Auditing the Intermediary*

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Extended Abstract

It has been a common understanding since Williamson (1967) that vertical hierarchies are affected by a loss of control that follows from to the vertical distance between the tiers. Since Calvo and Wellisz (1978), the literature on supervision in organizations has so far characterized numerous contractual benchmarks, including the treatment of collusion and supervision that started with Tirole (1986). More generally, this literature shows that that vertical hierarchies trade off the loss of control that arises through adding an additional layer with the gain from specialization.[1]

Different from models on supervision and collusion in which a third player (intermediary, supervisor) functions as a monitor only, the literature on delegated contracting has given this third player a subcontracting task, with the goal to directly explain diseconomies of scale that now arise from this contracting power (McAfee and McMillan, 1995).

Faure-Grimaud and Martimort (2001) (FGM hereafter) in a setting with an intermediary hiring productive agent who can be of three types, have shown that having the intermediary in the regime leads to additional distortions in the optimal screening contract in an adverse selection framework. Their main finding is that the top principal, when having no access to the productive agent, needs to pay the intermediary an information rent to reach delegation proofness. Specifically, in FGM, the intermediary can gamble and forward a shut-down contract and so pocket the information rent designed for the efficient type, with some positive probability. When he is unlucky and the intermediate type of agent receives the offer, he can misreport the type to the top principal. The loss of control then reduces to an information rent included in the contract design.

In Gick (2008) I have extended the FGM setting and identified a new form of auditing that the top principal can use when delegating the offer of a Baron-Myerson style subcontract to an intermediary. I have shown that the information structure gives the principal some leeway to conduct an audit after

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[1]See e.g. Faure-Grimaud, Laffont and Martimort (2003).

particular report of the intermediary, and that this generally reduces the loss of control in the vertical hierarchy, even if the intermediary is risk averse.

This paper aims at generalizing the setting and to go beyond the discrete three-player setting proposed by FGM, this paper offers an analysis with a continuum of types of the downstream agent, together with a nested information structure for the intermediary. Different from FGM, the intermediary is not hired because of being able to costlessly observe the most inefficient type of agent to whom he should not anyway offer no contract. Instead, we permit a more flexible information structure in which the intermediary observes a partition of the type space $[\tilde{\theta}, \overline{\theta}]$.

The preliminary findings of this paper are the following.

• The principal can always implement an auditing scheme that reduces the information rent of the intermediary significantly. This also holds for a continuum of agent types.

• Auditing has a direct effect on the contracting scheme in that it permits the principal to delegate a contract offer to more inefficient agent types. That is, auditing has a direct impact on allocative efficiency.

• To hire an informed intermediary is a mixed blessing. For the type range observed by the intermediary that falls into the contracting range, there is always the threat of collusion in that the informed intermediary can offer a side-contract to the agent, with both players jointly modifying the result. In discussing this option, the paper also bridges the gap to the literature on collusion and supervision.

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