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Monitoring a common agent: Implications for financial contracting

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Abstract

Multiple principals want to obtain income from a privately informed agent and design their contracts non-cooperatively. The degree of coordination between principals shapes the contracts and affects the amount of monitoring. Equity-like contracts and excessive monitoring emerge when principals coordinate or verify each other's monitoring efforts. When this is not possible, free riding weakens monitoring incentives, so that flat payments, debt-like contracts, and very low levels of monitoring appear. Free riding may be so strong to induce even less monitoring than if the principals cooperated with each other; that is, non-cooperative monitoring does not necessarily lead to excessive monitoring.

JEL classification: D2; D8; G2; G3

Keywords: Monitoring; Common agency; Costly state verification

1. Introduction

It is not uncommon to find situations where several principals monitor a common agent: a worker may have multiple supervisors, a bank may have multiple regulators, a firm may borrow from different banks, and individuals are taxed by multiple authorities. Our focus here is on contexts where multiple principals attempt to obtain income from a privately informed agent, such as in the case of multiple financiers. While this problem of costly repayment enforcement

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has been widely studied in the case of one principal and one agent, [1] little attention has been paid so far to the strategic interactions between multiple principals arising in those environments.

Consider the case of multiple financiers engaged in an income division game with a common agent. In our model, principals can use two instruments to extract the returns of a project. They can monitor the agent and they can demand a transfer from the agent. Monitoring comprises all the costly instruments aimed at verifying and obtaining income from the agent once it is realized, like certification of balance sheets, supervision, shareholders' legal actions, etc. When coordination problems between principals are not severe so that monitoring can be centralized, there is excessive monitoring compared to when the financiers cooperate, and profit-sharing schemes (or equity-like contracts) are optimal. If coordination problems are severe such that financiers choose their monitoring efforts independently, free riding in monitoring efforts reduces the incentive to monitor and it is optimal not to monitor high profit levels. That is, the repayment is non-contingent on profit when profit levels are high and contracts have debt-like features. Furthermore, free riding may be so strong that there may even be less monitoring compared to when the financiers fully cooperate and merge as one. Therefore, we show that non-cooperative contracting does not necessarily lead to excessive monitoring.

In some environments, monitoring activities are coordinated, while in others they are not. For example, in publicly traded companies there are many providers of funds and there might also be different classes of security holders, but there is also in place a set of rules and institutions (auditors, bankruptcy courts, disclosure rules) aimed at guaranteeing coordinated access to profits and information to all outside providers of funds. In these environments each principal or financier can demand potentially different transfers from the entrepreneur or agent but there is still a centralized governance mechanism that limits the amount of income an agent can retain by monitoring on behalf of all financiers. On the other hand, situations also abound where no common institution can be constructed to extract the returns of the project. This is the case when the activity is too idiosyncratic and information sensitive (e.g., at the early stages of a company's development). Also, in privately held companies or when the financiers provide large amounts of funds, each has the incentive and the skills to independently affect the extraction of income both through monitoring and through the transfers. [2]

To present the intuition behind our main results, we take as a benchmark the *merged* principals case where the principals can coordinate both monitoring and contracting. Consider then an environment where principals are able to verify each other's monitoring efforts, so that monitoring can be coordinated or *centralized*, but each financier can demand potentially different transfers from the entrepreneur. For instance, each financier may independently arrange for private transfers based on the information revealed by a central monitor. We find that there will be greater monitoring and rent extraction than if the principals merged together. This happens even though monitoring results in a public good—its benefit is shared by the principals. Each principal derives a positive externality from the others' contracts, which negates the public good problem. Roughly, by decreasing the repayment he requests from the agent and relying more on direct monitoring, a given principal attempts to induce other principals to believe that profit is low and to reduce the repayments they respectively ask for.

If the principals do not cooperate in monitoring and choose their efforts independently, we say monitoring is *decentralized*. In this case, there is free riding in monitoring efforts and, consequently, the positive externality from the other principals' contracts is now counteracted by a

[1] See, for example, the classic pieces Townsend [39], Gale and Hellwig [13], and Border and Sobel [6].

[2] See, for example, Schleifer and Vishny [34] and Pagano and Röell [27].