Abstract

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"Essays on Corporate Governance, Managerial Incentives, and Crowdfunding"

Corporate governance attracted much attention after the corporate failures of Enron, WorldCom, and others, and was again at the center of debate after the financial crisis in 2008. In response, regulations such as Sarbanes-Oxley (SOX) Act and Dodd-Frank Wall Street Reform and Consumer Protection Act were enacted to protect investors by mandating requirements for board composition and executive compensation. On the other hand, to alleviate financing constraints for business development and expand investment opportunities to retail investors, the Jumpstart Our Business Startups (JOBS) Act legalizes crowdfunding by authorizing U.S. Securities and Exchange Commission (SEC)-approved portals for companies to seek funding from anyone. My dissertation aims at studying the incentive issues, especially how regulations might affect the strategic interaction between managers, directors, and shareholders (including crowdfunders).

In the first chapter, titled "Nominal versus Real Board Independence: The Impact of Director Tenure," (joint work with Jonathan Glover and Carlos Corona), we investigate whether a regulation that mandates a greater proportion of outside directors on the board results in a more independent board. We find that the higher the nominal independence level of the board, that is, the higher fraction of outside directors, the more reluctant the CEO is to replace the existing directors. The resultant longer tenures of outside directors make the CEO even less willing to replace them, which causes lower real independence. Regulations that mandate higher nominal independence can have the unintended consequence that they lower both the real independence and the expertise of the board of directors in the long run.

In the second chapter, titled "Compensation Duration, Shareholder Governance, and Managerial Short-termism," I investigate the interaction between the duration of executive compensation and shareholder governance. I show that short-term compensation can elicit shareholder intervention and thus enhance firm value. The central mechanism is that the use of short-term incentives enables informed incumbent shareholders to commit to using their private information to intervene (voice) instead of selling their shares (exit). Without a commitment to voice, incumbent shareholders might find, ex post, that exit is more appealing than voice if they privately observe that a firm's type is bad. Short-term incentives encourage a good firm to take actions that reveal its type early on. This, in turn, reduces the information advantage of the incumbent

shareholders and their ability to profit from exit. Effectively, short-term compensation serves as a commitment device for value-enhancing intervention.

In the third chapter, titled "A Crowdfunding Model for Green Energy Investment," (joint work with Ying Xu, Nilanjan Chakraborty, and Katia Sycara), we study a new renewable energy investment model through crowdfunding, which is motivated by emerging community solar farms. In this paper we develop a sequential game theory model to capture the interactions among crowdfunders, the solar farm owner, and an electricity company who purchases renewable energy generated by the solar farm in a multi-period framework. By characterizing the sub-game perfect equilibrium, and comparing it with a benchmark model without crowdfunding, we find that under crowdfunding although the farm owner lowers its investment, the overall green energy investment level is increased due to the contribution of crowdfunders. We also find that crowdfunding can increase the penetration of green energy in consumption and thus reduce the energy procurement cost of the electricity company. Finally, the numerical results based on real data indicates crowdfunding is a simple but effective way to boost green generation.