

# Startup Acquisitions and Employee Entrepreneurship

J. Daniel Kim\*

Wharton School, University of Pennsylvania

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## Abstract

The past few decades have seen a significant increase in the acquisitions of startups by incumbents. As these acquisitions can enhance the incumbents' market power, they have raised concerns regarding their potential anti-competitive effects. By developing a dynamic perspective, this study argues that these acquisitions can detract the autonomy of the acquired workers and subsequently prompt them to leave to launch their own ventures – ultimately contributing to the competitive landscape over the long-term. We provide empirical support for this argument by analyzing employee-employer matched data from the US Census on high-tech startup acquisitions and their workforce between 1990 and 2011. We also find support for our theorized mechanism around employee autonomy by showing that the impact of startup acquisitions on employee entrepreneurship increases when the target startup is integrated by the acquirer, whereas this impact significantly decreases when the target firm is provided with autonomy. Overall, our study highlights the importance of post-acquisition mobility patterns in shaping the dynamics of incumbents' acquisitions of entrepreneurial firms.

\*DISCLAIMER: Any opinions and conclusions expressed herein are those of the author and do not necessarily represent the views of the U.S. Census Bureau or its staff. All results have been reviewed to ensure that no confidential information is disclosed (Approval Numbers: CBDRB-FY20-CED006-0002, CBDRB-FY20-CED006-0033). The contents of this publication are solely the responsibility of the authors. ACKNOWLEDGEMENTS: I thank Pierre Azoulay, Scott Stern, Fiona Murray, David Hsu, Ben Campbell, Emilie Feldman, Raffi Amit, Minjae Kim, Ronnie Lee, and Luis Rios for their valuable feedback.

## Introduction

The past few decades have shown a dramatic rise in the acquisition of young firms. As a result, heightened M&A activity among industry incumbents has raised policy concerns around the anti-competitive effects of acquisitions on the entry and survival of young firms.<sup>1</sup> In support of this view, prior studies demonstrate that startup acquisitions are often motivated with the intent to eliminate competition (Graebner 2009; Cunningham, Ederer, and Ma 2017). Of course, motivations underlying startup acquisitions are diverse and may not necessarily involve a desire to eliminate competition. Nonetheless, a natural consequence of startup acquisitions is that the acquirer absorbs an emerging firm and therefore enhances its market power.

However, this static view on startup acquisitions and competition may provide an incomplete picture. In a dynamic sense, this relationship is likely shaped by the post-acquisition mobility patterns of the acquired personnel. Since a firm's core knowledge is largely embodied in the individuals (Kogut and Zander 1992; Grant 1996; Kaul, Ganco, and Raffiee 2018), employee departures imply an outflow of knowledge that may benefit other firms (Campbell et al. 2012; Agarwal, Gambardella, and Olson 2014; Rocha, Carneiro, and Varum 2018). Since startup acquisitions are generally known to disrupt the acquired workforce and therefore induce high employee turnover (Loh et al. 2019; Kim 2020), a possibility is that many of the acquired personnel exit into employee entrepreneurship by leveraging the knowledge base of their previous startup employer. Reflecting the transfer of knowledge and resources evidenced in the process of employee entrepreneurship (e.g., Elfenbein, Hamilton, and Zenger 2010; Kacperczyk 2012; Gambardella, Ganco, and Honoré 2014; Feldman, Ozcan, and Reichstein 2019; Sakakibara and Balasubramanian 2019), startup acquisitions may, in fact, cultivate a new generation of startups in the same technological space – ultimately leading to a more robust competitive landscape.

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<sup>1</sup> For example, see: Steven Davidoff Solomon, “Tech Giants Gobble Start-Ups in an Antitrust Blind Spot,” *The New York Times*, August 16, 2016, <https://www.nytimes.com/2016/08/17/business/dealbook/expect-little-antitrust-challenge-to-walmarts-bid-for-jet-com.html>.

Consider the case of Eric Yuan and his story of founding Zoom.<sup>2</sup> Eric Yuan, an immigrant from China, moved to Silicon Valley in the mid 1990's with the hopes of joining the internet boom in the region. Yuan landed a job at a fledgling startup of roughly a dozen employees called WebEx, which was developing a live-collaboration software. In 2007, Cisco acquired WebEx and retained Yuan as a vice president to continue his team's work on the product. During the integration, Yuan's vision for WebEx based on a cloud-based platform failed to garner support from his new employer. Frustrated, Yuan left Cisco along with more than forty Cisco engineers, and founded Zoom in 2012 – a cloud-based video conferencing startup. At the time of its IPO in 2019, Zoom was valued at \$14 billion, standing as a leading competitor to Cisco's WebEx.

Building on this phenomenon, this study examines how startup acquisitions affect employee entrepreneurship. By linking the literatures on technology M&A and strategic human capital to the knowledge-based view of the firm, we argue that startup acquisitions can reduce autonomy of the acquired workers, prompting them to leave and start their own ventures. While acquisitions generally lower the level of employee autonomy of the acquired personnel by imposing a new set of organizational routines (Haspeslagh and Jemison 1991; Cannella and Hambrick 1993), employee autonomy may be even further reduced when the acquirer integrates the target firm (Ranft and Lord 2002; Puranam, Singh, and Zollo 2006; Paruchuri, Nerkar, and Hambrick 2006). Therefore, when the acquirer chooses to integrate – instead of providing autonomy by allowing the target firm to stay in its original location – the impact on employee entrepreneurship may be amplified.

To empirically test these ideas, we leverage employee-employer matched data from the US Census to provide systematic evidence of high-tech startup acquisitions in the US between 1990 and 2011. In a difference-in-differences framework, we find that the rate of employee entrepreneurship in high-tech startups sharply rises following an acquisition. To shed light on the theoretical mechanism around employee autonomy, we track and measure whether the acquirer integrates the target organization.

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<sup>2</sup> For more on Eric Yuan's story, see his interview: Yitzi Weiner, "The Inspiring Backstory of Eric S. Yuan, Founder and CEO of Zoom," *Medium*, October 2, 2017.

We find that the impact of startup acquisitions on employee entrepreneurship is especially strong in cases of integration, but largely muted in cases of autonomy. Together, these results demonstrate reduced employee autonomy as an important driver of employee entrepreneurship following a startup acquisition.

This study contributes to two fronts. First, this study contributes to the emerging area of entrepreneurial workforce in its relation to the broader literature on strategic human capital (e.g., Honore and Ganco 2019; Rocha, Grilli, and Giraud 2020). The evidenced role of employee autonomy in the link between startup acquisitions and employee entrepreneurship is strongly consistent with recent findings that individuals who value autonomy and independence are much more likely to sort into startups rather than established firms (Elfenbein, Hamilton, and Zenger 2010; Kim 2018; Sauermaun and Roach 2018). This intrinsic preference for autonomy among startup employees carries many implications for their mobility patterns and the resulting impact on the parent organization (e.g., Wezel, Cattani, and Pennings 2006; Campbell et al. 2012) – even beyond the context of acquisitions.

Second, this study contributes to the integration-autonomy dilemma examined in the technology M&A literature (e.g., Puranam, Singh, and Zollo 2003; Paruchuri, Nerkar, and Hambrick 2006). While prior studies have shown that the acquirer’s decision to integrate versus provide autonomy influences firm-level outcomes, this study develops a novel measure of integration and demonstrates that this decision also directly shapes employee-level outcomes by spurring exits into employee entrepreneurship. Insofar as the decision to integrate is a choice that acquirers make, preserving autonomy appears to be an effective way to alleviate the concerns around post-acquisition employee entrepreneurship.

## **Background and Hypotheses**

The increasing prevalence of startup acquisitions by industry incumbents has sparked concerns regarding its potential anti-competitive effects.<sup>3</sup> Several recent studies document that the desire to eliminate competition is a leading motivation underlying many startup acquisitions (Graebner 2009;

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<sup>3</sup> In February 2020, the Federal Trade Commission launched an investigation into five large technology firms’ potentially anti-competitive practices in acquiring startups: <https://www.ftc.gov/news-events/press-releases/2020/02/ftc-examine-past-acquisitions-large-technology-companies>

Santos and Eisenhardt 2009; Cunningham, Ederer, and Ma 2017). To be sure, motivations for acquiring a startup firm are mixed (e.g., new technological capabilities and talent) and may not necessarily involve a desire for eliminating competition. Nonetheless, a natural consequence of acquiring a startup is that the acquirer absorbs a nascent firm and therefore tilts the current competitive landscape in its favor (Gans and Stern 2000).

In this section, we develop a perspective that the long-term relationship between startup acquisitions and competition is shaped by the resulting mobility of the acquired employees. The overarching argument is that startup acquisitions reduce worker autonomy – a critical motivator for workers who select into startup firms – and thereby induce employee exits into entrepreneurship. As a result, the new firms launched following an acquisition contribute to a more robust competitive landscape. We start by establishing a baseline hypothesis by integrating perspectives from technology M&A and employee autonomy research streams with the knowledge-based view of the firm. Next, we theorize on the mechanism around reduced employee autonomy as the link between startup acquisitions and employee entrepreneurship by drawing on the literature on integration in technology M&A. Then, we assess whether increased employee entrepreneurship is likely to lead to new competitors or complementors in relation to the original acquiring firm.

### **Startup acquisitions and employee autonomy**

A well-established understanding of acquisitions is that the ensuing organizational change is highly disruptive to the acquired workforce (Buono, Bowditch, and Lewis 1985; Haspeslagh and Jemison 1991; Cannella and Hambrick 1993). The disruption primarily stems from the reduction in autonomy for the target firm’s personnel as the acquirer typically imposes its own set of organizational routines and structure. As a result, disagreements and power struggles are common in the post-acquisition period (David and Singh 1994; Van den Steen 2010; Hart and Holmstrom 2010).

The salience of reduced employee autonomy following an acquisition is reinforced by a broad literature demonstrating the critical role of autonomy on employee behavior. Among a host of outcomes, employee autonomy is shown to influence employees’ attitudes toward their work and professional

attachment to the firm (Deci and Ryan 1987; Skinner 1996; Mazmanian, Orlikowski, and Yates 2013), as well as team performance (Langfred 2005; Haas 2010; Gambardella, Panico, and Valentini 2015). Consequently, autonomy in the workplace ultimately shapes the voluntary turnover decisions of individuals (Liu et al. 2011; Moen et al. 2017). In line with this perspective, acquisitions generally lead to turnover among target firms' executives (Haspeslagh and Jemison 1991; Walsh 1988; Ranft and Lord 2000). More specifically, Hambrick and Cannella (1993) attribute acquired executives' decision to quit to feelings of inferiority from the acquirer and a loss of autonomy.

The reduction in autonomy emanating from acquisitions is likely even more relevant in the context of startup acquisitions due to the intrinsic differences in the workforce. Compared to workers at established firms, employees at startups tend to strongly prefer autonomy and independence over other job attributes (Roach and Sauermann 2015). In contrast, employees at large firms place a greater weight on job security. This ex-ante preference for autonomy leads many individuals to choose startup employers over established firms (Elfenbein, Hamilton, and Zenger 2010; Kim 2018; Sauermann and Roach 2018). The systematic sorting of individuals into startups based on preferences reflects the fact that entrepreneurial firms tend to exhibit cultural values of openness and autonomy (Turco 2016; Corritore 2018) and high-powered incentives (Zenger 1994). As a result, the sudden reduction in autonomy that accompanies startup acquisitions is likely to result in especially pronounced rates of employee turnover. Indeed, recent studies show that startup acquisitions lead to high rates of employee exits (Loh et al. 2019; Kim 2020). Beyond the high turnover stemming from startup acquisitions, a key question remains regarding the trajectory of these departing individuals and how the destination patterns ultimately impact the parent firm (i.e., acquirer).

### **Knowledge transfer in employee entrepreneurship**

A central premise in the knowledge-based view of the firm is that knowledge is a key resource that enhances a firm's advantage (Grant 1996; Berman et al. 2002). In this tradition, the most valuable forms of knowledge tend to be tacit and hard to imitate because of the path-dependent and complex processes that underlie the creation of knowledge (Nelson and Winter 1982; Kogut and Zander 1992).

Because much of valuable knowledge is largely tacit, employee mobility emanating from high-tech startup acquisitions also implies a transfer of knowledge. In short, departing employees are conduits of knowledge to the receiving firm (Agarwal, Gambardella, and Olson 2014; Mawdsley and Somaya 2016). However, the extent to which knowledge outflows impact the parent firm likely varies with the nature of the underlying employee mobility. Prior studies demonstrate that the competitive implications of knowledge outflows for the parent firm critically depend on the destination – mainly, whether the departing employee moves to an established firm versus starts a new venture (Wezel, Cattani, and Pennings 2006; Campbell et al. 2012). But, despite the evidence of high turnover from startup acquisitions, the direction of the employee departure has not been clearly examined.

Is increased turnover stemming from high-tech startup acquisitions likely to steer towards lateral moves to existing firms or spinouts of new firms? More generally, employees' departures to other firms versus entrepreneurship are shaped by the labor market frictions that often differently impact the two career paths (Campbell, Kryscynski, and Olson 2017). At the individual level, Kaul, Ganco, and Raffiee (2018) theorize on the destination of employee mobility as a function of the idea itself. In particular, they show that the degree of uncertainty underpinning the employee's idea positively (negatively) predicts the likelihood of employee entrepreneurship (mobility to another firm). Consistent with this theory, Ganco (2013) finds that the complexity of the knowledge inhibits transfers to rival firms and therefore encourages those to new firms through employee entrepreneurship. Because entrepreneurial ideas are inherently uncertain ex-ante in their commercial viability (Knight 1921; Klein 2008; Kaul 2013), high-tech startup acquisitions generally involve a high level of uncertainty around the target firm's technology.

Over and above the uncertainty surrounding the commercial viability of the technology, an acquisition is likely to amplify the level of uncertainty with respect to resource commitment, which can either sustain or hamper commercialization efforts. The reason is that, contrary to the target firm whose entrepreneurial technology is foundational to its existence and growth, the acquirer may be less committed to the acquired technology (e.g., Hart and Holmstrom 2010). In other words, there may be an incentive misalignment between the two firms around the acquired technology, leading to conflicts

around resource commitment. At the extreme, the acquirer may choose to outright abandon the target's technology for idiosyncratic reasons (Graebner 2009; Santos and Eisenhardt 2009). This conflict in resource allocation is a common source of disagreements in acquisitions (Haspeslagh and Jemison 1991; Van den Steen 2010; Klepper and Thompson 2010; Seru 2014), especially as the diversifying acquirers face diseconomies of scope (Cassiman et al. 2005). This is similar to asymmetric information in which employers have difficulty in assessing the ability of individuals – a source of friction that is predicted to enhance the likelihood of employee entrepreneurship while suppressing that of mobility to another firm (Campbell, Kruscynski, and Olson 2017). After an acquisition, the new employer may under-recognize the true potential of the acquired individuals and technology, prompting high-ability employees to exit and launch their own ventures (Hegde and Tumlinson 2020). Since disagreements inside the firm over employee ideas are shown to be a major precursor to employee spinouts (Anton and Yao 1995; Klepper 2007), the elevated turnover from startup acquisitions is expected to flow disproportionately towards employee entrepreneurship as the departing employees exploit the target firm's set of underutilized knowledge (Agarwal, Audretsch, and Sarkar 2007).

Given the nature of knowledge spillovers, the resulting employee entrepreneurship is likely to be concentrated in areas close to the originally acquired technology. A large literature on employee entrepreneurship shows that when starting their own companies founders tend to leverage a range of knowledge from their former employers such as technological know-how (Franco and Filson 2006; Gambardella, Ganco, and Honoré 2014), market-related knowledge (Klepper and Sleeper 2005), network of potential suppliers and customers (Burton, Sorensen, and Beckman 2002; Gompers, Lerner, and Scharfstein 2005), and organizational routines (Phillips 2002; Wezel, Cattani, and Pennings 2006). This transfer of knowledge in employee entrepreneurship is especially common in knowledge-intensive contexts such as technology-based areas as well as financial and legal services (Chatterji 2009; Elfenbein, Hamilton, and Zenger 2010; Kacperczyk 2012; Campbell et al. 2012; Howard, Boeker, and Andrus 2015). As a consequence of the tight knowledge linkage with the parent firm, employee entrepreneurship tends to disproportionately occur in the same industry as the founder's prior employer. This perspective is



also reflected in the context of technology M&A. More specifically, Stuart and Sorenson (2003) find that liquidity events (e.g., IPOs and acquisition) in the biotechnology industry are associated with increased entry of new biotech firms in the same geographic region. Building on similar patterns observed in prior studies, this leads to the baseline hypothesis in the context of high-tech startup acquisitions:

*Hypothesis 1: High-tech startup acquisitions increase the target startup's rate of employee entrepreneurship, especially in the same industry.*

### **Severity of autonomy loss in startup acquisitions**

The preceding theoretical narrative suggests that the sudden reduction in autonomy from startup acquisitions induces employee turnover, leading many of the departing individuals to leverage their prior employer's knowledge and start their own ventures. In this view, the loss of autonomy serves as a key mechanism through which startup acquisitions increase the rates of employee entrepreneurship. Indeed, acquisitions have long been shown to reduce autonomy for the acquired personnel as the acquirer typically introduces its own existing routines and culture (e.g., Bleeke and Daniels 1985; Haspeslagh and Jemison 1991; Paruchuri, Nerkar, and Hambrick 2006). However, not all acquisition experiences are equal. Put differently, there is likely a large variation in the degree to which autonomy is reduced following an acquisition. As a consequence, the resulting prevalence of post-acquisition employee entrepreneurship may be diminished in acquisitions where employee autonomy is preserved.

In support of this reasoning, a large literature on technology M&A has examined the benefits and challenges of integrating target companies – a decision that inherently impacts the level of autonomy for acquired firms (Chaudhuri and Tabrizi 1999; Ranft and Lord 2002; Puranam and Srikanth 2007). A core tradeoff that acquirers face is that while integration enhances the ease of coordination, it simultaneously reduces the autonomy of the target firm (Puranam, Singh, and Zollo 2003; Paruchuri, Nerkar, and Hambrick 2006). Puranam, Singh, and Zollo (2006) discuss the loss of autonomy as the “darker side” of integration, which is argued to be disruptive to the acquired organization. The process of acquisition integration imposes an unfamiliar set of organizational routines (Puranam, Singh, and Zollo 2006),

suppresses the high-powered incentives that are common in startup firms (Puranam, Singh, and Zollo 2003; Zenger 1994), and lowers task autonomy (Paruchuri, Nerkar, and Hambrick 2006).

Several studies have examined how this integration-autonomy dilemma shapes the post-acquisition outcomes at the firm level. Broadly, post-acquisition integration is frequently cited as the driving cause of failure in many acquisitions (Ranft and Lord 2002). Underlying these patterns is the complexity of the integration decision. For instance, Puranam and Srikanth (2007) highlight the short-versus long-term tradeoff in integration: While integration enables the acquirer to leverage the existing knowledge of the target, it hampers the ability to harness future developments of the acquired technological knowledge. To optimize this tradeoff, Schweizer (2005) suggests a hybrid integration model. Using detailed case study evidence from five biotechnology acquisitions by large incumbents, the study shows that integrating downstream units (e.g., sales) but providing autonomy to upstream units (e.g., R&D) enables the acquirer to achieve both the short-term revenue and long-term innovation goals. In general, the key limitation of the post-acquisition integration for the acquirer is the difficulty of absorbing the target firm's tacit and socially complex knowledge (Ranft and Lord 2000).

Though less directly examined, it is likely that the integration-autonomy dilemma significantly impacts outcomes at the individual level as well. Prior research demonstrates that post-acquisition integration significantly lowers the productivity of the acquired inventors by disrupting the social context in the knowledge creation process (Paruchuri, Nerkar, and Hambrick 2006; Kapoor and Lim 2007). While these studies focus on the inventors that stay with the acquirer, the integration decision is likely to elevate employee departures for similar reasons that productivity is diminished among stayers. In line with this view, Puranam, Singh, and Zollo (2003) predict that star employees from high-tech startups are likely to leave following an acquisition due to a reduction in incentives. These departures are meaningful because inventors' productivity is disproportionately driven by their human capital rather than firm capabilities (Bhaskarabhatla et al. 2017). Given that startup firms typically have high-powered incentives (Zenger 1994), star employees stand to lose the most from the compression in the incentive structure and therefore may experience a disproportionately large disruption following an acquisition. This prediction is

consistent with recent evidence that post-acquisition turnover is especially high among individuals with top earnings and executive positions (Ng and Stuart 2019; Kim 2020). Insofar as the decision is to integrate is a *choice* that acquirers make, it follows that the resulting rate of employee entrepreneurship will be exacerbated in cases of integration. In contrast, when the acquirer provides autonomy to the target firm and allows the organization to preserve its locale and routines, the impact of startup acquisitions on employee entrepreneurship is expected to be allayed. This leads to the next hypothesis around the theorized mechanism:

*Hypothesis 2: The impact of startup acquisitions on employee entrepreneurship is higher when the acquirer integrates the target firm than when providing autonomy.*

### **Competitors or Complementors?**

In theory, it is not clear ex-ante whether the ventures emanating from startup acquisitions are more likely to be direct competitors or complementary businesses to the acquirer. Given that individuals are conduits of core knowledge (Kogut and Zander 1992; Grant 1996), the competitive orientation of the spinouts depends critically on the direction and nature of the knowledge transfer mediated through employee entrepreneurship. In other words, the degree to which knowledge flows towards, rather than from, the new entrants shapes the strategic implications of employee entrepreneurship for the acquirer. Gordon Moore, a co-founder of Intel, depicts this competitive tension from employee entrepreneurship during the early days of Silicon Valley, “*Literally dozens of new companies came out of Fairchild in just that first decade... Some we encouraged as a means of gaining a supplier. Others we suffered as future competitors and drains on our resources. Some even became customers*” (Bresnahan and Gambardella 2004).

The competitor-complementor debate depends in large part on the lens through which a specific literature views it. On the one hand, the literature on employee mobility and knowledge spill-ins suggests that employee entrepreneurship may generate complementary businesses for the parent firm. Recent studies demonstrate that turnover can actually benefit the source firm by serving as a pathway to gain new knowledge (Corredoira and Rosenkopf 2010; Kim and Steensma 2017) as well as social ties (Somaya,

Williamson, and Lorinkova 2008). Though these studies do not directly address employees who leave to start new firms, similar complementary knowledge flows may occur through employee entrepreneurship, ultimately benefitting the acquirer.

On the other hand, the literature on employee entrepreneurship and knowledge spillovers implies that spinouts are more likely to be competitive threats to the source firm. When individuals leave an organization to launch their own companies, they tend to transfer and replicate their former employer's knowledge and routines (Phillips 2002; Wezel, Cattani, and Pennings 2006; Sakakibara and Balasubramanian 2019). Consequently, Agarwal et al. (2004) posit that spinouts pose a competitive threat to their parent firms because they can exploit the valuable knowledge gained from their founder's previous employment. Moreover, spinout founders not only mobilize the knowledge resources, but also the human assets from the parent firm to their new ventures (Agarwal et al. 2015; Rocha, Carneiro, and Varum 2018). As a result, employee entrepreneurship is shown to negatively impact the performance of the source firm (Campbell et al. 2012), especially when occurring in the same market (Wezel, Cattani, and Pennings 2006). Therefore, it is likely that the uptick in employee entrepreneurship following an acquisition carries similar dynamics of competitive knowledge spillovers.

This conceptual link between startup acquisitions and competitive spawning is consistent with the origins of the San Diego biotech cluster. In 1986, Hybritech, San Diego's first biotech startup, was acquired by the large pharmaceutical company Lilly for \$300 million.<sup>4</sup> While Lilly's intention was to capture the rapidly emerging market in diagnostics testing by acquiring the new technology and talent, most senior managers from Hybritech left the company shortly after the acquisition (Casper 2007). Leveraging their knowledge of Hybritech's diagnostic technology based on monoclonal antibodies, many of these departing employees went on to start their own biotechnology startups. Consequently, Lilly's acquisition of Hybritech failed to reach its potential due to the loss of key talent. Instead, Hybritech

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<sup>4</sup> Fikes, Bradley J., "Why San Diego Has Biotech," *San Diego Metropolitan*, 1999, <http://www.sandiegometro.com/1999/apr/biotech.html> and "San Diego's Hybritech Still Influences Local Biotech, 40 Years Later," *Hartford Courant*, May 2018, <https://www.courant.com/sd-me-hybritech-20180509-story.html>

alumni went on to launch many related companies in the region including Amylin, IDEC, and Nanogen, later competing against Lilly and ultimately seeding the San Diego biotech cluster. Together, this leads to the next hypothesis:

*Hypothesis 3: The degree of same-industry employee entrepreneurship following an acquisition is negatively (positively) related to the long-run performance of the acquiring firm, suggesting competitive (complementary) spawning.*

## **Data and Methods**

### **Data source**

To test our hypotheses, we use employee-employer matched data from the US Census Bureau. Firm-level data are sourced from the Longitudinal Business Database (LBD), which is a panel dataset of all establishments in the US with at least 1 paid employee. Beginning in 1976 and currently running through 2015, the LBD covers all industries in the private non-farm economy and every state in the US (Jarmin and Miranda 2002). The LBD contains information on the employment size, location, payroll, legal form of entity, and other characteristics of the establishment. Each establishment is assigned a unique identifier along with a separate identifier for the owning firm. This feature allows the establishment to be consistently observed even when it experiences a change in ownership due to M&A activity.

Employee-level data are sourced from the Longitudinal Employer-Household Dynamics (LEHD) database, which is an employee-employer matched panel drawn from state-level unemployment insurance (UI) records (Abowd, Haltiwanger, and Lane 2004). Currently, the LEHD coverage spans 1985 to 2014 and every state in the US except Massachusetts.<sup>5</sup> All available states in the LEHD are used in this study. In the LEHD, individuals are observed at every quarter with their quarterly earnings and state-level employer identifier (SEIN). We merge the LEHD to the LBD using the SEIN-FirmID crosswalk developed by Haltiwanger et al. (2014).

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<sup>5</sup> States vary in their initial coverage timing. Most states are available after 2000.

## Main variables

**Employee Entrepreneurship.** The main dependent variable is the target startup's rate of employee entrepreneurship. Similar to Babina and Howell (2019), we construct this firm-year-level measure by dividing the number of employee entrepreneurship events in a given year by the total number of workers. Specifically, for each year in the ten-year window around the acquisition ranging from -4 to 5, we first measure the total number of workers employed at the sample of high-tech startups (i.e., denominator). Next, we observe these workers in the focal as well as the following year to count the number of workers who become founders of new companies either in  $t$  or  $t+1$ . (i.e., numerator). In other words, the dependent variable for target firm  $j$  in year  $t$  is defined as:

$$\text{Rate of Employee Ent}_{j,t} = \frac{\sum \text{EmployeeEnt}_{j,t} + \sum \text{EmployeeEnt}_{j,t+1}}{\sum \text{Workers}_{j,t}}$$

To identify founders of new businesses, we use a similar approach to that used in Azoulay et al. (2020) and Kerr and Kerr (2017). In particular, founders are identified as the set of individuals who (1) appear at the new firm at its first quarter of operations and (2) are among the top three earners at the new firm in the first year. While it is possible that this definition could label some early joiners as founders, Azoulay et al. (2020) demonstrate that more than 90% of business owners in IRS Schedule K-1 data are correctly identified as founders under this definition.

The rate of employee entrepreneurship further breaks down the measure by whether the new firm is based in the same industry. Same industry employee entrepreneurship counts only new firms whose NAICS industry is the same as that of the target firm. This measure is at the two, four, and six-digit levels of the NAICS industry.

**Integration versus Autonomy.** We provide a novel measure of post-acquisition integration by tracking the acquired establishment before and after the acquisition. Because the LBD provides unique establishment identifiers that do not change even after a change in ownership (e.g., acquisition), the economic activity of the acquired establishment can be longitudinally observed. We define integration as a binary variable equalling 1 if the acquired establishment is moved to the location of, or absorbed by, the

acquirer's headquarters within three years of the acquisition. In contrast, if the acquired establishment remains in its original location in the three year window, the binary variable equals 0, representing cases of autonomy.

### **Analytic sample**

The focus of this study is on high-tech startups that experience an acquisition. The analytic sample is at the firm-year level. Worker outcomes, which are aggregated up to the firm-level year, are used to construct the dependent variable on the rate of employee entrepreneurship. To begin, using firm ownership changes in the LBD, we identify the population of US firms that are ever acquired. We reduce this set down to firms that are (1) acquired before the firm age of 10 (i.e., startups) and (2) based in a high-tech industry.<sup>6</sup> We further restrict the sample to acquisitions occurring between 1990 and 2011 in order to correspond to the time coverage in the LEHD. We then merge this set of high-tech startups to the LEHD to identify their employees in a ten-year window around the acquisition year. It is worth noting that because many states are not available in the LEHD before 2000, a significant portion of high-tech startup acquisitions from this period are not merged and thus dropped from the study. This yields the final analytic sample of 4,000 acquired high-tech startups and their workers between 1990 and 2011.<sup>7</sup> Table 1 provides the summary statistics of the acquired high-tech startup companies.

[Insert Table 1 here]

### **Methodological approach**

An ideal experiment to assess the impact of acquisitions on employee entrepreneurship would be randomly allocate some startup firms to be acquired while leaving others as independent. However, such randomization is not feasible. In order to approximate this ideal experiment, we employ an event study

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<sup>6</sup> High-tech sector, defined by the Bureau of Labor Statistics, is a narrow set of NAICS-4 industries with the highest shares of STEM-oriented workers (Hecker 2005; Goldschlag and Miranda 2016).

<sup>7</sup> Although LEHD time coverage extends to 2014, we limit the sample to acquisitions occurring in or before 2011 in order to allow for at least three years of observation following the acquisition.

difference-in-differences model that exploits the timing of the acquisitions among a large sample of startups that are acquired at different points in time.<sup>8</sup>

This identification strategy rests on the rich variation in the timing of the acquisitions. This variation is generated in two ways. First, acquisitions are roughly evenly distributed throughout the sample coverage between 1990 and 2011, meaning that in any given year, there are startups that are acquired along with firms that are not-yet acquired. Second, there is a large variation in when the acquisition occurs relative to the target startup's early life cycle. While some startups are acquired when they are very young, others are acquired when they are more mature. Therefore, this event study approach estimates the differential impact of acquisitions on the rate of employee entrepreneurship by comparing the outcomes of acquired startups to those of not-yet acquired startups. To dynamically estimate the effect with leads and lags around the acquisition event, we use a linear model for the following regression specification for acquired startup firm  $j$  in year  $t$ :

$$Y_{j,t} = \sum_{k=-4}^5 \lambda_k d[k]_{j,t} + \alpha_j + \gamma_t + \varepsilon_{j,t} \quad (1)$$

where each year  $k$  around the acquisition between  $-4$  and  $5$  is separately estimated as  $\lambda_k$ . The year prior to the acquisition (i.e.,  $k=-1$ ) is omitted as the reference group. In addition,  $\gamma_t$  are year fixed effects which sweep out year-specific trends such as the limited financing availability following the dot-com bubble. More importantly,  $\alpha_j$  are firm fixed effects accounting for time-invariant characteristics of the startup firm such as industry and managerial quality. Moreover, the results are often simplified where the leads and lags around the acquisition are simply collapsed to a dummy variable  $PostAcquisition_{j,t}$  that equals 1 if the year  $t$  is after target startup firm  $j$  is acquired:

$$Y_{j,t} = \beta \cdot PostAcquisition_{j,t} + \alpha_j + \gamma_t + \varepsilon_{j,t} \quad (2)$$

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<sup>8</sup> For more on empirical design, see Bertrand and Mullainathan (2003) and Borusyak and Jaravel (2017) for a discussion of this difference-in-differences design where all units in a panel receive treatment but at different times.



The main concern with this research design is that since acquisitions are not random events, there may be differential trends in the outcomes prior to the acquisition. For instance, it may be the case that employees anticipate their employers to be acquired in the near future, encouraging would-be entrepreneurs to wait out their venture until after the acquisition. In such case, the rate of employee entrepreneurship right before the acquisition would be suppressed and thereby mechanically inflate the estimated treatment effect.

We address this concern by examining the pre-trends during the four years prior to the acquisitions. If employees anticipate being acquired and delay their entrepreneurial entry, then a dip in employee entrepreneurship should occur immediately prior to the acquisition year. However, Figure 1 shows parallel pre-trends, providing no evidence of employee anticipation in the results.

## **Results**

### **Impact of acquisitions on employee entrepreneurship**

First, we assess the main effect of acquisitions on the target startup's rate of employee entrepreneurship. Figure 1 plots the dynamic estimates from Equation (1) where the dependent variable is the rate of employee entrepreneurship (scaled by 100 for legibility). Panel A focuses on all instances of employee entrepreneurship, while Panels B and C condition on employee entrepreneurship occurring in the same industry as the target firm. In all three cases, the estimated effect on employee entrepreneurship is statically indistinguishable from zero in the pre-acquisition years relative to year  $t-1$ . Moreover, the effects in all three models exhibit parallel pre-trends, validating a core assumption underlying this difference-in-differences design.

Following the acquisition, there is a large and sudden uptick in the rate of employee entrepreneurship. This effect is generally most pronounced in the year immediately following the acquisition. Subsequently, the effect attenuates although it is mostly positive and statistically significant. The attenuation is reasonable given that the individuals who are most at-risk of becoming entrepreneurs are likely to have done so shortly after the acquisition. In addition, the economic magnitudes of these

effects are large given that the baseline rates of employee entrepreneurship are 0.3%, 0.2%, and 0.1% for overall, same NAICS-2, and same-NAICS-4 industry, respectively. For instance, the prevalence of employee entrepreneurship in the same narrow NAICS-4 industry is roughly doubled in the first two years after the acquisition. Overall, these findings demonstrate that acquisitions lead to a significant increase in the rate of employee entrepreneurship among the target firm's workers.

[Insert Figure 1 here]

It is worth emphasizing the immediacy of this effect. While not observable in the data, employment contracts used in startup acquisitions typically offer employee stock options designed to increase long-term employee retention.<sup>9</sup> Therefore, a financially rational prediction may be that acquired startup employees wait – in anticipation of fully vested stock – at least three or four years before leaving to start their own firms. In contrast, its immediate timing suggests that acquisitions act as a beyond-financial trigger for employee entrepreneurship.

Table 2 is the table version of Figure 1 where the leads and lags around the acquisition are simply collapsed to a dummy variable  $PostAcquisition_{j,t}$  as shown in Equation (2). Three separate outcomes are tested: (1) overall rate of employee entrepreneurship, (2) rate of employee entrepreneurship occurring in the same NAICS-2 industry as the acquired startup, and (3) rate of employee entrepreneurship in the same NAICS-4 industry.

[Insert Table 2 here]

The first specification in Table 2 estimates the overall rate of employee entrepreneurship after an acquisition. Consistent with Figure 1, the estimated coefficient is strongly positive and statistically significant at the 1% level. Given that employee entrepreneurship is a relatively rare event with a pre-acquisition mean of 0.33%, this effect translates to a roughly three times increase. Furthermore, Specifications 2 and 3 test for same-industry employee entrepreneurship. These effects are also highly positive and significant. In other words, employee entrepreneurship also concentrates in the industry of

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<sup>9</sup> See Coyle and Polsky (2013) for more on employee stock options used in startup acquisitions. Typically, these employment contracts include stay-incentives, such as a vesting schedule of three to four years.

the founder's prior employer – the acquired startup. Taken together, these results provide support for Hypothesis 1 that acquisitions increase the target startup's rate of employee entrepreneurship both generally and in the same industry.

### **Moderating role of employee autonomy**

Next, we test whether reduced employee autonomy in startup acquisitions acts as the mechanism that explains the resulting increase in employee entrepreneurship. As discussed in the section *Background and Hypotheses*, an important dimension is the acquirer's decision to integrate the target firm. The underlying logic is that because integration reduces the degree of employee autonomy of the acquired personnel, the impact of employee entrepreneurship may be especially high. Table 3 repeats the main regression analysis in Table 2 by splitting the sample into acquisitions in which the target firm is integrated versus provided with autonomy.

[Insert Table 3 here]

Specifications 1-3 in Table 3 condition on cases of integration. The results are highly positive and statistically significant for both overall and same-industry employee entrepreneurship. Moreover, the effect sizes are much larger than those in Table 2. This additional impact is larger for same industry than for overall employee entrepreneurship. For instance, magnitudes for same NAICS-4 industry employee entrepreneurship is more than doubled compared to its counterpart in Table 2.

However, the results noticeably diverge in cases of autonomy as shown in Specifications 4-6. When considering all employee entrepreneurship in Specification 4, the effect size is reduced by roughly 35% but remains positive and statistically significant. When considering same industry employee entrepreneurship, the effects no longer hold. Though the magnitudes are positive, they are small and statistically indistinguishable from zero. For instance, acquisitions in cases of autonomy lead to a 0.017 percentage point increase in the rate of employee entrepreneurship relative to the baseline rate of 0.11 percent. Overall, the effects on employee entrepreneurship – especially that in same industry – appear to hold only in cases of integration, but not in those of autonomy. Therefore, these findings strongly support

Hypothesis 2 that employee autonomy – which is proxied by the integration decision – serves as a primary driver through which startup acquisitions spur employee entrepreneurship.

### **Employee entrepreneurship – new competitors or complementors?**

While the new firms from employee entrepreneurship can be complementary businesses, they can be competitive threats to the original firm. In this section, we assess whether these new ventures are potential competitors. To do so, we examine the impact of post-acquisition employee entrepreneurship events on the acquirer’s future performance. If employee entrepreneurship results in the creation of new competitors (complementors) – especially when occurring in the same industry – an increase in employee entrepreneurship is more likely to be negatively (positively) related to the acquiring firm’s long-term performance. Though not causal in nature, we estimate this relationship by regressing the acquiring firm’s future performance on the level of (same-industry) employee entrepreneurship following the acquisition:

$$Growth_{j,t+3} = \alpha_0 + \alpha_1 EmpEnt_{j,t+3} + \gamma_{k \times t} + \tau_s + \varepsilon_{ij} \quad (3)$$

The dependent variable  $Growth_{j,t+3}$  is the acquiring firm’s rate of growth between year  $t$  and  $t+3$ , measured in employment as well as revenues.<sup>10</sup>  $EmpEnt_{j,t+3}$  is the number of companies founded by formerly acquired employees (i.e., employee entrepreneurship) within three years of the acquisition. To account for industry-specific trends, which also may vary with time trends, acquisition year-industry interacted fixed effects  $\gamma_{k \times t}$  are included. Since the underlying sample contains roughly 3,900 firms, the interacted year-industry fixed effects are defined at the 2-digit NAICS level in order to allow for sufficient number of observations in each of the estimated bins. Moreover, state fixed effects  $\tau_s$ , defined by the location of the acquiring firm’s headquarters, are included to absorb geographic trends that may affect firm performance.

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<sup>10</sup> The growth rate between year  $t$  and  $t+3$  is calculated as  $(Y_{j,t+3} - Y_{j,t}) / (\frac{1}{2}[Y_{j,t+3} + Y_{j,t}])$ , where  $Y_{j,t}$  is acquiring firm  $j$ ’s employment or revenues in year  $t$ . This is a standard measure in the firm dynamics literature – known as the Davis-Haltiwanger-Schuh (DHS) growth rate (Davis et al. 1996) – that weights the rate of growth by firm size. In doing this, this measure minimizes the naturally negative relationship between initial size and growth.

Table 4 presents the firm performance regressions. Panel A uses employment growth while Panel B uses revenue growth as the dependent variable. The first specification in both panels counts the number of employee entrepreneurship events – outside the original target firm’s two-digit NAICS industry (i.e., unrelated industry) – by the acquired workers by year three since the acquisition. The subsequent specifications count the number of companies started by the acquired workers in the same industry. The degree of industry similarity between the original target company and spawned firm becomes higher across the specifications from two- to four- to six-digit NAICS industries.

[Insert Table 4 here]

Specification 1 in Panel A shows that the level of employee entrepreneurship in unrelated industries has a null effect on the acquirer’s performance. In Panel B, the effect on revenue growth is negative albeit very small. Relative to the acquirers that do not experience any unrelated employee entrepreneurship within three years of the acquisition, an entry of one unrelated entrant is associated with a 1% lower rate of revenue growth within the three-year window. These modest effects likely reflect the general outflow of tacit knowledge that is costly to replace.

However, the negative effect is substantially larger in Specification 2 which counts the number of employee entrepreneurship events occurring in the same NAICS-2 industry following the acquisition. An additional company founded in the same NAICS-2 industry is linked to a 1.3% (1.4%) decrease in long-run employment (revenue) growth. Moreover, the negative impact grows even larger as the industry similarity becomes narrower. For instance, as shown in Specification 4, an additional employee entrepreneurship event in the same NAICS-6 industry, which is the most granular industry level, is associated with a 3.7% decline in employment and revenue growth. All of these results are statistically significant mostly at either the 1% or 5% levels.

Though these results do not necessarily merit a causal interpretation, they suggest that employee entrepreneurship among the acquired workforce is negatively related to the acquiring firm’s future performance. This negative performance relationship grows stronger with the industry similarity between the newly created firms and originally acquired firm. At minimum, these findings rule out the view that

the post-acquisition spawning events are generally beneficial to the acquiring firm's performance. Rather, more in line with the view of competitive spawning in Hypothesis 3, post-acquisition employee entrepreneurship in the same industry appears to generate competitive pressures on the acquiring firm.

## **Conclusion**

How do startup acquisitions impact the competitive landscape in the long term? An important historical context offers some insights – the origins of the San Diego biotech cluster. This thriving cluster traces its root back to the acquisition of the region's first biotech startup, Hybritech. Against the acquirer's original intent to capture the emerging market by absorbing Hybritech's technology and talent, the seminal acquisition in 1986 propelled the acquired employees to leave and pursue their own competitor ventures, ultimately seeding the next generation of biotech startups. Nonetheless, the recently heightened concern that startup acquisitions stifle competition overlooks an important lesson from the Hybritech story: startup acquisitions may actually *enhance* competitive entry in the long run, because the core knowledge at the heart of these firms' competitive advantage is embodied, and carried outward, by employees who venture out.

Building on this phenomenon, this paper seeks to better understand how startup acquisitions affect employee entrepreneurship and therefore dynamically shape the competitive landscape. Using comprehensive data from the US Census between 1990 and 2011, the primary finding is that upon the acquisition, the target employees of high-tech startups are much more likely to leave and launch their own firms. It appears that these new firms largely become competitors, reflected by the negative relationship between same-industry spawning and acquirer's long-run performance. Therefore, startup acquisitions seem to paradoxically enrich the competitive landscape over the long run by triggering greater rates of employee entrepreneurship among the acquired workers.

Underpinning this link between startup acquisitions and employee entrepreneurship is the critical role of employee autonomy, which is also a key motivator for individuals who initially choose to join startup companies. While startup acquisitions generally suppress employee autonomy by introducing a

new set of routines and practices of the acquirer, this change is likely to further vary based on the choices of the acquirer. Mainly, the acquirer's decision to integrate the firm inevitably leads to less autonomy for the acquired personnel. In support of this theoretical mechanism, the resulting rate of employee entrepreneurship following an acquisition is amplified in cases of integration – but virtually unchanged when the target firm is provided with autonomy by being allowed to remain in its original location.

While this study examines the acquirer's integration decision through the lens of employee autonomy, there may be other reasons why startup acquisitions encourage employee entrepreneurship. This is both a limitation of this study and an opportunity for future research. For instance, liquidity effects from an acquisition may financially enable individuals to leave and start their own firms. While the financial gains from an acquisition are disproportionately concentrated among the founding team, even a modest gain may sufficiently work against liquidity constraints in entrepreneurship. Moreover, a status boost by being associated with a high-profile acquisition may lead to greater prospects for employee entrepreneurship. Among other resources, the positive status spillover may help attract future investors and employees. Of course, all of these forces may simultaneously be at work. This points to an opportunity for future research to carefully tease out the different factors of an acquisition that impact the acquired personnel's career paths.

Another question for future research pertains to the nature of the knowledge that is transferred through post-acquisition employee mobility. How does the appropriability regime surrounding the core knowledge of the firm – for instance, the degree of patenting – shape the competitive dynamics of post-acquisition employee entrepreneurship? It may be the case that the exclusionary protection afforded by patents encourage entrepreneurs to start complementary businesses rather than competitive firms bordering on imitation. Given that patents influence the degree and nature of follow-on knowledge production (Murray and O'Mahony 2007; Gambardella, Ganco, and Honoré 2014), more research is needed to clarify the role of formal intellectual property in the link between acquisitions and employee entrepreneurship.

Certainly, more evidence-based research on this complex phenomenon would be informative in advancing our understanding of how startup acquisitions influence not only the career paths of the acquired personnel, but also the long-term competitive landscape. Because workers are not tied to firms in the way that other physical or intangible assets are, employee mobility offers a unique frame to investigate the long-run link between acquisitions and competition.

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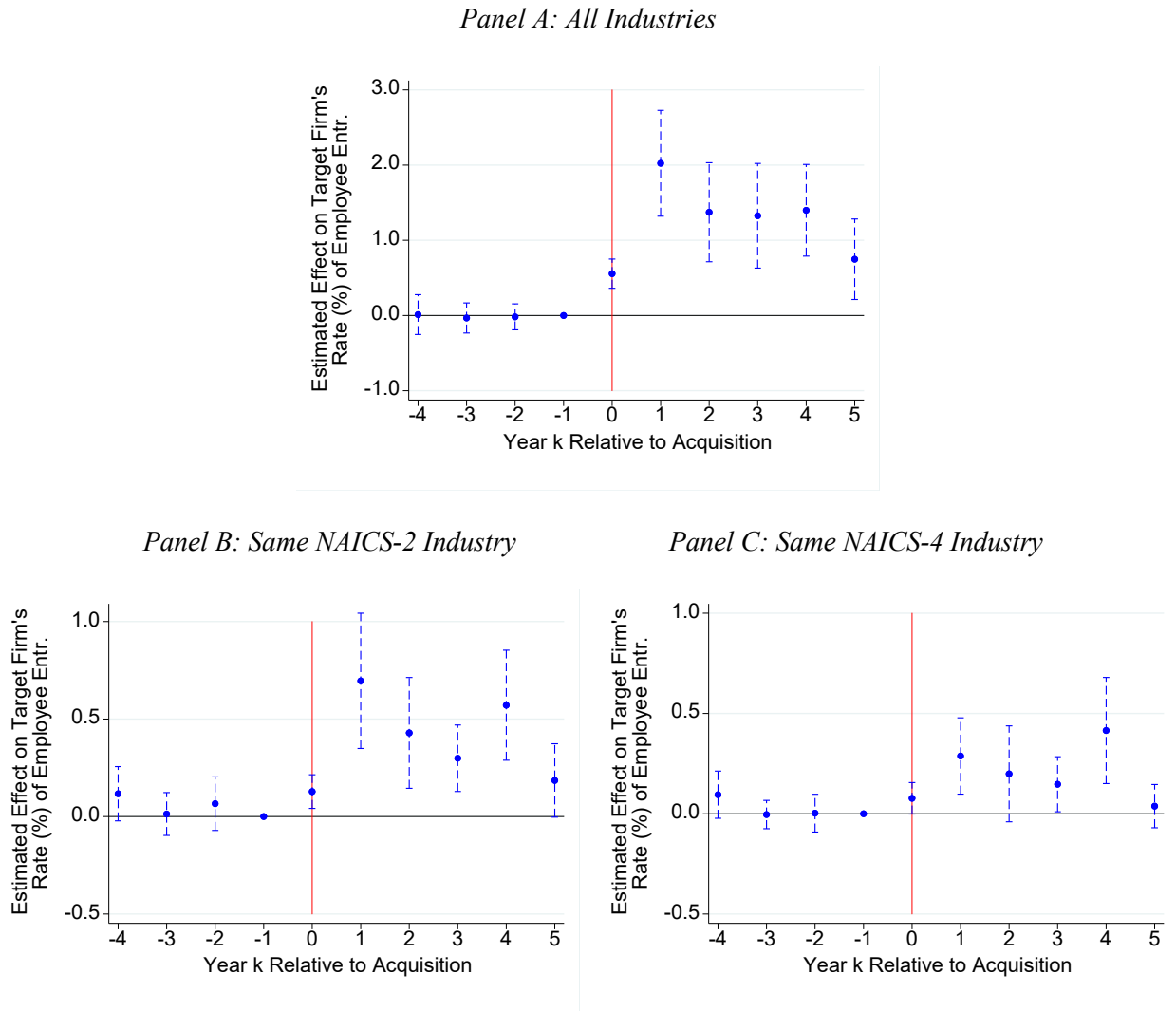
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## Figures

**Figure 1:** Dynamic Effects of Acquisition on Target Firm's Rate of Employee Entrepreneurship



*Notes:* These figures plot the estimated  $\lambda_k$  from Equation (1) along with the 95% confidence interval. Panel A examines employee entrepreneurship across all industry, while Panels B and C focus on that occurring in the same NAICS-2 and NAICS-4 industries, respectively. Sample observations are the target firm-year level. Each year relative to the acquisition is separately estimated as a dummy  $d[k]$  to show the dynamic effects. Year  $t-1$  is omitted as the reference point. Standard errors are clustered at the target firm level. Underlying OLS regressions include target firm and year fixed effects. Dependent variable, scaled by 100 for legibility, is the percent share of workers at the target firm in year  $t$  who go on to found their own firm in years  $t$  or  $t+1$ .

## Tables

**Table 1:** Summary Statistics of Acquired High-Tech Startups

Definition	Mean	SD	Pairwise Correlations							
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Acquisition Year	2002	5.9								
Firm Size	120	460	0.00	1						
Firm Age	4.1	2.9	0.00	0.09	1					
Mean Wages (\$thousand)	80.6	94.0	0.20	-0.01	-0.02	1				
% Rate of Employee Ent. (any)	0.34	2.39	0.02	-0.01	0.01	0.00	1			
% Rate of Employee Ent. (same NAICS-2)	0.18	2.15	0.01	-0.01	0.01	0.00	0.85	1		
% Rate of Employee Ent. (same NAICS-4)	0.10	1.35	0.02	-0.01	-0.01	0.00	0.7	0.78	1	

NAICS Name	%
Computer Systems Design and Related Services	20.1
Management, Scientific, and Technical Consulting Services	11.6
Architectural, Engineering, and Related Services	10.5
Professional & Commercial Equipment and Supplies	7.4
Scientific Research and Development Services	6.9
Software Publishers	6.4
Data Processing, Hosting, and Related Services	5.9

*Notes:* Sample consists of acquired high-tech startups. Statistics are based on years prior to the acquisition. Due to Census disclosure rules, industry breakdown displays the most represented NAICS-4 industries. Sample covers all US states except Massachusetts. Rate of employee entrepreneurship is the percent share of workers at the target firm in year  $t$  who go on to found their own firm in years  $t$  or  $t+1$ .



**Table 2:** Estimates for the Impact of Acquisition on Employee Entrepreneurship

<i>DV Focus</i>	Dependent Variable = Rate of Employee Entrepreneurship		
	All	Same NAICS-2	Same NAICS-4
	(1)	(2)	(3)
Post Acquisition	1.081*** (0.169)	0.302*** (0.172)	0.145*** (0.058)
Mean DV Pre-Acquisition	0.331	0.172	0.111
Firm FE	YES	YES	YES
Year FE	YES	YES	YES
Observations (Firm-Year)	26,500	26,500	26,500
Nb. of Firms	4,000	4,000	4,000
R-Squared	0.176	0.217	0.175

*Notes:* This table shows diff-in-diffs estimates based on OLS models. Sample consists of acquired high-tech startups. Observations are at the target firm-year level. *Post Acquisition* equals 1 for years during or after the acquisition and 0 for pre-acquisition years. Rate of employee entrepreneurship is the share of target firm's employees in year *t* who found a new firm in years *t* or *t*+1. For legibility, this measure is scaled by 100. Same industry is defined using the target firm's industry as the basis. Standard errors in parentheses are clustered at the target firm level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table 3:** Moderating Role of Integration versus Autonomy

<i>DV Focus on Employee Ent.</i>	Integration			Autonomy		
	All	Same NAICS-2	Same NAICS-4	All	Same NAICS-2	Same NAICS-4
	(1)	(2)	(3)	(4)	(5)	(6)
Post Acquisition	1.342*** (0.300)	0.469*** (0.142)	0.248** (0.107)	0.698*** (0.143)	0.101 (0.070)	0.018 (0.054)
Target Firm FEs	YES	YES	YES	YES	YES	YES
Year FEs	YES	YES	YES	YES	YES	YES
Nb. Observations	13,000	13,000	13,000	13,500	13,500	13,500
Nb. Firms	2,000	2,000	2,000	2,100	2,100	2,100
R-squared	0.176	0.230	0.205	0.181	0.155	0.145

*Notes:* This table shows diff-in-diffs estimates based on OLS models. Sample is split based on whether the acquired firm is integrated versus provided with autonomy. Integration indicates cases when the acquired establishment is moved to the location of, or absorbed by, acquirer's headquarters establishment; autonomy otherwise. Observations are at the target firm-year level. *Post Acquisition* equals 1 for years during or after the acquisition and 0 for pre-acquisition years. Rate of employee entrepreneurship is the share of target firm's employees in year *t* who found a new firm in years *t* or *t*+1. For legibility, this measure is scaled by 100. Same industry is defined using the target firm's industry as the basis. Standard errors in parentheses are clustered at the target firm level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table 4:** Impact of Employee Entrepreneurship on Acquirer's Long-Run Performance*Panel A: DV = Employment Growth Rate Between Years t and t+3*

<i>Industry of Employee Entrepreneurship</i>	Unrelated Industry (1)	Same NAICS-2 (2)	Same NAICS-4 (3)	Same NAICS-6 (4)
Nb. of Employee Entrepreneurship Events	-0.004 (0.003)	-0.013** (0.005)	-0.016** (0.008)	-0.037*** (0.014)
Acq. Year × Acquirer Industry FE	YES	YES	YES	YES
State FE	YES	YES	YES	YES
Observations	3,900	3,900	3,900	3,900
R-squared	0.145	0.146	0.145	0.147

*Panel B: DV = Revenue Growth Rate Between Years t and t+3*

<i>Industry of Employee Entrepreneurship</i>	Unrelated Industry (1)	Same NAICS-2 (2)	Same NAICS-4 (3)	Same NAICS-6 (4)
Nb. of Employee Entrepreneurship Events	-0.011** (0.004)	-0.014** (0.007)	-0.021** (0.010)	-0.037** (0.016)
Acq. Year × Acquirer Industry FE	YES	YES	YES	YES
State FE	YES	YES	YES	YES
Observations	1,700	1,700	1,700	1,700
R-squared	0.162	0.161	0.161	0.162

*Notes:* This table shows a series of firm-level OLS regressions on the acquirer's long-run performance. While Panel A uses employment growth sourced from the LBD as the dependent variable, Panel B uses revenue growth sourced from the Revenue-Enhanced LBD, which covers a large subset of firms in the LBD. A new firm through an employee entrepreneurship event is considered unrelated if its NAICS-2 industry is different from that of the original target firm. Similarly, Columns 2-4 consider new firms that are in the same 2, 4, and 6-digit NAICS industry, respectively, as the original target firm. State and Industry (NAICS-2) fixed effects are based on the acquiring firm. To calculate growth, DHS (1996) growth measures are used. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.