Monitoring Agents With Other Agents

Comment

by

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When reading Varian's papers, one cannot help but admire how he proves, in a few lines, results that require pages for most others. This ability makes for densely packed papers and indeed, the piece at hand (VARIAN [1990]) contains results about four different versions of the principal-agent model.

First, Varian offers several comparative static results on the usual principal-agent model. Second, Varian considers the possibility of mutual insurance among agents in two different cases.

The third result pertains to an adverse selection model in which the agents are hypothesized to be able to identify each other's types at lower cost than the principal. It is shown how a particular incentive scheme allows the principal to take advantage of this. The result is illustrated by reference to some banking practices in Bangladesh, but also fits quite nicely the German case described by Bonus and Schmidt elsewhere in this issue. (Indeed, it fits so well that it would be interesting to try to explain the institutional differences.) The intuition has surface validity beyond the banking sector. For example, in multilevel hierarchies, low level employees are often selected by their immediate supervisor who, in turn, is partially responsible for their performance. Another piece of supporting evidence may be that the management literature holds as a standard proposition that middle managers should have "people skills" (KATZ [1974]).

The fourth and final model is concerned with inter-agent transmittal of technological information. Varian continues the banking application and demonstrates the advantages of sequential lending arrangements. In general, the result is obtained because an individual agent's compensation is made to depend on the vector of outputs by other agents. So the time structure used in the paper is inessential. This argument also has considerable surface validity beyond the setting chosen in the paper. For example it is common that employees who provide on-the-job training are in part rewarded based on the performance of their trainees. In this interpretation, the result is again broadly consistent with the management literature.

While it is cast in the setting of a few specific institutions from cultures other than ours, I believe that this paper has much more general interest in at least two directions. First, it is obviously a contribution to the (very sparse) literature

on internal organization. Second, it has comparative institutional implications. Since the former perspective is stressed in the paper I will here focus on the latter, discussing both the present paper and multi-agent models in general.

Both the last two results, as well as those in the paper by Holmstrom and Milgrom, provide some rationale for economies of scale. They show how principals with multiple agents may achieve higher average performance than principals with only one agent. Relatedly, the results in question portray the principal-agent setting as a solution to various information problems. While I do not subscribe to the idea in general, it seems reasonable to define firms as principal-agent relationships within these models. Accordingly, the results can be interpreted as suggesting that firms gain in relative efficiency as the number of players increase.

However, the deck is stacked in a way that makes this misleading. Because the principal has the option to disregard cross-agent effects, productivity with multiple agents will always weakly dominate productivity with individual agents in such models. In order to make a comparative institutional prediction about the effect of increasing the number of players, one should look at the analog effects in some model of markets.

Concerning this, I conjecture that the information problems in Varian's paper can be solved more efficiently in larger than in smaller markets and that this effect generally will be stronger than those described in the paper. My argument is that type identification specialists (credit bureaus) as well as technology sellers (schools) operate very inefficiently at small scale. If this conjecture is correct, then the "market solution" should be favored as more and more players participate in the games. The fact that the banking practices described in the paper are not used in today's Western world could be taken as anecdotal support of this position.

My final point is directed toward the general research strategy exemplified by this paper. Since institutional economics is concerned with the comparison of alternatives, of which at most one is observed in a given example, it is important to look at a wide range of cases. By going outside our own culture, we have a chance to observe the implications of very different underlying conditions. This should help us identify the critical variables.

References

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