How does Soft Information Affect External Firm Financing? Evidence from Online Employee Ratings

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Abstract

We analyze the effects of equity market investors having access to soft information, such as employee ratings of firms, on their external financing and investment policies. We develop testable hypotheses using a theoretical framework in which the insiders of a firm have private information about its intrinsic value, but where outsiders have access to soft information signals imperfectly correlated with this intrinsic firm value. We test these hypotheses using a large sample of around 1.1 million employee ratings from the Glassdoor website covering a sample of 2842 public firms during 2008 to 2017. We find that firms with higher average employee rating realizations are associated with algebraically greater abnormal stock returns upon an equity issue announcement; a greater propensity to have positive abnormal stock returns upon such an announcement; a greater propensity to choose equity over debt to raise external financing; higher annual investment expenditures; greater participation by institutional investors in their seasoned equity offerings (SEOs); and better long-run post-SEO operating performance. Our identification strategy relies on the variation across U.S. states in laws protecting the First Amendment Rights of citizens (anti-SLAPP laws).

Keywords: Seasoned Equity Offerings (SEOs); Soft Information; Employee Ratings

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Research Objectives

It has long been well known that the information environment of a firm affects its corporate financial policies: see, e.g., Ross (1977) and Myers and Majluf (1984), who analyze the effect of private information on corporate capital structure; and John and Williams (1984) and Miller and Rock (1984), who analyze the effect of insider private information on corporate dividend policy. However, in recent years there has been significant changes in the information environment facing firms. In particular, the explosive growth in computing power in recent years, and the reduction in the costs of disseminating economically relevant information due to the widespread use of the internet has significantly enhanced the ability of investors to produce and transmit information useful for valuing firms' equity and for evaluating firms' financial policies. To give one example, there have been several internet sites that allow firm employees to rate firm management, its work culture, its compensation schemes, as well as its overall future prospects. While it is difficult to argue that such ratings reduce the information asymmetry facing firms in the equity market (since the employees giving the ratings involved may not be senior officers of these firms), such ratings may be taken into account by equity market investors when valuing firms' equity. These ratings by outsiders can therefore be viewed as "soft information" affecting firms' equity values and potentially their financial policies.[1] However, there has been no empirical analysis in the literature so far analyzing how the existence of such soft information in the economy affects the financial policies of firms. The objective of this paper is to fill this gap in the literature by analyzing the effect of soft information (such as that contained in the employee ratings of firms) on their financial and investment policies.

Myers and Majluf (1984) shows that in presence of information asymmetry between firm insiders and outside investors, high type firms do not issue equity to raise finance for undertaking positive net present value (NPV) projects and end up abandoning them. Low type firms issue equity and undertake positive NPV projects. This leads to an inverse monotonic relationship between equity issue and firm type. However, in the presence of soft information this relationship disappears (Chemmanur and Jiao (2005)). Chemmanur and Jiao (2005) show that the announcement effect of an equity issue may be positive or negative when soft information is available to outside investors. We develop testable hypotheses on the relationship between the realizations of the employee ratings of a firm prior to an equity issue and the following: algebraic value of the abnormal stock return upon announcement of its equity issue (i.e., the announcement effect); the propensity of the above announcement return to be positive or negative; the propensity of the firm to issue equity versus debt; institutional investor participation in the firm's equity issue; and its long-term post-SEO operating performance.[2] We view employee ratings as soft information available to equity market investors (over and above any publicly available information available to them about the firm).

Research Design and Preliminary Results

We make use of a large sample of around 1.1 million employee ratings from the Glassdoor website covering a sample of 2842 public firms during the period 2008 to 2017.[3] We consider Glassdoor ratings to be a proxy

[1] Soft information is any noisy information, which is not produced by firm insiders (e.g., managers) and which cannot be contracted upon.

[2] SEO stands for seasoned equity offerings

[3] Hundreds of thousands of users have posted over 33 million ratings and insights for approximately 700,000 companies around the world on the Glassdoor website. The website is widely used and had 45 million global users visit in July 2017. Glassdoor allow

for soft information. We make use of data on employee ratings from the Glassdoor website, along with firm-level accounting data from Compustat and equity issue data from Thomson One to analyze the impact of employee ratings on the financial and investment policies of firms. We conduct baseline analyses using Ordinary Least Squares (OLS) regressions to test our hypotheses. We find that firms with higher average employee rating realizations are associated with algebraically greater abnormal stock returns upon an equity issue announcement; a greater propensity to have positive abnormal stock returns upon such an announcement; a greater propensity to choose equity over debt to raise external financing; higher annual investment expenditures; greater participation by institutional investors in their seasoned equity offerings (SEOs); and better long-run post-SEO operating performance. Our results are statistically and economically significant. First, a one standard deviation increase in Glassdoor ratings lead to a 1.1 percentage point increase in cumulative abnormal stock returns (CAR) around SEO announcement. This is substantial as average CAR is negative 2%. Second, a one standard deviation increase in overall rating is associated with an average increase of 10.5% in the probability of having positive abnormal announcement stock returns. Third, a one standard deviation increase in overall rating is associated with an average increase of 9.5% in the probability of issuing equity rather than debt. Fourth, a one standard deviation increase in overall rating is associated with an average increase of 9.4% in annual firm-level investment expenditures. Fifth, a one standard deviation increase in overall rating is associated with an increase of 6 institutional investors investing in the firm's SEO. Lastly, a one standard deviation increase in compensation rating (a measure of employee ratings) is associated with an increase of 4.3 percentage point in the operating performance of a firm over the three years subsequent to the SEO.

Our baseline analyses may suffer from some endogeneity concerns. It may be possible that higher quality firms have higher announcement returns and have higher employee ratings. To address these concerns, we make use of state laws (anti-SLAPP laws) which protect the First Amendment Rights of citizens.[4] The provision of anti-SLAPP laws in some states may affect the propensity of individuals to provide online reviews of firms and to provide relevant information on online platforms. Further, these laws (or their absence) are unlikely be correlated with firm quality. Our identification analyses results support our baseline results. We expect that online reviews given for firms headquartered in states protected by anti-SLAPP laws may have more information content. Anonymous reviewers of such firms will be less affected by litigation threats (e.g., defamation lawsuit) compared to reviewers of firms headquartered in states with no anti-SLAPP laws (reviewers of these firms are more likely to be affected by the "chilling effect" of litigation threats).[5] Hence, outside investors may put greater weight on the information contained in reviews for firms located in states with anti-SLAPP laws. Our empirical analyses support this conjecture. We show that the information content in employee ratings is greater for firms located in states with anti-SLAPP laws compared to states without anti-SLAPP laws.

Computing Language

We use Python to scrape Glassdoor data from the Glassdoor website. We use STATA to create our initial sample and conduct our preliminary statistical analyses. We propose to expand our sample significantly.

employees to provide reviews of employers (firms), employees can also rate a firm on variety of categories (overall rating, management rating, and compensation rating among others).

[4] SLAPP (strategic lawsuit against public participation) is a retaliatory lawsuit filed against an opponent or critic who had spoken against the plaintiff in a public forum (e.g., negative anonymous reviews on internet boards).

[5] This chilling effect may arise from the suppression of free-speech and associated rights protected by the First Amendment because of the threat of legal sanction.