# Research Statement

Ping Liu

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My research studies various empirical and theoretical aspects of corporate finance. Specifically, I focus on the incentives faced by self-motivated individuals and firms and the impacts of those incentives on individuals' and firms' real decisions and the aggregates of our economy. In my job market paper, I use advanced mathematical tools to build a theoretical framework to model the individual firm's capital structure decisions faced with incentives created by frictional labor market search and wage bargaining with workers, and examine how these decisions affect the employment outcomes in the economy. I am also interested in uncovering hidden regularities behind various players' behavior in financial markets, such as CEOs and stock analysts, and try to understand the economic forces driving those regularities. To ensure a causal relationship, I use econometric models to rule out spurious correlations, with the help of carefully designed empirical settings and customized datasets.

My job market paper, titled "A General Equilibrium Model of Capital Structure under Labor Market Search", develops a unified general equilibrium framework examining the joint relationships between employment outcomes and firm capital structure in an economy featuring two-sided labor market search frictions. The wage bargaining and search frictions create two opposite incentives for the employers' optimal capital structure choice: The workers' bargaining power creates an incentive for the employers to use leverage[1], while the employees' unemployment risk creates disincentive for employers to use leverage[2]. Consistent with these empirical findings, I find that the optimal leverage in my model increases with the workers bargaining power, and decreases with the labor market search inefficiencies. The individual firms' optimal capital structure decisions provide a novel channel through which the workers' bargaining power and search frictions affects the labor market outcomes. For example, in the presence of optimal leverage adjustment, labor market efficiency affects the wage of the new hires in a modest

[1] For example, Bronars and Deere (1991); Matsa (2010).
[2] For example, Agrawal and Matsa (2013); Chemmanur, Cheng and Zhang (2013)

and non-monotonic way. Moreover, incorporating the labor market incentives offers novel explanations for the empirical dynamics between economic volatility and the firms' optimal capital structures as well as labor market outcomes: most prominently, both firm leverage and the labor market participation rate climb up during turbulent economic times. This research offers an alternative explanation for the aggregate impacts of economic volatilities, from a labor market search perspective. This paper exemplifies the power of incorporating previously overlooked incentives to classic economic models in generating innovative and influential explanations for observed economic patterns.

Another paper, titled "The Contract Year Phenomenon in the Corner Office: An Analysis of Firm Behavior During CEO Contract Renewals" (written with Yuhai Xuan and presented in AFA 2016), examine the incentives created by fixed-term CEO employment contracts. Many CEOs of corporate America have fixed-term contracts that are subject to renew at the end of the term. The contract ending years are predetermined at the time when the contracts are signed, often several years prior, thus providing an ideal laboratory for examinations of the causal relationship from contract terms to CEOs' induced behavior. Employment contract expiration creates an opportunity for a CEO to renegotiate and improve contract terms in the new agreement but at the same time exposes the CEO to the heightened risk of job termination. These career-related incentives in turn create an urge of the CEOs to impress and influence the board of directors and shareholders in the performance evaluation process, in order to get his tenure renewed and contract terms improved in the new employment agreement. The career-related incentive leads to two induced behaviors of "expiring CEOs". On one hand, the impending expiration of fixed-term employment contracts creates incentives for CEOs to engage in strategic window-dressing activities, primarily managing earnings to meet salient benchmarks, such as analyst consensus forecasts. On the other hand, the upcoming contract expiration and renewal can also have disciplinary effects on potential value-destroying behaviors of CEOs, indicated by better acquisition performance. These opportunistic behaviors do pay off, in the sense that CEOs who engage in manipulation during contract renewal obtain better employment terms in their new contracts. This paper demonstrates the importance of providing proper managerial incentives. The contract terms create powerful incentives for the CEOs to take drastic corporate actions.

My other paper, titled "Horse picker or right jockey? An examination of private equity value creation through the lens of withdrawn leveraged buyouts", is motivated by exponential growth in the private equity industry and controversies surrounding them. Are the existing private equity market and regulations create proper incentives for private equity investors to boost the overall efficiency of the economy? Critics call private equity as financial alchemists who buy undervalued companies, rejigger their balance sheets and sell them for quick gain, while praisers call them as "white knights" that restructure the troubled company and make successful turnarounds. Any rigorous examinations of these two competing claims must pay extra attention in finding the suitable control group, to avoid the "comparison between apples and oranges". This paper examines the consequences of leveraged buyout (LBO) transactions through the lens of subsequently withdrawn transactions. I overcome the endogenous withdrawal decision using two methods: First, I hand-collect the reason for LBO withdrawal and exclude all the withdrawals related to the adverse changes of target firm fundamentals after deal announcements. Moreover, based on the observation that most LBO deals are backed by high-yield bonds, I use the high-yield interest movements during the period when the deal is in play, as an instrument for deal withdrawals. I find that target firms of failed LBO transactions experience upward revaluation by the stock market, indicating that private equity investors are able to identify undervalued firms in the stock market. Second, I document improvements in operating performance of firms after LBO transactions compared to target firms that fail to go through the LBO process. Moreover, private equity investors adjust the capital structure and governance structure of target firms to improve the target performance. Overall, the evidence suggests that the existing mechanism creates proper incentives for private equity investors. They create value for their investors by exploiting the undervaluation of target firms, and also by improving their operational performance and financial structure.

My last research along this line, titled "The Client is King: Do Mutual Fund Relationships Bias Analyst Recommendations?" (written with Michael Firth, Chen Lin and Yuhai Xuan, published in Journal of Accounting Research) focus on the incentive problems amongst a different group of players in financial markets, sell-side analysts. It is well-known that trading commissions from mutual funds comprise a large share of revenues of brokerage firms. This business ties between mutual funds and brokerage firms might create perverse incentive for the analysts to bragging the

stocks heavily held by their mutual fund clients. Data on mutual fund commissions posit a major challenge for this research. We overcome the data restriction by using a unique data set that discloses brokerage firms' commission income derived from each mutual fund client as well as the shareholdings of these mutual funds. We find that an analyst's recommendation on a stock relative to consensus is significantly higher if the stock is held by the mutual fund clients of the analyst's brokerage firm. This favorable recommendation bias towards a client's existing portfolio stocks is mitigated if the stock in question is highly visible to other mutual fund investors. Abnormal stock returns are significantly greater both for the announcement period and in the long run for favorable stock recommendations from analysts not subject to client pressure than for equally favorable recommendations from business-related analysts. In additions, we find that analysts are significantly less likely to downgrade a stock held by client mutual funds. Mutual funds increase their holdings in a stock that receives a favorable recommendation but this impact is significantly reduced if the recommendation comes from analysts subjected to client pressure. Overall, we confirm the existing business practice between mutual funds and brokerage firms undermine the integrity of sell-side analyst research. Since analyst reports constitute an important source for disseminating information to general investment public, our findings question the efficiency of stock market in the presence of inappropriate incentives for information intermediaries.

My other work complements the examination of incentives by exploiting the information flows among players in the financial markets. In "Exploring the Midas Touch: Investment Bank Connections and Mutual Fund Returns" (work-in-progress with Mo Liang and presented in Illinois Brownbag), We use social networks to identify information transfer in security markets. We focus on connections between mutual fund managers and investment banks via managers' past working experience. We find mutual fund managers show significant stock picking skills on firms which are the long-term clients of the investment banks for which the managers formerly work. Managers perform significantly better on connected holdings relative to non-connected holdings. A replicating portfolio of connected stocks outperforms a replicating portfolio of non-connected stocks by approximately 7.4% per annum. We also compare the stock performance before and after two network-break events (firm switching investment bank and Lehman's collapse) and we find that managers' stock picking skills disappear when connections break. The results are

consistent with mutual fund managers gaining an informational advantage through the social networks.

In sum, I believe that incentives play important roles in shaping the financial market. Many empirically puzzling facts are less perplexing once we carefully consider the incentives of the players. As financial market becomes increasingly complex, identifying new forms of incentives and evaluating the real effect and aggregate consequences of them will advance our profession and promote overall welfare of the society.

**References**

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