Title: Compensating Employees: The Role of Equity Incentives

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Extended Abstract:

Startups have the potential to generate wealth for their founders, investors, and employees. While there has been considerable attention to the implications for founders and investors, relatively little is known about the effects of working at a startup on employees. On the one hand, startups can offer large career growth opportunities (Ouimet and Zarutskie, 2014). On the other hand, they frequently fail and thus can expose workers to high earnings and employment volatility (Sorenson et al., 2021). Notably, startups are at times disproportionate employers of marginalized populations, including older and recently unemployed workers (Fackeler et al., 2019) and workers with criminal records (Hwang and Wallskog, 2026). In this paper, we present the first evidence of the role of equity compensation at startups and its effect on workers.

We study several research questions about the workforce at startups and the career development of their employees. First, what is the extent to which equity compensation is offered to startup employees, and does it vary by startup and worker characteristics? Second, how do startups impact workers' economic outcomes, and are the potential benefits and costs equitably distributed across workers? Third, are there any frictions that inhibit the usage of equity compensation?

We construct our key measures across several complementary datasets. First, we measure worker- and job-level outcomes using Revelio Labs' data on employment histories and job postings. These measures include hiring, retention, promotions, job mobility, and job characteristics. Compiled from LinkedIn and major online job platforms, the data provide exceptional coverage of high-skilled workers and startups. Second, we measure firm outcomes,

including financing rounds, valuations, and investor activity, using PitchBook data. Third, we measure employee equity compensation using data from Levels.fyi. The data include whether equity is offered and the structure of compensation packages across occupations. Finally, we observe the liquidity and realized value of employee equity using data from secondary marketplaces for private company shares, including Caplight. These datasets are linked at the firm level to create a comprehensive dataset on startup compensation and worker outcomes.

Our first set of analyses is descriptive and address our first research question: To what extent do startups offer employee equity compensation, and how does its use vary across firms and workers? We document the prevalence and characteristics of equity compensation across firms, examining variation by industry, firm size, financing stage, and valuation. We will examine differences across workers, including by age, occupation, race, and gender, providing the first comprehensive evidence on the distribution of startup equity compensation.

Our second set of analyses addresses our second research question: How does employee equity compensation affect workers' career outcomes, and are its benefits and costs distributed equitably across workers? We compare worker outcomes, such as retention, promotions, and career progression, across firms that rely more heavily on equity compensation relative to those that use less equity compensation. A central empirical challenge is that neither workers nor firms are randomly assigned to compensation structures. Workers self-select into startups, and startups endogenously choose whether and how much equity to offer.

To address these identification challenges, we employ several complementary econometric strategies. First, we exploit changes in firms' cash positions following financing rounds. As cash reserves become depleted, startups may substitute equity compensation for cash wages, generating plausibly exogenous variation in compensation structure. Second, we leverage variation in the

compensation practices of competing startups. Because firms compete for similar pools of workers, changes in competitors' equity offerings may induce firms to adjust their own compensation policies. Finally, we use matching methods to compare workers and firms with otherwise similar observable characteristics. We also examine heterogeneity in treatment effects to determine whether the impacts of equity compensation differ across worker demographics, occupations, and other characteristics.

Our final set of analyses addresses our third research question: What frictions limit the use and effectiveness of employee equity compensation? We leverage new data on secondary markets for private company shares to measure the liquidity of startup equity. When employees are able to sell shares prior to an IPO or acquisition, they can realize the value of their equity compensation much sooner. The rapid growth of secondary markets in recent years provides substantial variation in the expected liquidity of startup equity. We use this variation to examine whether the effects of equity compensation on worker outcomes depend on employees' ability to convert equity into realized wealth.

The findings from this project provide insights into the impact of working at a startup on workers. We offer novel evidence on the workforce at startups and the career development of these talented employees. There are far-reaching implications to understanding the effects of equity compensation on newly created firms.

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