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Authority, communication, and internal markets

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Abstract

We revisit the trade-off between keeping authority and granting decision-making rights to an informed agent. We introduce transfers, allowing the agent to charge a fee for her services, but she may also offer the principal a side payment. The principal’s equilibrium contracting decision maximizes the aggregate payoff. In particular, introducing transfers changes the contracting decision from centralization to delegation and improves efficiency if delegation maximizes the aggregate payoff but requires a side payment. We then introduce general delegation mechanisms. We first show that the agent, behaving *ex ante* like a social planner would do, restricts the discretion of her *interim* self in equilibrium. We then derive the optimal delegation set and show that delegation is more prevalent but less intense in equilibrium. Our results contribute to the debate over subsidiary governance in multinational corporations, showing how financial intermediation by headquarters can induce the parties to act in the organization’s interest.

JEL classification: D23, D83, D61, D82, C72.

Keywords: Principal-agent problem, communication, (optimal) delegation, transfers, subsidiary governance, private information.

1 Introduction

Decision-makers in organizations typically rely on experts lower in the hierarchy who are much better informed about specific issues. A natural question in this context is whether the decision-maker should keep authority or delegate the decision

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to a specialist with different objectives. In a seminal paper, [Dessein \(2002](#), henceforth D02) has shown that a decision-maker often delegates authority in order to avoid the loss of information inherent to communication with agents who have different objectives. When objectives differ considerably, however, the decision-maker may keep authority and tolerate noisy communication to avoid the loss of control—a potential source of inefficiencies. This paper revisits this canonical problem with the introduction of transfers, allowing the expert to either charge a fee or offer the decision-maker a side payment depending on the allocation of decision rights and the associated benefits.

The organizational economics literature has recently called for a broader and more integrative perspective on governance, one that reflects the variety of arrangements that real-world organizations employ to solve coordination and motivation problems ([Gibbons, 2020, 2022](#)).¹ This call resonates with recent findings in the international business literature documenting the widespread use of market-like contracts between units of the same firm ([Magelssen et al., 2022](#)). In multinational corporations, value creation critically depends on the interactions between subunits and the relationship each of them has with its local business environments ([Meyer et al., 2020](#)). The latter can create a conflict of interest with the rest of the organization, such that headquarters align subsidiary behavior using mechanisms that go beyond hierarchical control ([Lunnan et al., 2023](#))—ranging from the allocation of authority to that of financial resources ([Sengul et al., 2019](#); [Dellestrand et al., 2020](#)). This paper aims to reflect these alternative forms of governance and analyze their implications for efficiency.

We present a theoretical model in which a principal decides between keeping authority and granting decision-making rights to an informed agent. The agent proposes a menu of contracts consisting of a mode of interaction and a transfer,² which can go in either direction. We characterize how the contractual arrangement—in terms of decision-making authority and the direction of the transfer—depends on the resulting benefits for each party. We further show how transfers may improve efficiency when objectives differ considerably and how they affect the agent’s discretion under optimal delegation, and discuss our results in the context of headquarters-subsidiaries relationships in multinational corporations.

¹For instance, [Frydlinger, Hart, and Vitasek \(2019\)](#) analyze ‘formal relational contracts’ as a hybrid form of governance that gained prominence in recent years. Such contracts are designed to manage long-term market relationships in uncertain environments by embedding shared objectives, guiding principles, and dispute-resolution mechanisms within a legally recognized framework.

²For an early treatment of auctions-like mechanisms to allocate resources among business units in a firm, see [Baiman et al. \(2007\)](#).

In our model, a principal (*headquarters*, he) has to take a decision whose payoff depends on the state of the world. An agent (*subsidiary*, she) would like to influence the decision and has better information, but her objectives differ from those of the principal. Objectives being only one dimension of the conflict of interest between players, a second dimension relates to the importance each assigns to the decision relative to transfers. The relationship between players may involve either the principal retaining decision-making authority and the agent communicating her information (*centralization*), or authority being *delegated* to the agent. The agent proposes a menu of contracts, each consisting of a mode of interaction and an associated transfer. In particular, she may ask the principal a fee for her services or offer him a side payment. The principal then chooses among the contracts offered by the agent or takes the decision himself.

The main features of our model reflect subsidiary-headquarters relationships in multinational corporations. Subunits in these organizations strive to gain influence by building knowledge-based capabilities, often succeeding even when their initiatives conflict with organizational goals (Meyer et al., 2020). Their ability to do so hinges on the fact that knowledge and expertise—unlike physical or financial assets—cannot be fully controlled by headquarters, since property rights over such intangible resources are hard to define and enforce (Cuervo-Cazurra et al., 2019).³ The contractual arrangements governing these internal relationships are therefore more flexible than those used in inter-firm settings. On the one hand, headquarters tend to grant a high degree of autonomy to subsidiaries with large knowledge-based capabilities (Ciabuschi et al., 2010). On the other hand, they tend to support knowledge transfers with the allocation of financial resources; in particular, for relationships of high strategic importance, headquarters get directly involved by providing financial rewards but also compensation to specific subunits (Sengul et al., 2019; Lunnan et al., 2023).⁴ Building on these insights, the transfers in our model can be seen as financial flows that complement the allocation of authority.

We first show that the agent never offers the principal a side payment under a contract that does not involve decision-making authority. Under centralization, the principal obtains additional information while keeping control over the deci-

³ “The legal status of a subsidiary implies that it has no ownership rights over its tangible assets and its control over such assets can only be in the form of discretion—headquarters can always retake control of such assets. [...] A subsidiary’s bargaining power will generally be based on assets over which property rights are hard to define and enforce. The bulk of such assets are in the form of intangible assets like knowledge” (Cuervo-Cazurra et al., 2019, p. 493).

⁴ “The multinational corporation’s operation of the internal capital market [...] depends not only on potential profitability but also on long-term commitment” (Lunnan et al., 2023).

sion, so that the agent can ask a fee for her services. Second, whether the agent offers the principal a side payment in order to obtain decision-making authority depends on the conflict of interest. The agent charges a fee for her services if they share similar objectives. In this case, the conflict of interest is second-order compared to the informational gain from delegating authority to a well-informed agent, such that the principal benefits from delegation. If, however, objectives differ substantially, then the agent must compensate the principal for the loss of control and thus offer him a side payment. She is willing to do so if her benefit from getting the decision delegated—which is strictly positive because she gains control and is better informed—exceeds the principal’s loss.

In equilibrium, the agent sets the transfers such that the principal’s contracting decision maximizes the aggregate payoff. In particular, he will always accept one of the contracts in equilibrium, as both players benefit from the better informed decision under centralization as compared to the outside option of taking the decision himself.

We then investigate the role of markets and efficiency. If transfers were not feasible, the principal would choose delegation over centralization as long as it provides him a larger benefit than the latter. Objectives being relatively aligned in this case, the principal prefers the loss of control from delegating authority over the loss of information due to noisy communication. Now, allowing for transfers, we find that delegation becomes more attractive for the principal because then the agent can compensate him for the loss of control. The equilibrium contractual arrangement changes from centralization to delegation if the latter maximizes the aggregate payoff but requires a side payment. Thus, allowing for transfers increases efficiency when objectives differ considerably.

Finally, we extend the model to general delegation mechanisms à la [Alonso and Matouschek \(2008\)](#), henceforth AM08). A delegation contract then specifies a delegation set in addition to the transfer. A delegation set describes the decisions the agent is permitted to take under the contract.

We first observe that the agent, setting the transfer, will internalize the effect of the choice of delegation set on the principal and therefore choose it to maximize the aggregate payoff. We then establish that, conditional on choosing the equilibrium transfer, the agent’s contracting problem is equivalent to that of a principal with bliss point equal to the weighted average of the players’ bliss points in [AM08](#). The weight of each player depends on the relative importance he or she assigns to the decision relative to money. The agent in our model thus behaves *ex ante* like a social planner would do, and may therefore restrict the discretion of her *interim*

self, who would otherwise implement her own bliss point.

Applying the analysis of [Alonso and Matouschek](#), it follows that the optimal delegation set is characterized by an upper bound regarding which decisions the agent is permitted to take if objectives are sufficiently aligned, and it consists solely of the ex ante socially optimal decision otherwise. Notably, introducing transfers enlarges the optimal delegation set. The equilibrium contract maximizes the aggregate payoff. In particular, being able to optimally choose the delegation mechanism means trading the intensive margin of delegation for the extensive margin: delegation is more prevalent but less intense in equilibrium. Behaving like a social planner would do, the agent prefers the ex ante socially optimal decision over uninformative communication (which would yield the principal’s ex ante optimal decision). Thus, centralization will occur with optimal delegation only if it is informative. In the standard uniform-quadratic setting, where communication is not particularly effective (cf. [D02](#)), it does not occur altogether with optimal delegation.

Our results contribute to the discussion over subsidiary governance in multinational corporations. Introducing inter-unit transfers—mediated by headquarters—can improve efficiency and induce the parties to act in the organization’s interest. In particular, the centralization arrangement can be seen as the headquarters hiring specialists from a subsidiary as advisors for a specific project, and compensating the subsidiary via monetary transfers—akin to transfer prices for advisory services (cf. [Persson, 2006](#)). As per the delegation arrangements, they imply some degree of subsidiary control over the decision, reminiscent of mandates headquarters can grant to their subsidiaries ([Ciabuschi et al., 2010](#); [Meyer et al., 2020](#)).⁵ The direction of financial resources will follow the effects of delegation on other parts of the organization, captured in our model by the principal’s benefit (or loss) associated with it. More specifically, if the delegation benefits the rest of the organization, the headquarters is willing to grant more resources to the subsidiary—e.g., via its transfer-pricing policy or financial operations akin to internal capital markets. If, conversely, the delegation harms the rest of the organization, the subsidiary is willing to commit some of its resources to compensate the losers.

The equilibrium transfers under delegation resemble headquarters’ strategies for the allocation of financial resources studied in the management and corporate finance literatures (e.g., [Gertner and Scharfstein, 2013](#); [Sengul et al., 2019](#);

⁵ “An important role of headquarters is to distribute decision-making rights to those units that are capable of developing and transferring valuable knowledge. In other words, a subsidiary with a ‘world mandate’ has the autonomy to develop, transfer, and launch products within its mandate.” ([Ciabuschi et al., 2010](#), p. 475)

Dellestrand et al., 2020). On the one hand, *winner-picking* strategies support the strongest performing subsidiaries by allocating relatively more resources to them than to low-performing ones, with the aim of providing incentives to select projects that maximize value for the whole organization. On the other hand, *cross-subsidization* strategies support the weakest performing subunits at the cost of under-supporting stronger ones, reflecting the thinking where synergies take precedence over short-term capital efficiency.⁶ The implementation of such strategies in practice is feasible via headquarters’ intermediation in internal capital markets.⁷ In the aforementioned literatures, however, the study of incentives within internal capital markets takes the organizational design as given (Malenko, 2024). Our model then provides a novel rationale for the strategic allocation of financial resources as a complement to decision-making authority, one that is rooted in organizational efficiency.

Related literature. This paper belongs to a large literature on strategic communication of soft information initiated by Crawford and Sobel (1982), which was extended to the possibility of delegation of (real) authority by Aghion and Tirole (1997). As discussed above, Dessein shows that the principal prefers delegation over communication if objectives are sufficiently aligned. Argenziano et al. (2016) and Ivanov (2010) find that the reverse may hold if the sender is imperfectly informed.⁸ Deimen and Szalay (2019) arrive at a similar conclusion when the sender has to decide on the amount of information she observes about each of two states. Our paper builds on D02, introducing transfers and allowing the principal to decide without advice. It also shares some features with our recent work on competition between experts in a policy-advising market (Foerster and Habermacher, 2025). Therein, we focus on the implications of competition between experts for lobbying and the debate over money in politics, and abstract from explicitly modelling the

⁶Note that the subsequent reallocation of financial resources by headquarters lies outside our model, but the direction of the transfer is consistent with these strategies. Dellestrand et al. (2020) refer to case studies illustrating each strategy. Winner-picking is common to many firms in the consumer electronic industry (e.g., Philips Corp.), while cross-subsidization can be found in some major firms in the construction equipment industry (e.g., Caterpillar, Komatsu, and Volvo CE).

⁷Evidence shows that headquarters take financial intermediation roles in inter-unit loans aimed at mitigating financial distress (Matvos and Seru, 2014; Buchuk et al., 2020), in the design and enforcement of affiliated firms’ dividend policies within a business group to take advantage of local investment opportunities (Gopalan et al., 2014), and in decisions to maintain and redistribute financial slack (i.e., cash) to allow under-performing subunits to redeploy non-financial resources (Sengul et al., 2019).

⁸See also Fischer and Stocken (2001) and Foerster (2023), who show that communication may benefit from a worse-informed sender.

decision-making procedure associated with each hiring decision.

Our paper also relates to the literature on the organizational design of multi-divisional firms. [Holmstrom and Tirole \(1991\)](#) study transfer pricing for physical goods between subunits of the same firm and analyze mechanisms which yield an efficient level of trade. [Dessein and Santos \(2006\)](#) argue that authority should be allocated based on whether decision-making requires local initiative or firm-wide coordination, highlighting the trade-off between adaptability and coherence. [Alonso et al. \(2008\)](#) show that when decisions are interdependent and communication is limited, centralization improves coordination by internalizing externalities across units.⁹ [Rantakari \(2008\)](#) focuses on the value of flexible authority when firms face uncertainty and communication is costly, and shows that dynamic shocks can reverse standard delegation results. [Habermacher \(2025\)](#) studies authority under informational interdependence and shows that specialization shapes incentives to acquire and share information across units. In contrast to these contributions, we study how the availability of transfers complements the allocation of decision-making rights, allowing agents to compensate principals for the loss of control and induce governance structures that maximize organizational surplus.

Some papers have combined the use of transfers with informative persuasion, as we do. One of the early treatments is [Austen-Smith \(1998\)](#), who studies agents' incentives to pay for the principal's attention. Because communication is strategic, like-minded agents will be granted access more often and their information will be more influential; see also [Cotton \(2012\)](#) for a closely related approach. [Krishna and Morgan \(2008\)](#) study a canonical cheap-talk environment in which the receiver can commit to transfers conditional on the sender's message. They show that, although feasible, contracts inducing full revelation are never optimal. In a related model, [Krähmer \(2006\)](#) additionally allows the principal to commit to the allocation of authority conditional on the sender's message. Focusing on a binary state, he shows that combining cheap talk with delegation may outperform both unconditional centralization and unconditional delegation.¹⁰ [Lim \(2012\)](#) studies a bargaining game between a principal and an agent, where the latter learns the state and then makes a take-it-or-leave-it offer for decision rights. The price offered by the agent can work as a signal about the state such that, on the equilibrium

⁹In later work, [Alonso et al. \(2015\)](#) emphasize how authority structures affect the firm's ability to adapt to local shocks while maintaining strategic alignment, showing that flatter organizations are more responsive but risk misalignment.

¹⁰In a similar vein, [Bester \(2009\)](#) studies authority allocation between two agents using a mechanism design approach with verifiable messages and transferable utility, and focuses on direct and truthful mechanisms. Differently from our analysis, the player granted decision-making authority in equilibrium always compensates the other player via transfers.

path, the principal mixes between using that information to decide himself and accepting the agent’s offer for full delegation of authority. The author shows that infinitely many of such equilibria exist, all dominated by a pooling equilibrium where all agent types post the same price—similar to the equilibrium we derive in our main example. In contrast, we consider a general environment closer to [D02](#), not restricted to quadratic preferences and featuring cheap-talk communication as an alternative to full delegation. Crucially, the agent learns the state only once the contract is concluded to reflect that headquarters-subsidiaries relationships require long-term commitment ([Lunnan et al., 2023](#)).

Finally, our model differs from the literature discussed above through the extension to optimal delegation. It builds on [AM08](#), who study the design of optimal delegation contracts by a principal who faces an informed agent. A key difference from our framework is that, in the literature on optimal delegation, the principal chooses the contract as to maximize his own expected utility (see also [Melumad and Shibano, 1991](#); [Amador and Bagwell, 2013](#)). In our model, the agent proposes the contract and, thus, internalizes through the transfer the effect that choosing the delegation set has on the principal; i.e., she behaves *ex ante* as a social planner would do.

To our knowledge, we are the first to introduce transfers to the models of [Dessein](#) and [Alonso and Matouschek](#), allowing for both fees and side payments in exchange for direct influence, and studying how they affect the allocation and the degree of authority. Our framework shows how informed agents can gain decision-making rights by compensating a principal for the loss of control, leading to efficient delegation even in the presence of preference misalignment. This mechanism relates with recent evidence on the workings of internal capital markets. For instance, [Graham et al. \(2015\)](#) show that capital allocation often depends on the perceived expertise and credibility of sub-unit managers, reflecting both informational advantages and political dynamics. It has also been found that headquarters can take the role of a financial mediator between sub-units in internal capital markets (see footnote 7). Relatedly, [Hoang et al. \(2024\)](#) show that capital budget allocation is shaped by agency concerns and soft information, with internal capital markets used to reward well-performing units and discipline others. These findings point to the role of internal financial transfers as an implicit governance mechanism, which aligns closely with the logic of our model.

The rest of the paper proceeds as follows. In Section 2 we set up the model. Section 3 characterizes equilibria. In Section 4 we investigate the role of markets and efficiency. Section 5 studies optimal delegation mechanisms. In Section 6 we

conclude and discuss our modelling assumptions.

2 Model and notation

We consider an economy populated by a principal and an agent. The unknown state (of the world) $\theta \in \Theta = [0, 1]$ is distributed according to a commonly known distribution F on Θ with continuous and strictly positive density f . The *principal* P (he) has to take a decision $y \in \mathbb{R}$ and can enter a contractual arrangement with an *agent* A (she). A *contract* (a, t_a) specifies whether P keeps authority over y , $a = C$ (henceforth *centralization*), or commits to delegate it to A , $a = D$ (henceforth *delegation*), and an associated transfer t_a from P to A . We interpret a positive transfer as a price or fee and a negative transfer as a side payment in order to obtain influence on the decision.

In the first stage, A proposes a centralization contract (C, t_C) and a delegation contract (D, t_D) by choosing a menu of transfers $(t_C, t_D) \in \mathbb{R}^2$.¹¹ In the second stage, P decides whether to accept one of the contracts, centralization at transfer t_C or delegation at transfer t_D , or to take the decision himself based on prior information only, denoted $a \in \{C, D, P\}$.

If P has accepted one of the contracts, A observes the state θ and, then, sends a *cheap-talk message* $m \in \mathbb{R}$ to P (who did not observe the state) under the centralization contract, $a = C$, and takes the decision y herself under the delegation contract, $a = D$. In the last stage, P takes the decision y if he did not delegate authority to A .

The payoff function of P is

$$u_P(t, a, y, \theta) = v_P(y, \theta) - 1_{\{a \neq P\}} t, \quad (1)$$

where $1_{\{a \neq P\}} = 1$ if P has accepted one of the contracts and $1_{\{a \neq P\}} = 0$ otherwise. The first term of (1) represents P 's benefits from the decision y . The second term of (1) represents P 's expenses associated with the chosen contractual arrangement. Note that P 's payoff function is quasilinear in money. Similarly, the payoff function of A is

$$u_A(t, a, y, \theta) = v_A(y, \theta) + 1_{\{a \neq P\}} t.$$

We assume that v_i is twice continuously differentiable in both arguments, strictly

¹¹Our results are qualitatively robust to other bargaining protocols, see Section 6 for a discussion.

concave in y with a unique maximizer in $y_i(\theta)$ for fixed θ , and

$$\frac{\partial^2}{\partial y \partial \theta} v_i(y, \theta) > 0,$$

such that $y_i(\theta)$ is continuous and strictly increasing in θ , for all $i \in \{P, A\}$. Finally, we assume $y_A(\theta) > y_P(\theta)$.

We will frequently consider utility functions where P and A suffer quadratic losses from deviations of the decision from their bliss point and a constant conflict of interest.

Example 1 (Quadratic loss with constant bias). *Suppose that*

$$v_P(y, \theta) = -\gamma_P(\theta - y)^2 \quad \text{and} \quad v_A(y, \theta) = -\gamma_A(\theta + b - y)^2,$$

such that $\gamma_P > 0$ and $\gamma_A > 0$ measure the importance of the decision relative to money for P and A , respectively, and $b > 0$ is a constant bias that captures the difference in preference between them. In particular, $y_A(\theta) = \theta + b > y_P(\theta) = \theta$.

To summarize, the timing of events is as follows:

1. Nature draws the state θ .
2. A proposes a centralization contract (C, t_C) and a delegation contract (D, t_D) .
3. P decides whether to accept one of the contracts, or to take the decision himself (i.e., no contract).
- 4a. A observes θ and then sends a cheap-talk message m to P if P has accepted the centralization contract.
- 4b. A observes θ and then takes the decision y if P has accepted the delegation contract.
5. P takes the decision y if he did not delegate authority to A .
6. Payoffs realize.

The solution concept we use is perfect Bayesian equilibrium.

3 Equilibrium analysis

We proceed backwards and first consider the decision-making stage. Second, we consider P 's contracting decision, and finally A 's pricing decision.

3.1 Decision-making stage

Suppose first that P has not accepted any contract proposed by A . Then he will decide with prior information only, i.e., implement $y_P^* = \operatorname{argmax}_y E[v_P(y, \theta)]$.

Second, suppose that P has accepted one of the contracts proposed by A , who is perfectly informed about θ . If P has retained authority, A communicates with him via cheap talk. It follows from Theorem 1 in Crawford and Sobel (1982) that equilibria are characterized by a partition of the state space Θ such that A communicates the partition element that contains the state θ . In particular, the set of actions which are induced in equilibrium is finite, while the decision is unbiased. We restrict attention to the equilibrium in which the largest number of distinct actions are induced. If P has delegated authority to A , the latter implements her bliss point, which yields a biased but informed decision.

Lemma 1. *Suppose that P has accepted a contract proposed by A .*

- (i) *Centralization yields an unbiased but noisy decision, i.e., $y_C^*(\theta) = \operatorname{argmax}_y E[v_P(y, \theta)|m]$ whenever θ induces the on-equilibrium message m .*
- (ii) *Delegation yields a biased decision $y_D^*(\theta) = y_A(\theta) \neq y_P(\theta)$.*

3.2 Contracting stage

Having determined behavior in the decision-making stage in Section 3.1, we now turn to the contracting decision. It will be useful to fix P 's outside option of not accepting a contract as the status quo. Then the ex ante expected *benefit* of $i \in \{P, A\}$ from contracting decision $a \in \{C, D, P\}$ (i.e., excluding transfers) *relative* to the outside option of no contract is given by

$$V_i^a \equiv E[v_i(y_a^*, \theta)] - E[v_i(y_P^*, \theta)].$$

Some remarks seem in order. First, we can also interpret the benefit V_i^a as i 's expected utility before transfers from contracting decision a after normalizing expected utility from the outside option to zero. In particular, by definition $V_i^P = 0$ for all $i \in \{P, A\}$. Second, if $V_i^a < 0$, then we refer to $-V_i^a$ as the *loss* of i from contracting decision a . Third, P 's benefit V_P^a from contracting decision $a \in \{C, D\}$ is a measure of the quality of A 's advice under a relative to his outside option, such that a high benefit is indicative of similar objectives.

By strict concavity of the players' benefit functions, both A and P are weakly better off with communication than under no contract, as it allows P to decide

with better information. Second, by Lemma 1, A benefits twofold from delegation. It allows A to implement her bliss point $y_A(\theta)$, a decision which is both better informed than the decision under centralization and in line with her preferences.

Lemma 2. (i) A and P obtain a non-negative benefit from centralization, $V_i^C \geq 0$ for $i = A, P$.

(ii) A obtains a strictly larger benefit from delegation than from centralization, $V_A^D > V_A^C$.

Before we proceed, we illustrate the benefits from each contracting decision in case of quadratic loss preferences with constant bias.

Example 2 (Quadratic loss with constant bias). Suppose that $v_P(y, \theta) = -\gamma_P(\theta - y)^2$ and $v_A(y, \theta) = -\gamma_A(\theta + b - y)^2$, with $\gamma_P > 0$, $\gamma_A > 0$, and $b > 0$. Let $\sigma_P^2 = \text{Var}(\theta)$ and $0 < \sigma_C^2 \leq \sigma_P^2$ denote the variance under the outside option and the expected residual variance under centralization, respectively. The benefits of P and A from centralization and delegation are given by

$$V_P^C = \gamma_P(\sigma_P^2 - \sigma_C^2) \text{ and } V_A^C = \gamma_A(\sigma_P^2 - \sigma_C^2)$$

and

$$V_P^D = \gamma_P(\sigma_P^2 - b^2) \text{ and } V_A^D = \gamma_A(\sigma_P^2 + b^2),$$

respectively. Indeed, given $\gamma_P > 0$, the benefit V_P^D of P from delegation is high if b is small, i.e., if objectives are roughly aligned. Under centralization, the same result obtains because roughly aligned objectives imply low residual variance from communication.¹²

Given contracts (C, t_C) and (D, t_D) , P will decide whether to accept one of the proposed contracts according to:

$$\max_{a \in \{C, D, P\}} V_P^a - 1_{\{a \neq P\}} t_a.$$

We henceforth ignore knife-edge cases in which P is indifferent between different contracting decisions.

¹²It follows from Lemma 6 and Theorems 3 and 4 in Crawford and Sobel (1982) that $\sigma_C^2 = \sigma_C^2(b)$ is weakly increasing in b , and the main result in Spector (2000) yields $\lim_{b \rightarrow 0} \sigma_{I,C}^2(b) = 0$.

3.3 Price-setting stage

We next determine the equilibrium transfers. First, A will set the transfer for the equilibrium contracting decision a such that P is indifferent between accepting the contract with A and deciding with prior information only, $t_a = V_P^a$. Second, participating in a contract must be incentive compatible for A relative to P 's outside option, which together with Lemma 2 yields:

Lemma 3. *In any equilibrium in which P accepts a*

(i) *centralization contract, we have $t_C^* = V_P^C \geq 0$;*

(ii) *delegation contract, we have $t_D^* = V_P^D \geq -V_A^D$.*

First, Lemma 3 shows that A completely extracts P 's benefit from any contractual arrangement.¹³ Second, A never offers P side payments for a contract under centralization, since P is weakly better off with centralization as compared to his outside option. Third, A may, however, compensate P for a loss under delegation since $V_A^D > 0$ (Lemma 2). In the context where P is a policy-maker, we can interpret such a compensation as quid-pro-quo lobbying, cf. Foerster and Habermacher (2025).

Since, by Lemma 3, A completely extracts P 's benefit from any contract, her payoff in this case equals the aggregate benefit $V_P^a + V_A^a$ relative to P 's outside option. Thus, A will set the transfers such that P 's equilibrium contracting decision maximizes the aggregate payoff:

Proposition 1. *Any equilibrium is such that*

(i) *P accepts a centralization contract (C, t_C^*) with associated transfer $t_C^* = V_P^C \geq 0$ if centralization maximizes the aggregate payoff, $V_P^C + V_A^C \geq V_P^D + V_A^D$;*

(ii) *P accepts a delegation contract (D, t_D^*) with associated transfer $t_D^* = V_P^D \geq -V_A^D$ if delegation maximizes the aggregate payoff, $V_P^D + V_A^D > V_P^C + V_A^C$.*

All equilibria are payoff-equivalent.

The proofs of Proposition 1 and subsequent results are relegated to Appendix A. Proposition 1 establishes that the equilibrium contract involves centralization or delegation if the respective mode of interaction maximizes the aggregate payoff.

¹³Note that A can completely extract P 's benefit because she sets the menu of transfers. We discuss alternatives to this approach in Section 6.

Note that although P never exercises his outside option of no contract with A , the latter is still important because it limits the transfer A can set. Regarding subsidiary-headquarters relationships, Proposition 1 implies that transfers incentivize the subsidiary to propose a governance structure that is efficient for the corporation as a whole. The following example illustrates our result. It shows that A compensates P for a loss in order to get the decision delegated when objectives differ substantially and A cares sufficiently about the decision.

Example 3 (Quadratic loss with constant bias). *Suppose that $v_P(y, \theta) = -\gamma_P(\theta - y)^2$ and $v_A(y, \theta) = -\gamma_A(\theta + b - y)^2$, with $\gamma_P > 0$, $\gamma_A > 0$, and $b > 0$. The equilibrium contract features delegation if A cares sufficiently about the decision,*

$$\gamma_A > \gamma_P \frac{b^2 - \sigma_C^2(b)}{b^2 + \sigma_C^2(b)}. \quad (2)$$

In this case, the associated transfer is such that A charges a fee if the conflict of interest is small relative to prior uncertainty, $b^2 \leq \sigma_P^2$; otherwise, A pays side payments to P to get the decision delegated. The equilibrium contract features centralization if (2) does not hold. Figure 1(a) illustrates the equilibrium contracting decision depending on γ_A and b for $F = \mathcal{U}(0, 1)$ and $\gamma_P = 1$. In this case, $\sigma_C^2(b) > b^2$ whenever $\sigma_C^2(b) < \sigma_P^2$, i.e., a delegation contract is optimal whenever centralization is informative. Thus, similar to D02, centralization occurs when it is not informative (see Figure 1(b)), but in our model with transfers it only does so when in addition A is not willing to compensate P for the loss of control.

4 The role of markets and efficiency

We next investigate the role of markets in our model. Suppose for the moment that transfers were not feasible. Dessein's results show that in this case P would, roughly speaking, choose delegation over centralization as long as the conflict of interest is not too large relative to A 's informational advantage. In our more general setup, we obtain $V_P^D > V_P^C$.

Now, allowing for transfers, we find that delegation becomes more attractive for P because A can compensate him for the loss of control. Since $V_A^D > V_A^C$ by Lemma 2 (ii), Proposition 1 yields the following result:

Corollary 1. *Introducing transfers changes the equilibrium contracting decision from centralization to delegation if*

$$V_P^D + V_A^D - V_A^C > V_P^C > V_P^D, \quad (3)$$

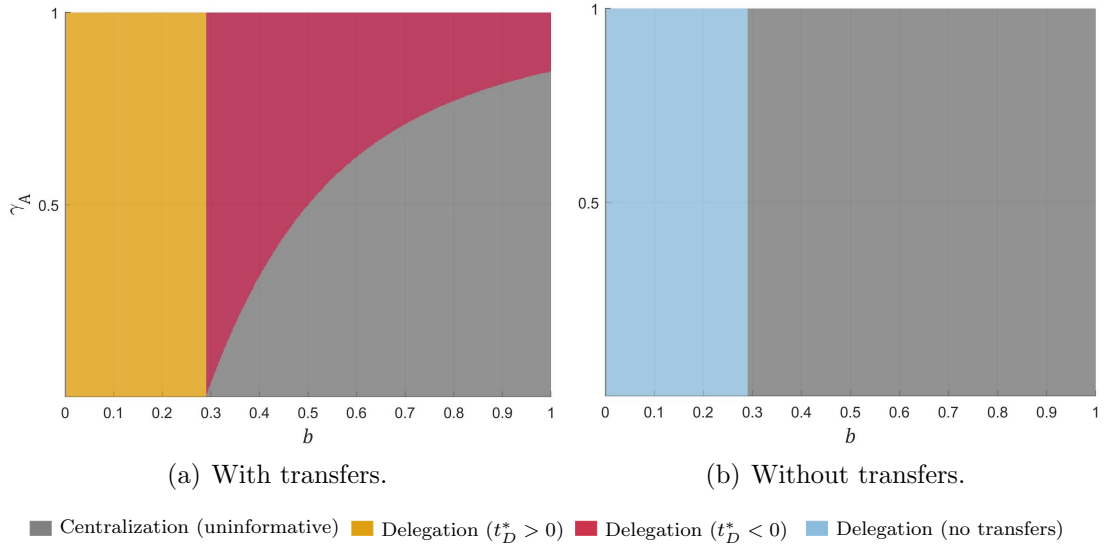


Figure 1: Equilibrium contracting decision depending on γ_A and b in our model (left) and in D02 (right) for $F = \mathcal{U}(0, 1)$ and $\gamma_P = 1$.

and does not change the equilibrium contracting decision otherwise.

Furthermore, the aggregate payoff being maximized in the equilibrium with transfers also means that transfers improve social welfare (in terms of total ex ante expected payoffs).

Corollary 2. *Introducing transfers (strictly) increases social welfare in equilibrium (if (3) holds).*

The following example illustrates our result in the setting of quadratic loss preferences with constant bias, which captures the intuitions from D02.

Example 4 (Quadratic loss with constant bias). *Suppose that $v_P(y, \theta) = -\gamma_P(\theta - y)^2$ and $v_A(y, \theta) = -\gamma_A(\theta + b - y)^2$, with $\gamma_P > 0$, $\gamma_A > 0$, and $b > 0$. Introducing transfers changes the equilibrium contracting decision from centralization to delegation and increases efficiency if*

$$b^2 > \sigma_C^2(b) \text{ and } \gamma_A > \gamma_P \frac{(b^2 - \sigma_C^2(b))}{b^2 + \sigma_C^2(b)}.$$

Transfers improve efficiency when objectives differ substantially, such that absent transfers P would centralize the decision, and A cares sufficiently about the decision, such that she is willing to compensate P for the loss of control. The

welfare gains are represented in Figure 1 by the red area in panel (a) where, absent transfers, P would retain control of the decision and decide without additional information, as illustrated in panel (b).

5 Optimal delegation

Given the prevalence of delegation over cheap-talk communication to seek advice in the presence of transfers, we now analyze the optimal delegation mechanism in this context. Specifically, we extend the baseline model by allowing A to design the delegation contract, which will consist of a delegation set and the associated transfer.

Assume that

$$v_P(y, \theta) = -\gamma_P(y_P(\theta) - y)^2 \quad \text{and} \quad v_A(y, \theta) = -\gamma_A(y_A(\theta) - y)^2,$$

such that $\gamma_P > 0$ and $\gamma_A > 0$ measure the importance of the decision relative to money for P and A , respectively, and both agents suffer quadratic losses from deviations of the decision from their bliss points $y_P(\theta)$ and $y_A(\theta)$, respectively. Recall that the bliss points are continuous and strictly increasing and such that $y_A(\theta) > y_P(\theta)$. As we will see, these preferences will allow us to apply the analysis in AM08.

In the first stage, A proposes a centralization contract (C, t_C) and a delegation contract $(D(Y), t_D)$ by choosing a transfer $t_C \in \mathbb{R}$ for the centralization contract and a delegation set $Y \in \mathcal{Y} = \{Y' \subseteq [y_A(0), y_A(1)] \mid Y' \text{ compact}\}$ and a transfer $t_D \in \mathbb{R}$ for the delegation contract. The delegation set Y describes the set of actions y which A is permitted to take if P accepts this contract, i.e., a commitment to take a decision $y \in Y$. Note that the baseline model assumes unrestricted delegation, i.e., $Y = [y_A(0), y_A(1)]$. In the second stage, P decides whether to accept one of the contracts or to take the decision himself based on prior information only (no contract), $a \in \{C, D(Y), P\}$.

If P has accepted one of the contracts, A observes the state θ and, then, sends a cheap-talk message $m \in \mathbb{R}$ to P under the centralization contract, $a = C$, and takes a decision $y \in Y$ under the delegation contract, $a = D(Y)$. In the last stage, P takes a decision $y \in \mathbb{R}$ if he did not delegate authority to A .

5.1 Equilibrium analysis

We proceed backwards and first consider the decision-making stage and then P 's contracting decision. Finally, we consider A 's choice of transfers and determine the optimal delegation set.

Recall from Section 3.1 that P implements $y_P^* = \operatorname{argmax}_y E[v_P(y, \theta)] = E[y_P(\theta)]$ if he has not accepted any contract. A centralization contract yields an unbiased but noisy decision (Lemma 1 (i)). Under a delegation contract, A maximizes her expected utility given the associated delegation set Y .

Lemma 4. *Suppose that P has accepted a delegation contract with associated delegation set $Y \in \mathcal{Y}$. Then A implements*

$$y_{D(Y)}^*(\theta) = \operatorname{argmax}_{y \in Y} v_A(y, \theta). \quad (4)$$

We now turn to the contracting decision. The ex-ante expected benefit of $i \in \{P, A\}$ from delegation with associated delegation set Y , $a = D(Y)$, relative to the outside option is given by

$$V_i^{D(Y)} \equiv E[v_i(y_{D(Y)}^*, \theta)] - E[v_i(y_P^*, \theta)].$$

Given contracts (C, t_C) and $(D(Y), t_D)$, P will decide whether to accept one of the proposed contracts according to:

$$\max_{a \in \{C, D(Y), P\}} V_P^a - 1_{\{a \neq P\}} t_a.$$

Finally, we turn to A 's choice of transfers and delegation set. As in the baseline model, A uses the transfer to set P indifferent between accepting a contract with her and deciding with prior information only (Lemma 3), i.e., given the delegation set Y we obtain $t_a^* = V_P^a$ for the equilibrium contracting decision $a \in \{C, D(Y)\}$. A 's payoff then is equal to the aggregate benefit $V_P^a + V_A^a$.

A will thus choose the delegation set Y as to maximize $V_P^{D(Y)} + V_A^{D(Y)}$. Note that this is a key difference to AM08, where P chooses Y as to maximize his own expected utility. As we will show next, we can nevertheless apply the machinery of AM08.

In a first step, we establish that delegation always yields a strictly larger aggregate payoff than the outside option of no contract. Let $v_\Sigma(y, \theta) \equiv v_P(y, \theta) + v_A(y, \theta)$ denote the aggregate benefit from decision y in state θ and note that $v_\Sigma(y, \theta)$ is

strictly concave in y with unique maximizer

$$y_\Sigma(\theta) \equiv \frac{\gamma_P y_P(\theta) + \gamma_A y_A(\theta)}{\gamma_P + \gamma_A}$$

for fixed θ . Hence, $y_\Sigma^* \equiv \operatorname{argmax}_y E[v_\Sigma(y, \theta)] > y_P^*$, which yields the desired result.

Lemma 5. $V_P^{D(\{y_\Sigma^*\})} + V_A^{D(\{y_\Sigma^*\})} > 0$.

In a second step, we establish that A 's preferences in choosing Y can be rewritten as a quadratic loss function with bliss point $y_\Sigma(\theta)$,

$$\tilde{v}_\Sigma(y, \theta) \equiv -(y_\Sigma(\theta) - y)^2.$$

Lemma 6. For any delegation sets $Y, Y' \in \mathcal{Y}$,

$$E[v_\Sigma(y_{D(Y)}^*, \theta)] \geq E[v_\Sigma(y_{D(Y')}^*, \theta)] \text{ if and only if } E[\tilde{v}_\Sigma(y_{D(Y)}^*, \theta)] \geq E[\tilde{v}_\Sigma(y_{D(Y')}^*, \theta)].$$

Taken together, Lemma 5 and 6 establish that, conditional on choosing the equilibrium transfer $t_{D(Y)}^* = V_P^{D(Y)}$, A 's contracting problem is equivalent to that of a principal with bliss point $y_\Sigma(\theta)$ and outside option y_Σ^* in AM08, i.e.,

$$\max_{Y \in \mathcal{Y}} E[\tilde{v}_\Sigma(y_{D(Y)}^*, \theta)], \tag{5}$$

where $y_{D(Y)}^*$ is given by (4). We can thus directly apply the machinery of AM08. Instead of P restricting A 's discretion, however, A in our model internalizes the effect of her choice on P *ex ante* due to transfers—i.e., behaves like a social planner would do—and may therefore restrict the discretion of her *interim* self, who would otherwise implement her own bliss point. Note that it follows immediately from Theorem 1 in Holmström (1984) that the contracting problem (5) has a solution.

We next introduce some of Alonso and Matouschek's notation and interpret it in our context. Fix any state θ . The *backward bias*

$$T(\theta) \equiv F(\theta) (y_A(\theta) - E[y_\Sigma(z) \mid z \leq \theta])$$

measures the difference between A 's preferred decision in state θ and the socially preferred decision conditional on the state being smaller than θ , weighted by the probability $F(\theta)$ that the state is indeed smaller than θ . Similarly, the *forward bias*

$$S(\theta) \equiv (1 - F(\theta)) (y_A(\theta) - E[y_\Sigma(z) \mid z \geq \theta])$$

measures the difference between A 's preferred decision in state θ and the socially preferred decision conditional on the state being bigger than θ , weighted by the probability $(1 - F(\theta))$ that the state is indeed bigger than θ .

Remark 1. Since $y_A(\theta) > y_\Sigma(\theta)$, the backward bias is positive, $T(\theta) > 0$ for all $\theta \in \Theta$.

Combining Remark 1 with Proposition 1 and 6 in AM08 yields conditions for interval delegation and commitment to the ex ante socially preferred decision to be optimal.

Proposition 2. In any equilibrium in which P accepts a delegation contract, the delegation set Y^* solves (5). In particular,

- (i) $Y^* = [y_A(0), y_A(\bar{\theta})]$ if and only if there exists $\bar{\theta} \in (0, 1)$ such that $S(\bar{\theta}) = 0$, $S(\theta) \geq 0$ for $\theta > \bar{\theta}$, and $S(\theta)$ is concave for all $\theta \in [0, \bar{\theta}]$.
- (ii) $Y^* = \{y_\Sigma^*\}$ if and only if $S(\theta) \geq 0$ for all $\theta \in \Theta$.

Note that the first condition in part (i) of Proposition 2 essentially requires objectives of the agent's interim and ex-ante self being sufficiently aligned (cf. AM08). In this case, allowing her interim self discretion up to an upper bound $y_A(\bar{\theta})$ is optimal. Otherwise, it is optimal to only allow the ex ante socially optimal decision. Note that the upper bound $y_A(\bar{\theta})$ is such that, conditional on $\theta \geq \bar{\theta}$, the conditional bliss point of the agent's ex-ante self coincides with the decision of her interim self. The following example illustrates the result.

Example 5 (Constant bias and uniform prior). Suppose that $y_A(\theta) = \theta + b > y_P(\theta) = \theta$ and $F = \mathcal{U}(0, 1)$. In this case $S(\theta)$ is concave, such that in any equilibrium in which P accepts a delegation contract,

- (i) $Y^* = \left[b, 1 + \frac{\gamma_A - \gamma_P}{\gamma_A + \gamma_P} b \right]$ if $b < \frac{\gamma_A + \gamma_P}{2\gamma_P}$,
- (ii) $Y^* = \left\{ \frac{1}{2} + \frac{\gamma_A}{\gamma_A + \gamma_P} b \right\}$ else.

Note that $\gamma_A \rightarrow 0$ leads to the canonical result in Melumad and Shibano (1991) (Proposition 3, see also AM08), where $y_A(\bar{\theta}) = 1 - b$ if $b < \frac{1}{2}$ and $Y^* = \{\frac{1}{2}\}$ otherwise, as the agent's ex-ante self then acts as the principal would do. Allowing for transfers thus enlarges the delegation set as well as the set of biases for which interval delegation is optimal in (i). Figure 2 illustrates the size $y_A(\bar{\theta}) - y_A(0) = 1 - \frac{2\gamma_P}{\gamma_A + \gamma_P} b$ of the delegation set depending on γ_A and b , for $\gamma_P = 1$. Note that the size of the delegation set is 1 under unrestricted delegation.

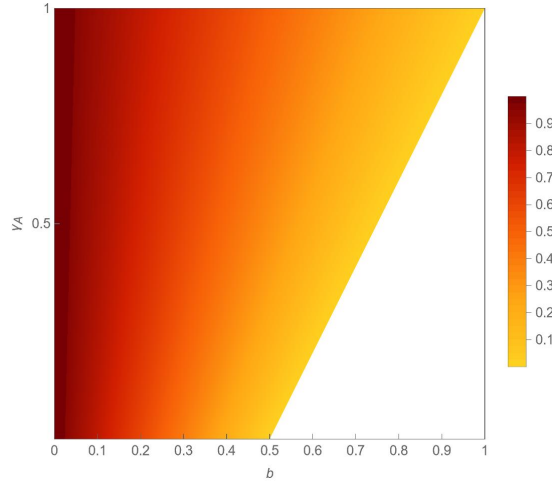


Figure 2: The size of the delegation set Y^* depending on γ_A and b for $\gamma_P = 1$ in Example 5 (i). The white area indicates the parameter range on which interval delegation is not optimal ($b \geq \frac{\gamma_A + 1}{2}$).

Before we proceed, we pause to show that the insight on the delegation set suggested by Example 5 holds more generally. Observe first that the delegation set $Y^* = [y_A(0), y_A(\bar{\theta})]$ under interval delegation (Proposition 2 (i)) enlarges as γ_A increases since $y_P(\theta) < y_A(\theta)$. Second, the delegation set in AM08, Y^{AM} , obtains as we let $\gamma_A \rightarrow 0$, implying that transfers yield a larger delegation set:

Corollary 3. *Suppose that there exists $\bar{\theta} \in (0, 1)$ such that $S(\bar{\theta}) = 0$, $S(\theta) \geq 0$ for $\theta > \bar{\theta}$, and $S(\theta)$ is concave for all $\theta \in [0, \bar{\theta}]$. Then $Y^* = [y_A(0), y_A(\bar{\theta})]$ and either $Y^* \supset Y^{AM}$ or $Y^{AM} = \{y_P^*\}$.*

Finally, using Proposition 2, we can generalize the equilibrium characterization in Proposition 1.

Proposition 3. *Any equilibrium is such that*

- (i) *P accepts a centralization contract (C, t_C^*) with associated transfer $t_C^* = V_P^C \geq 0$ if centralization maximizes the aggregate payoff, $V_P^C + V_A^C \geq V_P^{D(Y^*)} + V_A^{D(Y^*)}$;*
- (ii) *P accepts a delegation contract $(D(Y^*), t_D^*)$ with associated transfer $t_D^* = V_P^{D(Y^*)} \geq -V_A^{D(Y^*)}$ if delegation maximizes the aggregate payoff, $V_P^{D(Y^*)} + V_A^{D(Y^*)} > V_P^C + V_A^C$,*

where the delegation set Y^* is any solution to (5). All equilibria are payoff-equivalent.

One notable consequence of being able to optimally choose the delegation mechanism is that delegation is more prevalent but less intense in equilibrium, due to a higher aggregate payoff as compared to unrestricted delegation. A second consequence is higher transfers: Since A obtains a smaller benefit with optimal delegation as compared to unrestricted delegation, it follows that P must obtain a larger benefit, and thus that the transfer t_D^* is larger.

Third, centralization is less prevalent in equilibrium. Moreover, Lemma 5 implies that, different from our baseline model (cf. Example 3), it requires communication to be informative, as otherwise choosing the delegation set $Y = \{y_\Sigma^*\}$ —i.e., commitment to the ex ante socially preferred decision—yields a larger aggregate benefit.

Corollary 4. *In equilibrium, P accepts a centralization contract only if $V_P^C + V_A^C > 0$.*

The following example illustrates the results. Recall from Example 3 that centralization occurs in the uniform-quadratic setting only if it is uninformative. Corollary 4 then implies that it does not occur altogether with optimal delegation. Furthermore, the equilibrium transfer may surprisingly increase in the conflict of interest.

Example 6 (Constant bias and uniform prior). *Suppose that $y_A(\theta) = \theta + b > y_P(\theta) = \theta$ and $F = \mathcal{U}(0, 1)$. Any equilibrium is such that P accepts a delegation contract $(D(Y^*), t_D^*)$ with associated transfer*

$$t_D^* = V_P^{D(Y^*)} = \gamma_P \left(\frac{1}{12} - \left(1 - \frac{4\gamma_P^2(3\gamma_A + \gamma_P)}{3(\gamma_A + \gamma_P)^3} b \right) b^2 \right) \quad (6)$$

and delegation set $Y^* = \left[b, 1 + \frac{\gamma_A - \gamma_P}{\gamma_A + \gamma_P} b \right]$ if $b < \frac{\gamma_A + \gamma_P}{2\gamma_P}$. Otherwise, the equilibrium features a delegation contract $(D(Y^*), t_D^*)$ with associated transfer $t_D^* = -\gamma_P \left(\frac{\gamma_A}{\gamma_A + \gamma_P} b \right)^2 < 0$ and delegation set $Y^* = \left\{ \frac{1}{2} + \frac{\gamma_A}{\gamma_A + \gamma_P} b \right\}$. Surprisingly, (6) is strictly increasing in b on $\left(\frac{(\gamma_A + \gamma_P)^3}{2\gamma_P^2(3\gamma_A + \gamma_P)}, \frac{\gamma_A + \gamma_P}{2\gamma_P} \right)$ if $\gamma_P > \gamma_A$. In this case, the upper bound of the delegation set is decreasing in b , making the delegation set very sensitive to changes in the conflict of interest (cf. Figure 2). As a result, P 's benefit (and thus the transfer) may increase in the conflict of interest: The positive indirect effect from A 's discretion being reduced dominates the direct negative effect.

6 Discussion and conclusion

In this paper, we have revisited the trade-off between keeping authority and granting decision-making rights to an informed agent. The introduction of transfers allows the agent to either charge a fee for her services or offer the principal a side payment. Our results show that introducing transfers changes the contracting decision from centralization to delegation and improves efficiency if delegation maximizes the aggregate payoff but requires a side payment. We then introduced general delegation mechanisms and showed that the agent restricts the discretion of her *interim* self in equilibrium. Delegation is more prevalent but less intense with optimal delegation, such that centralization will occur only if it is informative. Notably, [Kolotilin and Zapechelnyuk \(2025\)](#) show in a recent paper that under standard assumptions, the delegation problem is equivalent to the persuasion problem in which the principal can restrict the agent’s information instead of her discretion. Applied to our context, their result implies that the agent would be willing to restrict the information of her interim self if possible.

Our results contribute to the debate over subsidiary governance in multinational corporations, showing how transfers can induce the parties to act in the organization’s interest. One of the big questions in the international business literature is how subsidiaries achieve *dual embeddedness*—i.e., building strong ties with local networks to tap into leading-edge knowledge and, at the same time, be integrated into the corporate network to transmit it effectively ([Meyer et al., 2020](#)). Our results imply that an efficient internal capital market will motivate subsidiaries to develop knowledge-based capabilities that maximize aggregate value: be it by focusing on the needs of a critical local market, or developing intangible assets that support sister units’ activities and, thus, contribute broadly to the parent company. Critical to this argument is our assumption that the effects of delegation on other business units are common knowledge, which underscores the importance that information about the business network has for headquarters’ efficient management of relationships between subsidiaries.

Relatedly, the literature on internal capital markets highlights that cross-subsidization can lead to inefficiencies driven by influence activities, particularly under conditions of asymmetric information ([Gertner and Scharfstein, 2013](#); [Sengul et al., 2019](#); [Malenko, 2024](#)). Divisional managers may distort internal capital allocation through lobbying or misrepresentation, reducing the overall efficiency of resource use ([Arnold et al., 2021](#)). In the context of our model, such inefficiencies could extend beyond capital allocation and affect the allocation of authority itself.

Our framework abstracts from these dynamics by assuming that transfers reflect informational advantage and surplus creation, but incorporating strategic influence over authority allocation would be a valuable direction for future research.

Modelling assumptions. We have assumed that the agent first commits to transfers and the principal then decides whether to accept one of the proposed contracts. This allows the agent to completely extract the principal’s benefit from any contractual arrangement relative to his outside option. Although we believe that this approach is rather natural and has already been used to analyze resource allocation among subunits in a firm (cf. [Baiman et al., 2007](#)), let us briefly discuss an alternative approach. Consider the baseline model and suppose that, instead, the principal commits to a menu of transfers and the agent then decides whether to accept. In this case, the principal can completely extract the agent’s benefit from the contractual arrangement, but the equilibrium contracting decision in terms of the allocation of authority remains unchanged. The same result would obtain if the transfer was determined through Nash bargaining.

Second, we have abstracted from alternative ways in which the principal may obtain information. Communication previous to the contracting decision is never optimal for the agent, as it would reduce her informational rents and thus lead to lower transfers. The principal could also acquire information himself in case he did not accept any contract proposed by the agent. This would reduce the agent’s informational advantage relative to the outside option of taking the decision without advice, strengthening the principal’s bargaining position. Similarly, he could acquire information after communication with the agent, which would result in a communication game with two-sided information à la [Moreno de Barreda \(2024\)](#). This may make centralization contracts relatively more attractive for the principal (when the decrease in residual variance dominates the extra costs of information acquisition) but would not change our results qualitatively.

Third, we have abstracted from competition between multiple experts/subunits. Subunits of multinational corporations tend to be specialized, monopolizing certain knowledge, so that for many decisions there will be a unique relevant subunit. Nonetheless, let us briefly discuss the insights on the effect of competition from our recent work on competition between multiple experts in a policy-advising market ([Foerster and Habermacher, 2025](#)). Therein, we show that competition leads to lower transfers and may induce an expert to offer side payments in order to prevent the principal from accepting another expert’s contract.

Fourth, we have assumed that the preferences of the agent and the principal

are common knowledge. If the agent (who chooses the menu of contracts) did not know whether her conflict of interest with the principal is small or large (say, the principal is either type $t = \bar{t} \in (0, 1)$ or type $t = 0$ and $y_A(\theta) = \theta + b > y_P(\theta, t) = \theta + tb$), then she could offer two screening contracts under optimal delegation, each maximizing the respective aggregate payoff. However, since the socially optimal delegation set gives too much discretion to the agent from the principal's point of view (cf. Example 5 (i)), the agent may have to charge the principal with whom she has a small conflict (type $t = \bar{t}$) a lower transfer compared to complete information in order to prevent him from choosing the other contract.

Fifth, we have assumed that the agent first commits to transfers and then learns the state θ . This assumption reflects that headquarters-subsidaries relationships in multinational corporations are complex and require long-term commitment (Lunnan et al., 2023). Nevertheless, let us briefly discuss a reversal of the order, such that the agent could condition her transfer on the state. Lim (2012) showed that in this case there are infinitely many equilibria, all dominated by a pooling equilibrium where all agent types post the same price. This price offer coincides with the transfer in our Example 3 when $\gamma_P = 1$ and delegation maximizes the aggregate payoff.

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References

Aghion, P. and J. Tirole (1997). Formal and real authority in organizations. *Journal of Political Economy* 105(1), 1–29.

- Alonso, R., W. Dessein, and N. Matouschek (2008). When does coordination require centralization? *American Economic Review* 98(1), 145–79.
- Alonso, R., W. Dessein, and N. Matouschek (2015). Organizing to adapt and compete. *American Economic Journal: Microeconomics* 7(2), 158–87.
- Alonso, R. and N. Matouschek (2008). Optimal delegation. *The Review of Economic Studies* 75(1), 259–293.
- Amador, M. and K. Bagwell (2013). The theory of optimal delegation with an application to tariff caps. *Econometrica* 81(4), 1541–1599.
- Argenziano, R., S. Severinov, and F. Squintani (2016). Strategic information acquisition and transmission. *American Economic Journal: Microeconomics* 8(3), 119–155.
- Arnold, M., F. Elsinger, and F. W. Rankin (2021). The unintended consequences of headquarters’ involvement in decentralized transfer price negotiations: Experimental evidence. *Management Science* 67(12), 7912–7931.
- Austen-Smith, D. (1998). Allocating access for information and contributions. *Journal of Law, Economics, and Organization* 14(2), 277–303.
- Baiman, S., P. Fischer, M. V. Rajan, and R. Saouma (2007). Resource allocation auctions within firms. *Journal of Accounting Research* 45(5), 915–946.
- Bester, H. (2009). Externalities, communication and the allocation of decision rights. *Economic Theory* 41(2), 269–296.
- Buchuk, D., B. Larrain, M. Prem, and F. Urzúa Infante (2020). How do internal capital markets work? evidence from the great recession. *Review of Finance* 24(4), 847–889.
- Ciabuschi, F., O. Martín Martín, and B. Ståhl (2010). Headquarters’ influence on knowledge transfer performance. *Management International Review* 50, 471–491.
- Cotton, C. (2012). Pay-to-play politics: Informational lobbying and contribution limits when money buys access. *Journal of Public Economics* 96(3-4), 369–386.
- Crawford, V. and J. Sobel (1982). Strategic information transmission. *Econometrica* 50(6), 1431–1451.

- Cuervo-Cazurra, A., R. Mudambi, and T. Pedersen (2019). Subsidiary power: Loaned or owned? the lenses of agency theory and resource dependence theory. *Global Strategy Journal* 9(4), 491–501.
- Deimen, I. and D. Szalay (2019). Delegated expertise, authority, and communication. *American Economic Review* 109(4), 1349–1374.
- Dellestrand, H., P. Kappen, and O. Lindahl (2020). Headquarter resource allocation strategies and subsidiary competitive or cooperative behavior: achieving a fit for value creation. *Journal of Organization Design* 9, 1–16.
- Dessein, W. (2002). Authority and communication in organizations. *The Review of Economic Studies* 69(4), 811–838.
- Dessein, W. and T. Santos (2006). Adaptive organizations. *Journal of Political Economy* 114(5), 956–995.
- Fischer, P. E. and P. C. Stocken (2001). Imperfect information and credible communication. *Journal of Accounting Research* 39(1), 119–134.
- Foerster, M. (2023). Strategic transmission of imperfect information: Why revealing evidence (without proof) is difficult. *International Journal of Game Theory* 52, 1291–1316.
- Foerster, M. and D. Habermacher (2024). Policy-advising competition and endogenous lobbies. SSRN working paper, March 2024.
- Foerster, M. and D. Habermacher (2025). Policy-advising competition and endogenous lobbies. *Journal of Public Economics* 245.
- Frydlinger, D., O. Hart, and K. Vitasek (2019). A new approach to contracts. *Harvard Business Review* 97(5), 116–126.
- Gertner, R. and D. Scharfstein (2013). Internal capital markets. In R. Gibbons and J. Roberts (Eds.), *Handbook of Organizational Economics*, pp. 655–697. Princeton University Press.
- Gibbons, R. (2020). Visible hands: governance of value creation—within firms and beyond. In *AEA Papers and Proceedings*, Volume 110, pp. 172–176.
- Gibbons, R. (2022). Deals that start when you sign them. *Journal of Institutional Economics* 18(2), 269–282.

- Gopalan, R., V. Nanda, and A. Seru (2014). Internal capital market and dividend policies: Evidence from business groups. *The Review of Financial Studies* 27(4), 1102–1142.
- Graham, J. R., C. R. Harvey, and M. Puri (2015). Capital allocation and delegation of decision-making authority within firms. *Journal of Financial Economics* 115(3), 449–470.
- Habermacher, D. (2025). Authority and specialization under informational interdependence. *The RAND Journal of Economics*, forthcoming.
- Hoang, D., S. Gatzert, and M. Ruckes (2024). The economics of capital allocation in firms: Evidence from internal capital markets. *Management Science*, 10.1287/mnsc.2021.02755.
- Holmström, B. (1984). On the theory of delegation. In M. Boyer and R. Kihlstrom (Eds.), *Bayesian models in economic theory*, pp. 115–141. New York: North-Holland.
- Holmstrom, B. and J. Tirole (1991). Transfer pricing and organizational form. *The Journal of Law, Economics, and Organization* 7(2), 201–228.
- Ivanov, M. (2010). Informational control and organizational design. *Journal of Economic Theory* 145, 721–751.
- Kolotilin, A. and A. Zapechelnyuk (2025). Persuasion meets delegation. *Econometrica* 93(1), 195–228.
- Krähmer, D. (2006). Message-contingent delegation. *Journal of Economic Behavior & Organization* 60(4), 490–506.
- Krishna, V. and J. Morgan (2008). Contracting for information under imperfect commitment. *The RAND Journal of Economics* 39(4), 905–925.
- Lim, W. (2012). Selling authority. *Journal of Economic Behavior & Organization* 84(1), 393–415.
- Lunnan, R., K. Meyer, R. Mudambi, and Q. Yang (2023). The impact of knowledge and financial resource flows for mne strategy: A typology of subsidiary roles. *International Business Review* 32(6), 102190.
- Magelssen, C., B. Rich, and K. Mayer (2022). The contractual governance of transactions within firms. *Organization Science* 33(6), 2226–2249.

- Malenko, N. (2024). Information flows, organizational structure, and corporate governance. In D. J. Denis (Ed.), *Handbook of Corporate Finance*, pp. 511–546. Edward Elgar Publishing.
- Matvos, G. and A. Seru (2014). Resource allocation within firms and financial market dislocation: Evidence from diversified conglomerates. *The Review of Financial Studies* 27(4), 1143–1189.
- Melumad, N. and T. Shibano (1991). Communication in settings with no transfers. *The RAND Journal of Economics*, 173–198.
- Meyer, K. E., C. Li, and A. P. Schotter (2020). Managing the mne subsidiary: Advancing a multi-level and dynamic research agenda. *Journal of International Business Studies* 51, 538–576.
- Moreno de Barreda, I. (2024). Cheap talk with two-sided private information. *Games and Economic Behavior* 148, 97–118.
- Persson, M. (2006). The impact of operational structure, lateral integrative mechanisms and control mechanisms on intra-mne knowledge transfer. *International Business Review* 15(5), 547–569.
- Rantakari, H. (2008). Governing adaptation. *The Review of Economic Studies* 75(4), 1257–1285.
- Sengul, M., A. A. Costa, and J. Gimeno (2019). The allocation of capital within firms. *Academy of Management Annals* 13(1), 43–83.
- Spector, D. (2000). Pure communication between agents with close preferences. *Economic Letters* 66(1), 171–178.

A Appendix: Proofs

Proof of Proposition 1. We first consider expert A and contract $a \in \{C, D\}$. Recall from Lemma 3 that the equilibrium transfer under contract a satisfies $t_a = V_P^a$, such that P is indifferent between the contract and his outside option. Incentive compatibility for A requires that she is at least as well off under the contract than with no contract:

$$t_a + V_A^a \geq 0 \Leftrightarrow V_P^a + V_A^a \geq 0. \quad (7)$$

Furthermore, A prefers contract a to contract $a' \in \{C, D\}$, $a' \neq a$, with transfer $t_{a'} = V_P^{a'}$ (the largest transfer such that P is willing to accept contract a' against the alternative of no contract) if

$$t_a + V_A^a \geq t_{a'} + V_A^{a'} \Leftrightarrow V_P^a + V_A^a \geq V_P^{a'} + V_A^{a'}. \quad (8)$$

Similarly, P prefers contract a to $a' \in \{C, D\}$, $a' \neq a$, with transfer $\hat{t}_{a'}$ if

$$-t_a + V_P^a \geq -\hat{t}_{a'} + V_P^{a'} \Leftrightarrow \hat{t}_{a'} \geq V_P^{a'}. \quad (9)$$

Thus, P accepts contract a if (7) and (8) hold, i.e., $V_P^a + V_A^a = \max_{a'} V_P^{a'} + V_A^{a'}$, with transfers $t_a^* = V_P^a$ and $t_{a'}^* = \hat{t}_{a'}$ such that (9) holds. Since $V_P^C + V_A^C \geq 0$ by Lemma 2, it is always optimal for P to participate in a contract. Finally, note that there are multiple equilibria for each choice of P but that all equilibrium price menus yield the same payoffs. Furthermore, whenever A is indifferent between two equilibria that differ in P 's choice, then so is P . $\square$

Proof of Lemma 6. For any actions $y_1, y_2 \in \mathbb{R}$, we have

$$\begin{aligned} & v_\Sigma(y_1, \theta) - v_\Sigma(y_2, \theta) \\ &= v_P(y_1, \theta) + v_A(y_1, \theta) - v_P(y_2, \theta) - v_A(y_2, \theta) \\ &= -\gamma_P(y_P(\theta) - y_1)^2 - \gamma_A(y_A(\theta) - y_1)^2 + \gamma_P(y_P(\theta) - y_2)^2 + \gamma_A(y_A(\theta) - y_2)^2 \\ &= (\gamma_P + \gamma_A)(y_2^2 - y_1^2) + 2y_1(\gamma_P y_P(\theta) + \gamma_A y_A(\theta)) - 2y_2(\gamma_P y_P(\theta) + \gamma_A y_A(\theta)) \\ &= (\gamma_P + \gamma_A)(y_2^2 - y_1^2 + 2y_1 y_\Sigma(\theta) - 2y_2 y_\Sigma(\theta)) \\ &= (\gamma_P + \gamma_A)(\tilde{v}_\Sigma(y_1, \theta) - \tilde{v}_\Sigma(y_2, \theta)). \end{aligned}$$

Thus, for any delegation sets $Y, Y' \in \mathcal{Y}$,

$$\begin{aligned} E[v_\Sigma(y_{D(Y)}^*, \theta)] &\geq E[v_\Sigma(y_{D(Y')}^*, \theta)] \Leftrightarrow (\gamma_P + \gamma_A)E[(\tilde{v}_\Sigma(y_{D(Y)}^*, \theta) - \tilde{v}_\Sigma(y_{D(Y')}^*, \theta))] \geq 0 \\ &\Leftrightarrow E[\tilde{v}_\Sigma(y_{D(Y)}^*, \theta)] \geq E[\tilde{v}_\Sigma(y_{D(Y')}^*, \theta)]. \end{aligned}$$

$\square$