

“Essays on the effects of organizational form on organizational performance”

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My thesis analyzes some mechanisms by which organizational form affect specific measures of organizational performance. Organizational form is conceptualized as the set of reporting relationships between managers (Simon 1947), and organizational performance is measured as Type I and II errors (omission and commission errors, respectively), innovativeness, and speed.

My research tackles the problem from theoretical and empirical perspectives. From the theoretical standpoint, I develop a closed-form mathematical model that conceptualizes organizations as graphs, which allows to explore a broad range of decision-making organizational forms that lie between the hierarchy and the polyarchy (stylized hierarchical and flat organizational forms, respectively, first studied by Sah and Stiglitz 1986). The model adds realism to the work of Sah and Stiglitz by extending it from 2 to N individuals, allowing for more complex reporting relationships, and predicting not only Type I and II errors, but innovativeness, speed, and expected profits. The model has far reaching implications, as all organizations have to decide which organizational form they will adopt. One important result is that not all organizations are efficient; some organizational forms should always be preferred over others, leading to the existence of “an efficient frontier in organization design.” Some implications of the model are discussed in light of the organization design and the innovation literature.

The empirical part of my thesis, tests the predictions of the model using 150,000 stock-picking decisions made by 550 mutual funds during two and a half years. Mutual funds offer an ideal and rare setting to test the theory because as funds are heavily scrutinized, very detailed records exist on the projects they face (possible investments), the decisions they make or do not make (buying or not buying each of these possible investments), and the outcomes of these decisions (the ex-post return of having bought or missed a given investment). The independent variable of the study, the organizational form of each mutual fund, is coded from fund management descriptions made by Morningstar. The main dependent variables of the study, Type I and II errors made by each fund, are computed by a novel technique that uses bootstrapping to accurately infer the probability distribution of errors and use it to compute the probability that a fund buys fewer good assets (Type I error) or more bad assets (Type II error).

References

Sah, R. K. and J. E. Stiglitz (1986): “The architecture of economic systems: Hierarchies and polyarchies,” *American Economic Review*, 76, 716–727.

Simon, H. A. (1947/1997): *Administrative behavior*, New York, NY: Free Press, 4th. ed.