovitch, Israel, and Tolkowsky 2000; Inderst and Müller 2001a). In the following two sections, we review some theoretical work along this second line. Subsequently, in Section 5, we return to the implications of political economy for the assessment of efficiency.
3 Incentive Problems between Headquarters and Investors: The Impact of Conglomeration

In this section, we consider the potential impact of a conglomeration of projects on financial contracting between a firm and its outside investors. For the moment, we abstract from incentive problems inside the firm. Starting from a standard effort-incentive problem with verifiable cash flow, as in Jensen and Meckling (1976), Laux (2001a) considers how the incentive problem is affected if there are multiple projects to be managed. The risk neutral manager (headquarters) is protected by limited liability. Investors write incentive contracts with headquarters to induce high effort. This situation provides a rationale for investors to combine multiple projects within one firm: in the absence of large monetary (and non-monetary) punishments, an incentive scheme that induces headquarters to exert effort typically involves a rent because rewards must substitute for punishments. If headquarters manages multiple projects, a kind of punishment for the failure of a given project can be imposed in the form of the loss of rewards on successful projects. Therefore, combining projects relaxes the limited liability problem and reduces headquarters’ rent from each project. As a result, the expected wage costs of inducing high effort decrease. This advantage of combining projects arises independently of any synergies in managing the projects or improving the quality of the performance measure. Instead, it is the possibility of using losses of rewards on other projects as punishments that is advantageous.

When expected wage costs are thus reduced, the range of project types for which it is optimal for investors to provide incentives to induce high effort is expanded. The set of parameters for which investors are willing to initiate and finance projects at all is then enlarged. Hence, we see that incentive problems are a natural source of economies of scope in firms. In this setting, limits to integration arise only from limits to headquarters’ capacity to oversee and manage different projects. For instance, if effort costs are convex in the number of projects to be managed, the addition of another project involves a trade-off between the advantage of reducing the limited liability effect and the disadvantage of increasing per-project effort costs.

Inderst and Müller (2001a) study the relation between internal and external capital markets in a setting with nonverifiable cash flow. The question is whether centralized firms, in which headquarters raises finance on behalf of multiple projects, are able to write more efficient financial contracts than decentralized or stand-alone firms. And if
the answer is yes, how does this affect the firms’ financing constraints?

The literature on internal capital markets contains hints on the role which project bundling may play for financing constraints. According to this literature, headquarters can either create or destroy value inside the firm, e.g., by engaging in winner-picking, by redeploying assets across projects, or by affecting project managers’ incentives. This value creation or destruction affects the return to capital and hence also the financing constraints. However, none of these papers adopts an optimal contracting approach. Therefore, the precise nature and magnitude of the effect remains unclear.6 In contrast, the literature on optimal financial contracting studies financing constraints and the associated underinvestment problem from first principles, but usually considers only an entrepreneurial firm with a single project. In this setting, questions of organizational structure or the allocation of authority over multiple projects cannot be addressed.

Inderst and Müller connect the internal capital markets literature with that on optimal financial contracting, thus tying together internal and external capital markets. The authors compare a system of decentralized borrowing where individual project managers obtain funds directly from outside investors and a system of centralized borrowing in which headquarters obtains funds from outside investors and allocates these funds to individual projects through the firm’s internal capital market. Financing constraints arise endogenously because the paper assumes that part of the project cash flow is non-verifiable. The problem is to provide the firm (i.e., the project manager or headquarters) with incentives to pay out funds rather than to divert them. To distinguish the costs and benefits of centralization that result from financial contracting from other costs and benefits that have been studied previously, Inderst and Müller assume that headquarters creates or destroys no value per se, i.e., there is no winner-picking, etc.

The benefit of centralization is that it permits firms to write more efficient financial contracts. To induce firms to reveal their true cash flows, investors must offer them "bribes" (or information rents). Bribes can take the form of lower repayments on initial

6Stein (1997) rules out optimal contracting by assuming that it is too costly to elicit managers’ private information. Scharfstein and Stein (2000) assume that outside investors can only decide on the size of their investment and the firm’s operating budget. In particular, contracts contingent on (reported) cash flows are not considered. Finally, Gertner, Scharfstein, and Stein (1994) consider optimal contracting, but not between headquarters and outside investors. They compare contracting between project managers and investors under two scenarios: In the first, the manager owns the project, in the second, the investor owns the project. In the latter case these authors refer to the investor as “headquarters” without considering the possibility that "headquarters" itself may have to raise funds from outside investors.
projects or higher benefits from subsequent projects, so-called continuation benefits. Under centralized borrowing, a greater fraction of the bribe is made up by continuation benefits, i.e., the benefits that managers obtain if they are allowed to use funds for new investments that they would not otherwise be able to undertake. If such an investment has positive net present value and the inability to undertake it on a stand-alone basis is due to the nonverifiability of cash flows, the use of continuation benefits rather than lower repayments on initial projects enhances efficiency. Effectively, headquarters uses excess liquidity from high cash-flow projects to buy continuation rights for low cash-flow projects. Headquarters can thus make greater repayments to investors, which eases financing constraints ex ante. The cost of centralization is that headquarters might pool cash flows from several projects, thereby accumulate internal funds, and make follow-up investments without returning to the capital market. However, without any capital market discipline, it is much harder for outside investors to force the firm to pay out funds. This consideration makes them less willing to provide financing ex ante. The point is reminiscent of Jensen’s (1986) free cash-flow problem, where it is difficult to force firms to disgorge internally generated funds and investors anticipating this problem are reluctant to provide financing in the first place.

Connecting the costs and benefits of internal capital markets, Inderst and Müller trace out the boundaries of the firm. Because the costs and benefits arise in different states of nature, the boundaries depend on the ex-ante distribution of cash flows. Holding everything else fixed, centralization (or integration) is optimal for projects with low expected cash flows. Decentralization (or non-integration) is optimal for projects with high expected cash flows. In a cross-section of firms, conglomerates should therefore have a lower value on average than comparable portfolios of stand-alone firms. This result is consistent with the observation (O1) of a conglomerate discount. Although this is not the first or only model to generate this implication, it is the first to show that a discount may result from optimal financial contracting. Moreover, the discount arises endogenously from firms’ optimal choices of diversification strategies, not from rent-seeking or agency problems inside the firm.

By showing that the observed diversification discount may be due to the endogenous choice of low-productivity firms to diversify, Inderst and Müller lend support to concerns that (O1) may be prone to a selection bias. Hyland (1999) and Maksimovic and

\footnote{For other models that show that conglomerates may trade at a discount, see, e.g., Berkovitch, Israel, and Tolkowsky (2000) and Fluck and Lynch (1999).}
Phillips (2002) provide evidence for this self-selection hypothesis. Both studies find that diversifying firms are less productive and have weaker operating performance than their stand-alone counterparts.8

While Inderst and Müller (2001a) is silent about (O2), this point is taken up in Inderst and Müller (2001b), which again connects internal with external capital markets issues. Inderst and Müller (2001b) starts from the observation that many production factors are fixed in the short run, e.g., a firm has an administrative department whose short-run size is given. A fundamental advantage of conglomerates then is that they are less exposed to the risk of such fixed production factors remaining idle because of a lack of profitable new activities. If a firm operates in several unrelated lines of business, it is more likely that at least one of its divisions generates investment opportunities that can be pursued in the next period. Bundling different projects under the same roof provides benefits of diversification in the generation of new investment opportunities and alleviates the risk that production factors remain idle. Against this diversification benefit, we must count the fact that a richer set of investment opportunities may entail greater scope for risk-taking. As is well known from Jensen and Meckling (1976), the shareholders of a levered firm tend to have an incentive to choose riskier projects even if these projects involve a lower net present value.

These considerations raise several questions. Why should headquarters pursue shareholders’ (ex post) interests and shift capital to riskier, but possibly less productive divisions? And why should firms that are prone to risk-taking issue debt in the first place? Among other things, Inderst and Müller consider the possibility that headquarters has a natural taste for safe projects.9 In this case, the delegation of project choices to headquarters might provide risk neutral shareholders with a mechanism of commitment that protects debtholders from the danger of risk-shifting. The cost of letting headquarters have a free rein is that it may divert part of the firm’s profit as private benefits. Therefore, shareholders face a tradeoff. If they remain passive, headquarters will pursue safe investments but also divert profits. If they keep headquarters on a tight leash, shareholders will avoid the diversion of profits, but their commitment to respect headquarters’ (conservative) project choices will not be very credible.

Still, the above tradeoff is only relevant if the firm has debt. In an all-equity firm

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8However, see Schoar (2000) for contrary evidence.
9Headquarters’ taste for safe projects might stem from career concerns (as in, e.g., Hirshleifer and Thakor 1992), or from risk aversion which, if sufficiently pronounced, also makes it prohibitively costly for shareholders to align headquarters’ interests with their own through an incentive contract.
shareholders always select the efficient projects, which implies that there is no reason to deliberately refrain from keeping headquarters under close control. Suppose, however, that it is costly for shareholders to monitor headquarters, and consider the problem of a founder (and sole shareholder) who is wealth constrained and needs outside finance to pursue his investment projects. If he issues only equity, there will be no risk-shifting, but his incentives to monitor headquarters will be diluted, i.e., there will be under monitoring. In contrast, if he issues only debt, there will be over monitoring because, in addition to reducing the scope for profit diversion by headquarters, monitoring and control also provide scope for overruling headquarters’ conservative project decisions and shifting capital to riskier but possibly less productive, projects to riskier projects. Given that such risk-shifting hurts debtholders, the owner’s private incentives to monitor headquarters under pure debt finance are inefficiently high.

Inderst and Müller endogenously derive the firm’s optimal capital structure and ownership concentration. In equilibrium the firm will always have at least some debt, so with positive probability, capital will be shifted to riskier, but possibly less profitable divisions. Dispersed ownership and leverage tend to go hand in hand. While the latter improves the incentives for shareholders to monitor and overrule headquarters’ decisions, the former acts as a counterbalance because it amplifies the free-rider problem in monitoring. Since high leverage and concentrated ownership have the same effect as low leverage and dispersed ownership, the firm’s capital structure is indeterminate for a large range of parameter values.

4 Incentive Problems between Headquarters and Division Management

So far, we have focused on relations between headquarters and investors without considering the internal organization of the firm. Incentive problems inside the firm are sure to play a role when different projects are assigned to different people. In this section we temporarily ignore the role of outside investors and consider the effects of conflicting interests between different managers and headquarters. We assume that headquarters is autonomous in allocating funds between different projects, and that project managers derive private benefits from investments under their control. We also assume that headquarters wants to maximize some measure of expected profits. The appropriateness of this latter assumption is discussed in Section 5 below.
One important potential advantage of an internal capital market is that it may allow for an improved allocation of capital. If headquarters allocates funds so as to maximize (gross) profits, then any limit to the advantage of conglomeration must stem from a conflict of interest between headquarters and division managers. Such a conflict arises if division managers are only interested in the assets that they manage themselves. As discussed by Gertner, Scharfstein, and Stein (1994), in this case, division managers’ incentives are adversely affected if the residual rights of control over the firm’s assets reside with headquarters rather than with the division managers themselves. Headquarters’ discretion over the use of funds in an internal capital market weakens division managers’ incentives to search for investment opportunities or to generate funds.\(^1\) If headquarters is unable to precommit to a selective intervention policy and if the adverse incentive effects are large relative to the gains from imposing an ex post optimal allocation of capital, it will be harmful to have multiple activities joined in a conglomerate. To the extent that outside equity markets appreciate the problem, this effect will generate a conglomerate discount as defined in (O1).

Division managers in a conglomerate may also be tempted to engage in influence activities or rent-seeking over the firm’s resources.\(^1\) The resulting waste of resources and inefficiency of the allocation of capital may at least partly explain (O2). The inefficiencies could be so high that it would be optimal not to combine projects. If, for whatever reason, the projects are nevertheless combined, the conglomerate trades at a discount, i.e., we have (O1).

Whether one is concerned about effort provision or about influence activities of division managers, in each case, the potential benefits of an internal capital market are counteracted by the effects of integration on division managers’ incentives. These incentive effects are always negative. The potential benefits of integration must be traded off against them.

Inderst and Laux (2001) consider a situation in which division managers must exert costly effort to increase the profitability of the divisions’ investment opportunities. Divisions are endowed with financial resources and headquarters allocates total resources of the divisions under its control so as to maximize the firm’s NPV. There is no asymmetric information on the quality of investment opportunities. A manager derives private

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\(^{10}\)On the first type of incentives see Gertner, Scharfstein, and Stein (1994) and Aghion and Tirole (1997); on the second, see Brusco and Panunzi (2000) and Gautier and Heider (2000).

benefits from his position. These private benefits are increasing in the amount of funds
invested in his division. There are thus two sources of potential incentives to managers,
the capital allocation and wages. If the capital allocation becomes more sensitve to the
profitability of investment opportunities, then incentives from the capital allocation be-
come stronger. For the same overall effort incentive, expected wage costs can therefore
be lower. In this setting, combining activities in a conglomerate with an internal capital
market has two effects. First, the internal capital market provides a mechanism to
redirect available funds towards those divisions where they are most usefully employed.
Second, the internal capital market affects division managers incentives as they compete
for scarce corporate financial resources. Intuition suggests that competition increases
the division managers’ incentives to exert effort, but Inderst and Laux show that the
incentive effects of an internal capital may go either way depending on the types of
projects that are combined. Negative incentive effects may even outweigh the benefits
of having an efficient allocation of funds across divisions.

Integration increases incentives unambiguously only if divisions are symmetric ex
ante. In this case integration increases the sensitivity of the capital allocation to the
investment opportunities’ profitability and strengthens managers’ incentives. However,
the integration of a cash cow division that generates cash but has no profitable invest-
ment opportunities of its own might decrease the sensitivity of the capital allocation and
weaken managers’ incentives. The negative effect on incentives can even outweigh the
advantage of having a being able to carry out profitable investment opportunities on a
larger scale as the addition of a ”cash cow” relaxes the corporation’s resource constraint.

If divisions are (ex ante) asymmetric in their initial endowments or in the profitability
of their investment opportunities, integration will affect different managers’ incentives
differently. A manager who expects to receive relatively more capital has an incentive to
exert more effort under integration; this is the case if the manager’s initial endowment of
resources in place is relatively low or if his investment opportunities are relatively good.
In contrast, a division manager with a relatively high endowment of resources in place
and relatively less profitable investment opportunities expects to receive less capital
and will exert less effort under integration. The net effect of both managers’ incentive
changes could be a reduction of total expected profits when combining projects.

The innovation of the paper is that it analyzes the implications of an internal capital
market on incentives to create investment opportunities and increase their profitability.
Without resorting to additional, explicit, costs of integration, it shows that the effect
of integration on total firm value may go either way. Empirically, we might therefore observe conglomerate premia or conglomerate discounts, depending on the characteristics of the units that are combined. A conglomerate premium is unambiguously predicted only if divisions are ex ante symmetric. In this case, the conglomerate premium even exceeds the mere benefit of an improved capital allocation.

Incentives and total firm value may decrease if units differ in their endowments and investment opportunities. In this case the integrated firm may trade at a lower value than the sum of its parts, i.e., the firm may trade at a discount, despite a profit maximizing allocation of capital. Evidence for such an effect of diversity on the size of the discount is provided by Lamont and Polk (2002) and Rajan, Servaes, and Zingales (2000). However, in Rajan, Servaes, and Zingales (2000), managers engage in inefficient rent-seeking activities. Waste from these activities is greater when divisions are heterogeneous. Headquarters reduces rent-seeking by distorting the capital allocation towards less profitable projects. We note that although such inefficient cross-subsidization would reduce the incentive effects of integration in Inderst and Laux, the empirical evidence does not suggest that, because of cross-subsidization, these incentive effects disappear and the capital allocation sensitivity decreases under integration. For example, Shin and Stulz (1998), who are usually quoted as providing evidence for cross-subsidization of smaller segments, do not find such subsidization if the largest segment has itself good growth opportunities.

In a similar setting Stein (2000) analyzes how integration affects incentives of division managers to acquire privately costly information. By acquiring information, headquarters and division managers can make more informed decisions. In contrast to Inderst and Laux, Stein considers only the symmetric case and does not allow for monetary incentives. Instead, Stein shows that integration reduces division managers’ incentives to generate information when this information is soft. The reason is that information cannot be used as a means to obtain more funds from headquarters. Instead headquarters might take funds away. Therefore, the division managers’ gains from being informed is lower.

Whenever there is a conflict of interest between headquarters and division managers, headquarters might use the firm’s organizational and financial structures as a commitment device. Bagwell and Zechner (1993) show that the divisional managers’ incentives to engage in influence activities can be reduced if the capital structure of the corporation is chosen with a view to reducing the need for divestitures. In their model all projects
are carried out within one entity. Laux (2001b) shows that incorporating a project in a legally independent subsidiary with additional external debt raised by the subsidiary strengthens headquarters’ incentives to acquire information about the project’s quality prior to taking decisions about the project’s continuation. For suppose that ex post it is efficient to continue the project in all circumstances. If project returns are fully appropriated by headquarters, then headquarters will always continue the project and there is no point in acquiring information about the project’s quality. From an ex ante perspective, the project manager’s incentives to exert effort to improve the project’s quality might then be very weak. By issuing debt against the project’s returns, headquarters commits itself to discontinuing the project whenever its share of the project’s returns is too low to warrant the cost of a continuation investment. In this case, continuation decisions depend on headquarters’ information, and headquarters has an incentive to acquire such information. The project manager in turn has an incentive to exert effort in order to increase the probability that the project will be continued. This arrangement is advantageous if the net gains from the project manager’s increased effort outweigh the costs of monitoring and of socially inefficient discontinuation decisions in some circumstances ex post.

5 Beyond Contract Theory: Conglomeration as a Mechanism of Structural Change

Like Jensen and Meckling (1976) and the literature following them, the papers reviewed in the preceding sections all follow a contract theoretic approach. Observed arrangements are seen as the results of optimal initial contracting. For given allocation problems and given constellations of interests, contractual and institutional arrangements are assumed to be chosen so that overall agency costs are minimal.

However, the contractual and institutional arrangements that we observe in reality are rarely the results of contracting. Contracts and institutional rules do play a role, but often they are rewritten as the economic relation between the different participants evolves. The changes that take place are shaped by currently prevailing interests and power relations, which may be quite different from interests and power relations at the time of initial contracting. Given this consideration, Hellwig (2000) questions the appropriateness of the contract theoretic approach. He suggests that it may be more fruitful to explain observed contractual and institutional arrangements as the results of
evolution rather than initial contracting.

Hellwig exemplifies the argument with the history of Union Bank of Switzerland (UBS) from the 1970s to the 1990s. In this period, there were three changes of the corporate charter that affected the standing of outside shareholders vis-à-vis corporate management. These were (i) the introduction of registered shares together with a proviso that any registration of a new shareholder had to be approved by management approval; (ii) the abolition of this latter requirement in combination with the introduction of a 5% voting rights restriction; and, against the opposition of a blockholder in registered shares, (iii) the abolition of voting rights privileges for registered shares over bearer shares. Each of these changes was proposed by corporate management and approved by the shareholder meeting. Each change improved management’s scope for eliminating, disenfranchising, or otherwise weakening the position of outside shareholders who wanted to mount an opposition against management. Shareholder approval was ensured by, among other things, votes cast under a Swiss law requiring banks representing their customers to vote with management unless their customers gave them explicit instructions to the contrary. By the mid-1990s, institutional arrangements at UBS had largely been shaped by the effective power of incumbent management to change the rules.

Hellwig (2000, 2001) argues that such disenfranchisements of outsiders occurs in publicly held corporations in many countries, albeit in different guises. Where Swiss corporations used restrictions on the registration of name shareholders and, more recently, voting rights restrictions, German corporations used cross-holdings that enabled managers to protect each other; American corporations used poison-pill provisions to reduce or eliminate the prospects of outside interference. The common elements in all these developments are: (i) Management is able to use its managing role to determine the agenda, including the agenda for changes of rules; (ii) where shareholder approval is needed, management can exploit the well known free-rider problem of shareholder decision making; (iii) changes of rules that strengthen the power of incumbent management tend to be supported by political and judicial systems as well as various groups of “stakeholders” who prefer to deal with incumbent management without interference from outside financiers. As a result, rule changes tend to enforce the entrenchment of incumbent management. An evolutionary approach to the analysis of observed institutions would therefore view the modern corporation as the result of the ability of

\[\text{\textsuperscript{12}On the workings of this mechanism in Germany, see Wenger (1996), in the United States, Jensen (1991) and Roe (1994).}\]
incumbent management to emancipate itself from outside control and outside interference.

This account provides a new explanation of the well known “pecking order” of corporate finance whereby companies rely for their investment finance first on retained earnings, then on loans, and last on new share issues (Myers and Majluf 1984). From the perspective of incumbent management, internal finance is attractive because it involves a minimum of outside interference; the approval of shareholder meetings is taken as a matter of course. In contrast, external finance suffers from the reluctance of outsiders to surrender funds without effective control and the reluctance of management to surrender any effective control. Control is less of an issue for loans than for shares. Outside lenders have well-defined claims and, as long as the claims are honored, no control rights. In contrast, outside shareholders have no well-defined claims, but for whatever it is worth, they have the right to vote at the shareholder meeting. It seems likely that the pecking order of finance reflects both, the effective power of management to withhold earnings from outside shareholders and the awareness of potential outside shareholders of the moral hazard to which they would be exposed (Jensen 1986, La Porta et al. 1997). This explanation of the pecking order differs from the one given by Myers and Majluf (1984). Relying on a model in which management always acts in the shareholders’ interests, these authors argue that internal finance is preferred because it involves the lowest agency costs.

Empirically, the importance of inside finance in many countries, for many companies, has been well documented. Cross-country comparisons show that the weakness of outside share finance is directly correlated with the weakness of shareholder protection in the different legal systems (La Porta et al. 1997). The empirical literature also finds a significant positive correlation between cash flow and investment, over time and across firms. Beyond the notion that firms invest only what they can finance on their own, such a correlation may reflect the fact that ceteris paribus, a firm with a larger equity base will find it easier to obtain loans without having to agree to too many restrictive covenants (Edwards and Fischer 1994).

Theoretical assessment of the prominence of internal finance is divided. Myers and

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Majluf (1984) stress the positive role of returns from previous investments in alleviating financing constraints on new investments. In contrast, Jensen (1986) argues that in pursuit of its own interests management effectively expropriates outside shareholder, retains free cash flow inside the company, and invests them in projects that involve private benefits for management rather than returns for shareholders. From the perspective of Myers and Majluf, the dependence of investment on the availability of internal funds must be interpreted as evidence of underinvestment, a kind of rationing of profitable investment activities due to the unavailability or the agency costs of external funds. From Jensen’s perspective, the dependence of investment on the availability of internal funds may also be interpreted as evidence of overinvestment by a management that is willing to waste funds in unprofitable investment opportunities.

At this point it is instructive to think about the allocation of funds across firms in terms of the structure rather than the overall level of investment activity. If current cash flows and current profitable investment opportunities are not highly correlated, then a system based on internal finance can exhibit overinvestment and underinvestment at the same time, i.e., we should observe overinvestment at firms with high cash flows and poor investment opportunities and underinvestment at firms with low or negative cash flows and good investment opportunities. The Jensen and Myers-Majluf views both suggest that the latter will find it hard to raise the external finance that they need. The Jensen view also suggests that firms with “free” cash flow may be wasting their funds. The US oil companies in the early 1980s using revenues from known wells to fund unprofitable exploration would seem to be a case in point.

However, in practice there exist mechanisms channeling funds from firms with high cash flows and poor investment opportunities and to firms with low or negative cash flows and good investment opportunities. Jensen’s (1986) suggestion that management is willing to waste free cash flow rests on the presumption that management is tied to a given line of business, and is either unable or unwilling to exploit more profitable investment opportunities elsewhere. Why should this be so? Why shouldn’t the management of a firm with free cash flow be buying up new ventures and then financing their new developments internally? After all, such practices are common place in many industries.

For a mature economy with large corporations that are earning and retaining significant profit incomes, it may be useful think of current profits as a source of funds in its own right. The task of the financial system then is not so much to channel funds from households to firms, but instead to channel funds from the places where profits are
currently earned to the places where investment finance is needed. One way to achieve this is to have earnings distributed to investors and then reinvested through capital markets. Another way is to have earnings retained and then reallocated through internal capital markets inside the corporation. If management’s power over retention decisions precludes a mechanism based on distributions of funds to investors and reinvestment through capital markets, then a mechanism based on conglomeration and investment finance through internal markets could be the only way to get funds from where they are generated to where they are needed. In a corporate system based on management autonomy, conglomeration may be unavoidable, at least if the economy is to have room for structural change.

How does a system in which structural change is financed through internal markets inside a conglomerate corporation compare to a system in which structural change is financed through external markets? This question brings us back to asking what incentives are driving the allocation of funds inside a firm. Jensen’s notion of investment financed by retained earnings seems to rest on the assumption that management’s choices are biased because the costs of unprofitable investments are borne by outside investors. However, this assumption is problematic if management has discretion on the use of funds in the future as well as the present. If investments undertaken today yield low returns, management’s room for manoeuvre tomorrow will be restricted by a lack of funds. This creates an incentive for management to try to avoid unprofitable investment projects (Hellwig 2000, 2001). Therefore the assumption made in the Section 4, that headquarters is interested in some measure of expected gross profits, may not be too far off the mark, not because headquarters has the same interests as shareholders, but because headquarters sees itself as a kind of residual claimant to the firm’s returns. For efficiency considerations, if funding available inside the corporate system is sufficient and the allocation of these funds is efficient, the effective expropriation of outside shareholders by incumbent management could then be irrelevant.

There are of course some caveats: First, returns to the company are not the same as returns to the individual manager. This distinction is particularly relevant for a CEO shortly before retirement, who appreciates that the returns to current investment strategies will benefit his successor rather than himself. Second, investment strategies can be shaped by a desire to buttress management control even if this forgoes some

\[^{15} \text{Or, as Scharfstein and Stein (2000, p. 2538) put it: "...although agency-prone CEOs may want big empires, it also seems reasonable that, holding size fixed, they will want valuable empires".} \]
profit opportunities. Indeed, if we abandon the notion that headquarters itself can be treated like a single person, we must consider the possibility that investment strategies are shaped by desires to enhance individual positions in internal politicking. Here, we link up with the view mentioned in Sections 2 and 4, that rent-seeking in large conglomerate firms might bias the capital allocation in favor of low-productivity divisions (e.g., Rajan, Servaes, and Zingales 2000; Scharfstein and Stein 2000) or simply in favor of “old”, established divisions that happen to wield the most influence in the organization (Hellwig 2000, 2001).

6 Conclusion

Corporate finance and investment theory are currently undergoing substantial changes. They are moving away from the traditional paradigm of a firm with a single project and a single owner/manager towards a richer, more complex structure, in which firms have multiple projects, multiple managers, and headquarters. Playing a role that is distinct from outside financiers as well as division managers, headquarters exerts authority over the firm’s internal “markets”, in particular, the firm’s internal capital markets; its interests may or may not be fully aligned with those of the firm’s shareholders.

Given the possibly complex interaction between the different parties, theoretical research usually focuses on a subset of the “grand problem,” i.e., either on the agency problem between investors and headquarters, or on the problem between headquarters and multiple project/division managers. To gain a more comprehensive understanding of the interplay between external and internal capital markets theoretical research eventually must find a framework where both layers of agency problems can be addressed at the same time.16

However, the investor(s)-headquarters-multiple project managers setting is not the end of the story. Corporate boards usually consist of several executives with diverse, possibly conflicting opinions and interests. Therefore treating headquarters as a homogeneous entity could be as misleading as assuming that firms consists of a single project with a single manager. Indeed a non-negligible fraction of the investment inefficiencies allegedly found in empirical studies could be the result of clashes of interest between different coalitions of top executives. In its simplest form, headquarters might consist

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16Efforts along these lines have been made by Scharfstein and Stein (2000), who consider both layers of agency problems at the same time in the context of intra-firm rent-seeking.
of several former division managers who have climbed the corporate ladder, but still have their power bases in their former divisions. In such a world, the division managers’ rent-seeking is carried right into corporate headquarters. Inefficient patterns of capital allocation could then result from power struggles and coalition formation within headquarters.\footnote{This consideration suggests that there is a benefit of narrow business strategies, or disintegration. This benefit is complementary to the one exhibited in Rotemberg and Saloner (1994, 1995).}

Although it has inspired much of the recent theoretical research on conglomereration and internal capital markets, empirical work faces challenges of its own. Most notably there is the lingering doubt that empirical findings of conglomerate discounts or inefficient patterns of cross-subsidization might suffer from an endogeneity problem and the associated sample selection bias. Better proxies for divisional investment opportunities need to be found before these doubts can be dispelled.\footnote{Lamont and Polk (2002) take an alternative route. They try to avoid the endogeneity problem by looking at the exogenous industry shocks that affect the degree of firm diversification.} This problem is relevant for theoretical as well as empirical research. Theoretical research currently expends substantial time and energy trying to explain phenomena such as the conglomerate discount or inefficient cross-subsidization while implicitly taking the empirical correctness and validity of these phenomena for granted.

References


