Accepted Manuscript

Title: “We Own What you Think”: Institutional Constraints on Hybrid Entrepreneurship and High-Growth Entrepreneurship

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DOI: https://doi.org/10.1177/10422587261473009

Publication: Entrepreneurship Theory and Practice

Citation: Mohammadi, A., & Rodriguez-Garnica, S. (2026). “We Own What you Think”: Institutional Constraints on Hybrid Entrepreneurship and High-Growth Entrepreneurship. Entrepreneurship Theory and Practice, 0(0). https://doi.org/10.1177/10422587261473009

"WE OWN WHAT YOU THINK"[1]: INSTITUTIONAL CONSTRAINTS ON HYBRID ENTREPRENEURSHIP AND HIGH-GROWTH ENTREPRENEURSHIP.

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Manuscript status: Author's Accepted Manuscript

The published version is available in *Entrepreneurship Theory and Practice*, pp. 1–28:
https://journals.sagepub.com/doi/10.1177/10422587261473009

Recommended Citation
Mohammadi, A., & Rodriguez-Garnica, S. (2026). "We Own What You Think": Institutional Constraints on Hybrid Entrepreneurship and High-Growth Entrepreneurship. *Entrepreneurship Theory and Practice*, 0(0). https://doi.org/10.1177/10422587261473009

[1] Natichtigal, J., 2004, Salon, Published August 18.

ABSTRACT

This article investigates whether institutional conditions that limit employees to pursue hybrid entrepreneurship reduce potential high-growth entrepreneurship. Using the *Alcatel v. Brown* ruling, as an institutional change that curtailed hybrid entrepreneurial activity, we show that affected states experienced a marked decline in indicators of ventures with high-growth potential. Effects are strongest among early-stage ventures, consistent with hybrid entrepreneurship enabling low-cost experimentation. Venture capital investors also respond to reduced experimentation by increasing syndication and staging. Overall, the results show that institutional arrangements shape experimentation through hybrid entrepreneurship and, consequently, the supply of ventures capable of achieving high growth.

Key words: hybrid entrepreneurship, side projects, high-growth entrepreneurship, experimentation in entrepreneurship, intellectual property rights, venture capital.

The best startups almost have to start as side projects, because great ideas tend to be such outliers that your conscious mind would reject them as ideas for companies.
Paul Graham, Founder, Y Combinator

Who owns your thoughts? According to the 219th Judicial District Court of the State of Texas, your employer might.
Lai, J. C. (2003)

INTRODUCTION

Side projects, initiatives pursued by employees outside of formal working hours, have become an increasingly important feature of contemporary work and entrepreneurship (Sessions et al. 2021; Kwan et al., 2025). The growing prevalence of such projects is fueled by the rise of the gig economy and the normalization of remote work. When such projects show promise, their creators may formalize them into business ventures while retaining their salaried employment, a pathway referred to as hybrid entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014;

Gänser-Stickler et al., 2022). Although these activities vary in their degree of formalization, we refer to them collectively as hybrid entrepreneurship throughout the article. Iconic firms created through this pathway include Apple, GitHub, Instagram, eBay and Craigslist (Raffiee & Feng, 2014; Cohen, 2002).

A growing body of research examines hybrid entrepreneurship as a distinct mode of entry into entrepreneurship and documents the individual-level motivations and consequences associated with this choice (Folta et al., 2010; Raffiee & Feng, 2014; Petrova, 2012; Gänser-Stickler et al., 2022; Marshall et al., 2019; Sessions et al., 2021; Schulz et al., 2017; Kuske et al., 2025). This literature shows that individuals engage in hybrid entrepreneurship for several reasons: to experiment with business ideas while maintaining income security (Folta et al., 2010; Raffiee & Feng, 2014; Ferreira et al., 2020); to pursue non-pecuniary benefits such as self-determination, autonomy, and passion (Folta et al., 2010; Thorgren et al., 2014; Tornikoski et al., 2015); and due to push factors, such as the need for supplementary income (Folta et al., 2010; Bögenhold, 2019; Schulz et al., 2017; Tornikoski et al., 2015). Compared to fulltime entrepreneurs, hybrid entrepreneurs differ in their responses to uncertainty, tend to be better educated, and face higher opportunity costs of leaving paid employment (Gänser-Stickler et al., 2022; Folta et al., 2010; Raffiee & Feng, 2014). At the same time, a growing literature highlights that formal institutions shape hybrid entrepreneurship by altering incentives and constraints faced by potential entrepreneurs (Schulz et al., 2016; Schulz et al., 2021; Alyavi & Schulz, 2024). For example, changes in entry regulation and bankruptcy laws affect hybrid and full-time entrepreneurs differently (Schulz et al., 2016), suggesting that hybrid entrepreneurs are particularly sensitive to some institutional changes.

Despite these advances, an important gap remains. Existing research has primarily examined individual-level outcomes, such as entry decisions, survival, or transitions to full-time

entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014; Petrova, 2012; Ferreira, 2020). By contrast, considerably less attention has been devoted to whether institutional conditions that facilitate or constrain hybrid entrepreneurship translate into aggregate entrepreneurial outcomes, particularly those most relevant for policymakers, such as the creation of potentially high-growth ventures. This gap is important because, although relatively rare, high-growth ventures contribute disproportionately to job creation, innovation, and economic growth (Shane, 2009; Audretsch, 2012; Henrekson & Johansson, 2010) and are strongly shaped by regional dynamics, including institutional environments (Bennett et al., 2024; Araki et al., 2024). Accordingly, understanding whether institutional constraints on hybrid entrepreneurship influence the growth potential of emerging ventures, remains a central challenge in entrepreneurship research.

We address this question by exploiting the *Alcatel v. Brown* ruling, which expanded employers' claims over employees' independently developed ideas within the IT industry and introduced legal uncertainty regarding the ownership of employee-generated innovations (Lai, 2003; Wu et al., 2026). We focus on the IT industry, where the ruling originated and where side projects are particularly prevalent, with 88% of software developers engaging in them while in full-time employment (Stack Overflow, 2024). The ruling strengthened employer rights relative to employee inventors and discouraged hybrid entrepreneurship activity. While the decision established a persuasive legal precedent[2] across the United States, eight states with preexisting statutory protections for employee inventions were effectively exempt, as their legal frameworks superseded the ruling.

Exploiting this institutional change, we compare treated and control states to estimate the effect of the *Alcatel v. Brown* ruling on potential high-growth entrepreneurship activity in the IT

[2] A persuasive legal precedent refers to a court decision from another jurisdiction that can influence a court's ruling due to the strength of its reasoning or logic (Hart, 2012; Landes & Posner, 1976).

industry. Our primary measure of potential high-growth entrepreneurship is the number of Venture Capital (VC)-backed startups, as startups receiving VC financing are widely recognized as a reliable proxy for startups with potential for high growth (Castellaneta et al., 2016; Lerner & Nanda, 2020; Wright & Robbie, 1998). We show that states affected by the *Alcatel v. Brown* precedent experienced a sharp decline in the number of VC-backed startups within the IT industry. We also find that startups in treated states received smaller VC investment and had lower successful exit rates. Complementing these results, we consistently show significant declines in an alternative measure of high-growth entrepreneurship, the Entrepreneurial Quality Index (EQI), which also captures the growth potential of newly founded startups (Andrews et al., 2022).

We further present suggestive evidence consistent with hybrid entrepreneurship functioning as a low-cost experimentation channel, such that constraining it reduces entrepreneurial experimentation in treated states (Folta et al., 2010; Raffiee & Feng, 2014; Luc et al., 2018). First, the negative effects are strongest among early-stage startups, where experimentation and learning are most critical, and reduces for more mature firms (Ewens et al., 2018). Second, we find that VC investors respond to this reduced experimentation by increasing their use of syndication and staging in treated states relative to controls, suggesting greater caution under heightened uncertainty (Gompers, 1995; Lerner, 1994). We acknowledge that the ruling may have affected high-growth entrepreneurship through multiple channels beyond hybrid entrepreneurship. We therefore conduct additional analyses to try to reduce concerns about alternative mechanisms, including changes in labor mobility across treated and control states.

This article contributes to literature in several ways. First, we extend the literature on high-growth entrepreneurship (Autio & Rannikko, 2016; Brown et al., 2017; Eesley, 2016; Egan, 2022) by identifying institutions constraining hybrid entrepreneurship as a pathway to high-

growth venture activity. While existing research highlights how institutions shape high-growth entrepreneurship through channels such as labor mobility, regulatory burden, and access to resources (Bennett et al., 2024; Araki et al., 2024), we highlight legal protections for hybrid entrepreneurial activity as a previously unexplored mechanism. By framing hybrid entrepreneurship as a potential legitimate route to high-growth ventures, our study enriches understanding of high-growth entrepreneurship.

Second, we contribute to the broader literature on hybrid entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014; Alyavi & Schulz, 2024) by showing that institutional changes that restrict hybrid entrepreneurship reduces the emergence of high-growth ventures. While prior studies examine how hybrid entrepreneurs respond to institutional changes at the individual level (Schulz et al., 2016; Schulz et al., 2021), we shift the focus to broader entrepreneurial outcomes and show that institutional constraints on hybrid entrepreneurship affect the supply of high-growth ventures. In doing so, we suggest that hybrid entrepreneurship can serve as an important pathway to high-growth venture creation.

Third, we contribute to the literature on how labor market institutions shape entrepreneurial outcomes. Prior research shows that legal regimes such as non-compete agreements and trade-secret protections influence employee mobility, knowledge flows, and venture creation (Bennett et al., 2024; Starr et al., 2018; Castellaneta et al., 2016). We extend this work by showing that Intellectual Property (IP) protections shape high-growth entrepreneurship through a distinct mechanism: constraining hybrid entrepreneurship. Specifically, legal regimes that strengthen incumbents' claims over employee-generated ideas discourage hybrid entrepreneurship and reduce the supply of high-growth ventures. Our findings highlight the double-edged nature of IP institutions: while stronger protections secure knowledge and

appropriability for incumbent firms, they may also suppress entrepreneurial experimentation, mobility, and new venture creation (Marx et al., 2009; Starr et al., 2018; Lobel, 2014a).

The article proceeds as follows. We first reviewed the literature on hybrid entrepreneurship, institutional constraints and high-growth entrepreneurship. We then present our empirical strategy, followed by a description of methods and data. Next, we report our main findings, explore underlying mechanisms, and conduct additional analysis. We conclude by discussing our results, the implications and offering final conclusions.

PRIOR LITERATURE

This section develops the theoretical foundation of hybrid entrepreneurship, synthesizes prior evidence on how formal institutions shape such activity, highlights the literature on high-growth entrepreneurship and outlines how institutional constraints on hybrid entrepreneurship may ultimately affect high-growth entrepreneurship.

Conceptualizing Hybrid Entrepreneurship

Interest in hybrid entrepreneurship has grown substantially in recent years, reflecting its recognition as a distinct and important mode of entrepreneurial entry (Folta et al., 2010; Raffiee & Feng, 2014; Petrova, 2012; Klyver et al., 2020; Ganser-Stickler et al., 2022; Schulz et al., 2017; Bögenhold, 2019). Hybrid entrepreneurship is the simultaneous pursuit of entrepreneurial activity while remaining in wage employment. Prior research has primarily examined who engages in hybrid entrepreneurship and the motivations underlying this choice (Folta et al., 2010; Petrova, 2012; Raffiee & Feng, 2014; Ferreira, 2020; Thorgren et al., 2014, 2016).

The literature suggests that individuals engage in hybrid entrepreneurship for multiple reasons. Some use it as a transitional pathway to full-time self-employment (Folta et al., 2010; Raffiee

& Feng, 2014; Ferreira, 2020; Luc et al., 2018; Thorgren et al., 2016). In this view, hybrid entrepreneurship allows individuals to test business concepts, refine models, and assess entrepreneurial aptitude while maintaining the security of stable employment. This dual arrangement mitigates the risks associated with entrepreneurial entry and makes entrepreneurship a more viable option for individuals with attractive employment alternatives.

Others engage in hybrid entrepreneurship for non-pecuniary benefits, such as creative exploration, passion or transforming hobbies or intellectual curiosities into entrepreneurial initiatives (Folta et al., 2010; Thorgren et al., 2014; Nordström et al., 2016; Mahieu et al., 2022; Tornikoski et al., 2015). In such cases, the appeal lies in autonomy, creativity, and personal satisfaction, which may outweigh the additional time and effort required. Others, such as side hustles or multiple jobholders, engage in hybrid entrepreneurship primarily to supplement income, for example, gig workers like Uber drivers (Folta et al., 2010; Bögenhold, 2019; Sessions et al., 2021; Tornikoski et al., 2015). Importantly, these motivations are not mutually exclusive. For example, Omidyar founded eBay out of curiosity and as a hobby, without intending to leave his day job; however, following a positive market response, he ultimately transitioned to full-time entrepreneurship (Cohen, 2002).

Additional work on multiple jobholders finds that although side hustles may generate conflicts, they may also improve performance in the primary paid job by generating skill and knowledge spillovers (Sessions et al., 2021). Hybrid entrepreneurship has additionally been shown to increase innovative behavior within individuals' primary roles (Marshall et al., 2019) and to strengthen the significance of academic research outcomes (Fini et al., 2022). To the best of our knowledge, Raffiee and Feng (2014) is the only study that has empirically examined the potential entrepreneurial benefits of hybrid entrepreneurship, at the individual level. They found that hybrid entrepreneurs who subsequently enter full-time self-employment (i.e., quit

their day job) have much higher rates of survival relative to individuals who enter full-time self-employment directly from paid employment.

Institutions and Hybrid Entrepreneurship

Formal institutions constitute the "rules of the game" that define the incentives and constraints within an economy by shaping the transaction costs that govern economic exchange (North, 1991; Baumol, 1990; Soleimanof et al., 2018). A substantial body of research demonstrates that institutions shape entrepreneurial dynamics by for example, influencing access to resources, expected returns, uncertainty associated with entrepreneurial activity, and barriers to entry (Castellaneta et al., 2016; Marx et al., 2009; Samila & Sorenson, 2011; Starr et al., 2018; Garmaise, 2011).

Despite the growing literature on hybrid entrepreneurship over the past decade, comparatively little attention has been devoted to how formal institutions shape hybrid entrepreneurial activity. Nevertheless, institutions are likely to play an important role (Alyavi & Schulz, 2024). For example, the recent shift toward remote work has acted as an institutional enabler, providing employees with greater temporal and spatial flexibility to engage in entrepreneurial experimentation while retaining the downside protection of stable employment (Kwan et al., 2025).

The literature has begun to examine how hybrid entrepreneurs respond to institutional changes in ways that differ from full-time or direct entrants. For example, in the context of firm entry deregulation, Schulz et al. (2016) showed that hybrid entrepreneurs are highly responsive, with their entry being triggered at a rate four times higher than that of full-time entrepreneurs. This is because hybrids often operate as "marginal" entrepreneurs who reap smaller individual returns initially and are thus disproportionately sensitive to fixed entry barriers and costs. Conversely, when considering bankruptcy exemption levels, Schulz et al. (2021) found that

active hybrid entrepreneurs exhibit diminishing sensitivity toward more lenient laws compared to non-hybrids. Because hybrid founders have already invested significant time, effort, and emotional attachment into their ventures, the perceived personal costs of failure remain so high that marginal increases in the wealth they can keep in bankruptcy are less influential in their decision to transition to full-time self-employment.

Beyond these institutional dimensions, a large body of research has shown that ownership and control over employee-generated knowledge is a central concern in entrepreneurship (Marx et al., 2009; Samila & Sorenson, 2011; Starr et al., 2018; Garmaise, 2011). Extensive work has examined how legal and contractual arrangements, such as ownership of innovations, non-compete agreements and the inevitable disclosure doctrine, shape entrepreneurial mobility by restricting employees' ability to appropriate and deploy firm-specific knowledge in new ventures. These mechanisms are especially relevant in knowledge-intensive industries, where human capital is a key driver of innovation and firm formation, and they have been suggested to play an important role for hybrid entrepreneurs (Folta et al., 2010; Bögenhold, 2019).

Despite this theoretical relevance, the role of these institutional constraints in shaping hybrid entrepreneurship remains largely underexplored. As a result, it remains unclear whether variation in institutional protection that deters hybrid entrepreneurship ultimately translates into differences in aggregate entrepreneurial outcomes, particularly high-growth entrepreneurship.

High-Growth Entrepreneurship and the Role of Institutions

From a policy perspective, high-growth entrepreneurial ventures are especially attractive, since they contribute disproportionately to job creation, innovation, and are drivers of economic growth (Shane, 2009; Audretsch, 2012). High-growth entrepreneurship refers to the process of

starting and developing businesses with strong potential for rapid expansion (Henrekson & Johansson, 2010).

Institutions and legal frameworks play a critical role in shaping the conditions under which high-growth ventures emerge (Eesley, 2016; Bennett et al., 2024; Starr et al., 2018). Policymakers have long sought to design initiatives that nurture firms with the potential for rapid expansion (Shane, 2009). For instance, targeted policies attempt to identify new ventures with strong growth prospects and provide them with resources, mentorship, or financial support (Mason & Brown, 2013). Yet the challenge of forecasting which firms will ultimately experience rapid growth remains profound (Autio & Rannikko, 2016). Early contributions noted the inherent difficulty of selecting future "winners" ex ante (Birley, 1987; Storey, 1994; Autio & Rannikko, 2016), and subsequent work has shown that reliable predictors of high-growth episodes remain elusive (Cantner & Kösters, 2012). Low explanatory power has led scholars to argue that firm growth is largely shaped by stochastic shocks (Marsili, 2001), limiting the efficacy of narrowly targeted policies.

This recognition has contributed to a shift in entrepreneurship policy toward enabling conditions rather than firm-specific selection (Autio & Rannikko, 2016; Mason & Brown, 2020). Instead of attempting to "pick winners," scholars advocate strengthening firms' growth capacity and fostering environments that enable promising ventures to emerge and scale. Hybrid entrepreneurship may constitute one such enabling condition; when supported rather than constrained by institutions, it may increase the prevalence of high-growth entrepreneurship.

The Impact of Constraints on Hybrid Entry for High-Growth Entrepreneurship

Hybrid entrepreneurship depends on a credible separation between employer-owned and individually generated ideas. When ownership boundaries over employee-generated

innovations are clearly defined, individuals can try as hybrid entrepreneurs with greater confidence that independently developed ideas will remain under their control (Alyavi & Schulz, 2024; Folta et al., 2010). By contrast, when institutions expand employer claims over employee-created innovations or introduce ambiguity regarding ownership, the legal risk associated with experimentation increases, thereby discouraging hybrid entrepreneurial activity.

We now consider how these institutional constraints on hybrid entrepreneurial activity may decrease high-growth potential ventures. Hybrid entrepreneurship allows employees to experiment, enabling them to test venture ideas, acquire knowledge, and refine concepts before making a full commitment (Folta et al., 2010; Raffiee & Feng, 2014). Through hybrid entrepreneurship, individuals can develop and apply new skills while assessing the feasibility of their business ideas in real settings. Unpromising concepts can be abandoned with minimal sunk costs, whereas promising ones can be iteratively improved. This experimentation phase filters out weaker ideas and strengthens viable ones, increasing the likelihood that the ventures ultimately launched will be of higher quality and exhibit stronger potential for high growth.

As the opening quote of this article from Paul Graham underscores, breakthrough ideas often begin as unconventional side projects because their potential is not immediately obvious. Accordingly, experimentation is especially critical for disruptive or novel business concepts, which tend to face substantial technological, market, and financial uncertainty (Davis et al., 2013; Gans, 2025). For such ideas, real-world testing is often the only meaningful way to assess value, uncover customer needs, and refine business models (Kerr et al., 2014). Without a low-cost channel for experimentation many transformative ideas might remain unexplored (Ewens et al., 2018; Folta et al., 2010; Burnell et al., 2026). Institutional constraints on hybrid

entrepreneurship, therefore, may limit the space and incentive to experiment of affected individuals.

Institutional barriers to hybrid entrepreneurship may shape high-growth entrepreneurship by disproportionately affecting high human capital individuals. These individuals with higher levels of education face higher opportunity costs of leaving stable employment (Petrova, 2012) and are therefore more reliant on hybrid entrepreneurship as an entry pathway (Folta et al., 2010; Raffiee & Feng, 2014). When such hybrid entry is constrained, these individuals are more likely to be deterred from entrepreneurial entry altogether, despite being those most likely to generate high-growth ventures due to their superior skills, experience, and networks that enhance opportunity recognition and scaling capacity (Eesley, 2016). As a result, restrictions on hybrid entrepreneurship may skew the entrepreneurial pool away from high human capital founders, thereby reducing the likelihood of high-growth venture creation (Folta et al., 2010; Panos et al., 2014).

EMPIRICAL SETTING

This section introduces the institutional context and the ruling that allows us to examine whether institutional constraints on hybrid entrepreneurship reduces high-growth entrepreneurship.

The Alcatel v. Brown Ruling

Broad employee IP assignment agreements have long been standard in the technology industry, requiring workers to transfer to their employers any inventions conceived during their employment (Wu et al., 2026). Although originally designed to protect firms' proprietary knowledge, these agreements were difficult to apply in the IT industry. Unlike traditional manufacturing or engineering, where innovations typically take tangible form, software-related

advances often consist of abstract concepts or algorithms. Because such innovations were difficult to categorize under conventional IP law, courts historically struggled to determine whether intangible ideas fell within the scope of employer ownership (Lai, 2003). As a result, many ideas developed independently while keeping the job in IT remained under the control of employees unless they matured into patentable or copyrightable products.

A pivotal shift occurred in 2003, with Alcatel USA, Inc. v. Brown ruling in Texas. The case involved Evan Brown, a software engineer employed by DSC Communications (later acquired by Alcatel) (Lai, 2003; Lobel, 2014a; Lobel, 2014b). In his free time and without using company resources, Brown developed the idea for an algorithm that, once completed, could convert legacy software systems into newer computing environments. Concerned about potential IP conflicts, Brown requested release from his invention disclosure obligations so he could pursue his software idea without risking ownership of it. After negotiations failed, Alcatel terminated his employment and sued, claiming ownership of the idea under the employment IP assignment clause. In 2003, the Texas court ruled in favor of Alcatel, holding that even abstract and undeveloped ideas could fall within the scope of employment IP assignment clauses, regardless of whether company resources were used. The decision attracted widespread public attention, with headlines such as “We Own What You Think” and “My Ideas, My Boss’s Property”, underscoring the ruling’s controversial implications for knowledge workers and innovation in the IT industry.

The Impact of Alcatel v. Brown Ruling Across U.S. States

Understanding the impact of Alcatel v. Brown across U.S. states requires distinguishing between states that had explicit statutory protections for employee side projects and those that did not (Lai, 2003). Eight US states (California, Delaware, Illinois, Kansas, Minnesota, North Carolina, Utah, and Washington) had statutes protecting employees’ inventions (see Table 1).

In these states, the Alcatel v. Brown ruling had no effect, as statutory protections superseded common law, leaving the legal treatment of hybrid entrepreneurs' innovations unchanged. Employees retained rights to inventions created without employer resources and outside the scope of their employment, that is, when they were not hired to develop the specific innovation. We therefore use these states as the control group.

By contrast, in most US states, the *Alcatel v. Brown* ruling applied through common law as a persuasive precedent, that is, influencing judicial reasoning in subsequent disputes and thereby expanding employer power over employee innovations. Prior to the ruling, common law (since 1933) allowed employers to claim only tangible, fully developed inventions, leaving abstract or unfinished ideas (common in IT and software) largely outside IP contracts (Lai, 2003). After *Alcatel v. Brown*, this boundary shifted: employer claims could be extended to intangible and early-stage ideas, creating substantial legal uncertainty for hybrid entrepreneurs. Thus, this shift was particularly consequential in the IT industry, where software ideas, previously difficult to enforce, could now fall under employer claims (Wu et al., 2026).

Consequently, in treated states, employees, particularly in the IT industry, faced the risk that any idea that could lead to hybrid entrepreneurship, even early-stage or conceived outside of work, could be successfully claimed by their employer. This precedent significantly broadened employers' rights under common law and reduced employees' incentives to become hybrid entrepreneurs. Table 2 summarizes the differential impact of the *Alcatel v. Brown* ruling.

This divergence in legal treatment created a unique quasi-natural experimental setting. After 2003, becoming hybrid entrepreneurs in treated states became riskier, particularly in the IT industry where abstract innovations that may lead to a new venture could now be claimed by employers. In contrast, employees in control states continued to benefit from statutory protections, ensuring that independently developed innovations remained under their control.

We exploit this institutional change using a Difference-in-Differences (DiD) framework, comparing pre- and post-ruling changes in high-growth entrepreneurship between treated and control states. This approach allows us to identify the impact of constraints on hybrid entrepreneurship activity on high-growth ventures.

METHODS AND DATA

High-Growth Entrepreneurship Proxied as VC-Backed Startups

The broader high-growth entrepreneurship literature typically relies on realized growth outcomes, such as rapid increases in employment or revenue (e.g., Delmar et al., 2003; Araki et al., 2024). In our study we focus on potential rather than realized growth because our theoretical mechanism, trying in entrepreneurship while keeping the paid employment, operates before individuals fully commit to entrepreneurship and shapes which ideas progress into ventures capable of achieving high growth (Folta et al., 2010; Henrekson & Johansson, 2010). Since future growth trajectories are inherently uncertain, researchers often rely on early, forward-looking indicators to assess a venture's growth potential. One prominent example is VC-backed startups, as VC investors specialize in identifying ventures with exceptional scalability prospects (Lerner & Nanda, 2020). As a result, VC-backed startups are often considered among the most valuable and scalable ventures in the broader entrepreneurial population (Castellaneta et al., 2016). Empirical evidence shows that VC-backed firms grow faster, generate more patents, exhibit higher productivity, and are more likely to go public than non-VC-backed firms (Puri & Zarutskie, 2012; Wright & Robbie, 1998). These characteristics make VC-backed startups a reliable proxy for potential high-growth entrepreneurship (Castellaneta et al., 2016; Lerner & Nanda, 2020). Hence as primary source of data we rely on VC-backed startups.

Data and Sample

We use data from Refinitiv EIKON (formerly VentureXpert), a comprehensive platform that tracks VC-backed startups and provides detailed information on VC deals worldwide. It is widely used in academic research (Castellaneta et al., 2016; Conti et al. 2022; Hsu, 2007; Shafi et al. 2020). Our sample comprises 391 state-year observations of U.S. VC-backed startups in the IT industry over the period 1997–2007[3], ending just before the financial crisis (see Appendix Table A1 for details on sample construction).

Focusing on the IT industry (corresponding to "Computer Software and Services" and "Internet Specific") is motivated by three main considerations. First, the *Alcatel v. Brown* ruling originated within the IT industry. Because legal precedents generally inspire future cases with similar circumstances, this industry was particularly affected by the ruling. Prior to this decision, IP agreements in the IT industry were often difficult to enforce due to the abstract and intangible nature of software-based innovations. The court's judgment clarified that IP ownership agreements could indeed extend to such intangible assets, making them legally enforceable and substantially reshaping the regulatory environment for IT professionals engaging in hybrid entrepreneurship (Wu et al., 2026). Second, a significant proportion of the US's most influential business ideas have emerged from IT-related independently developed employee projects, reflecting the industry's strong capacity to generate high-growth ventures. Third, these independently developed employee projects are especially prevalent in the IT industry, with nearly 90% of software developers engaging in them (Stack Overflow, 2024).

Variables and Estimation Strategy

[3] Our results are robust to extensions of the sample period.

Our main dependent variable, VC-backed startups, corresponds to the total number of startups in each U.S. state-year that received first-round VC investments[4]. The key explanatory variable is the interaction between Post and Treatment. The variable Post is a binary indicator equal to 1 for years after 2002 (following the *Alcatel v. Brown* ruling), and 0 otherwise. Treatment is equal to 1 for the 42 states that lacked preexisting legal protection for employee-developed IP, and 0 for the 8 states that had such protections in place before the ruling (Table 1).

We estimate the effect of the ruling on the number of VC-backed startups using a Poisson Pseudo-Maximum Likelihood model (PPML). Our main analysis is at the state-year level to capture potential high-growth entrepreneurship at the level of treatment. The model is specified as follows:

$$\text{VC-backed startups}_{st} = f(\beta_0 + \beta_1 \text{Treated}_s + \beta_2 \text{Post}_t + \beta_3 \text{Treated}_s \text{Post}_t + \varphi_s + \tau_t + C_{st} + \varepsilon_{st})^5 \quad (1)$$

φ_s represents state fixed effects that control for time-invariant state characteristics, and τ_t captures year fixed effects, accounting for macroeconomic trends. The term C_{st} denotes a vector of time-varying state-level controls sourced from the U.S. Census Bureau that has been extensively used in prior research (e.g., Conti et al., 2022; Conti & Valentini, 2018). First, we control for the natural logarithm of state population size, as state changes in the population size could influence the prevalence of high-growth entrepreneurship. Second, we include GDP growth to account for time-varying macroeconomic conditions that may differ across states and could influence the outcome variable. Third, we control for the tax burden, measured as the ratio of total state tax revenues to GDP[6]. Finally, we include a measure of education level,

[4] In the main analyses we limit the sample to state-year observations with at least one VC-backed startups. However, we also repeated the analyses by including the state-years without any VC-backed startups. Results remain very similar.

[5] Note that when we include state and year fixed effects, the main coefficients on Treated and Post are absorbed because these variables are constant within a state and a year, respectively. Only the interaction term (Treated × Post) remains identified and captures the difference-in-differences effect.

[6] Washington, D.C., is excluded from analyses involving this variable due to data unavailability.

proxied by the share of the adult population holding at least a college degree, to account for differences in the availability of human-capital across states and years (see Appendix Table A2 for variable definitions) [7]. The term ε_{st} is the error term. Standard errors are clustered at the state level to account for serial correlation within states across time.

We assess the robustness of our findings using alternative measures of high-growth entrepreneurship. Specifically, we estimate additional models using (1) the number of successful exits, defined as the number of VC-backed startups that underwent a M&A or IPO; and (2) the log-transformed average and median VC deal sizes[8]. These measures provide complementary insights into the quality and scale of entrepreneurial outcomes beyond deal count and help validate the consistency of our main results across a broader set of state-level indicators. For the average and median deal size, we use OLS models with fixed effects. Descriptive statistics for these variables are reported in Table 3.

RESULTS

Test of Parallel Trend Assumption

A key identifying condition for the validity of the DiD research design is the parallel trends assumption. This assumption requires that, in the absence of treatment, the treated and control groups follow similar pre-existing trends in the outcome variable. In our context, this implies that, prior to the *Alcatel v. Brown* ruling, states ultimately affected by the ruling (treated group) and those unaffected (control group) exhibited parallel trajectories in the outcome variable. Under this condition, any post-treatment divergence between the two groups can be plausibly attributed to legal intervention rather than to pre-existing differences in trend dynamics.

[7] Results are robust to the inclusion of additional controls for state R&D expenditures, public support for entrepreneurship (SBIR/STTR funding), UTSA adoption, economic freedom, and corporate, personal income, and sales tax rates (available upon request).
[8] Number observations drop for average and median VC-backed investment sizes due to missing values.

To test this, we estimate an event-study specification that interacts the treatment indicator with a full set of year dummies, using 1997 as the reference period. Figure 1 presents the estimated coefficients for each year relative to the treatment[9]. Importantly, in the years immediately preceding the *Alcatel v. Brown* ruling, we find no statistically or economically significant differences in the total number of VC-backed startups between treated and control states, indicating parallel pre-trends. Following the ruling, however, a negative and significant effect emerges, reinforcing the validity of our empirical strategy. Although we observe some divergence between treated and control states in t=-5 and t=-4, we conduct several additional analyses to assess the robustness of our findings. Specifically, we control differential pre-treatment trends, and estimate a specification restricted to treated states only and an alternative within-state control based on non-IT industries[10]. Our results remain robust across all these exercises (see Appendix B).

Main Results

Table 4 reports the regression estimates for our main dependent variable, the number of VC-backed startups, as well as for three additional state-level outcomes: the number of successful exits, and the log-transformed average and median VC deal sizes. Columns 1-4 present specifications that include state and year fixed effects but exclude time-varying control variables to address concerns related to bad controls (Cinelli et al., 2022). Columns 5-8 introduce control variables, including population, GDP growth, tax burden, and educational attainment.

[9] Event-study estimates corresponding to Figure 1 are available upon request.
[10] We also evaluate the suitability of the control group using a leave-one-state-out analysis. A leave-one-state-out analysis confirms that the results are not driven by any single control state; coefficients remain negative across all specifications. Results are available upon request.

Across all specifications, we observe a statistically significant decline in entrepreneurial outcomes in treated states following the legal shock, providing strong support for the effect on potential high-growth entrepreneurship in the IT industry. Specifically, the PPML estimates in Column 1 indicate that, relative to the control states, treated states experienced a 25.1%[11] decline in the expected number of VC-backed startups after the *Alcatel v. Brown* ruling (IRR = $e^{-0.289} = 0.749$; $p < 0.001$). When we include the full set of control variables in Column 5, the estimated effect is a 24.6% decline (IRR = $e^{-0.284} = 0.753$; $p = 0.005$). These results confirm that the ruling substantially dampened the total VC-backed startups in the IT industry[12], in states without prior statutory protection for employees' ideas relative to control states.

To evaluate the robustness of our findings across alternative dimensions that reflect the prevalence of high-growth entrepreneurship, we include additional dependent variables. Specifically, we examine the number of successful exits, i.e., M&A or IPOs, as well as the log-transformed average and median amounts received by VC-backed startups. The results show that the ruling had a substantial dampening effect on all these outcomes. Column 6 shows treated states experienced a 37.1% decline in successful exits relative to control states following the *Alcatel v. Brown* ruling (IRR = $e^{-0.486} = 0.629$, $p < 0.001$), holding other factors constant. In addition, we find that the average deal size declined by 33.2% ($p = 0.051$), while the median amount received by VC-backed startups dropped by 54.4% ($p = 0.011$) in treated states relative to controls. Results hold when we include the control variables.

[11] This magnitude is consistent with prior evidence: Castellaneta et al. (2016) document a 27% increase in the expected number of VC-backed startups following a ruling in favor of the inevitable disclosure doctrine, whereas our estimates indicate a comparable 25.1% decline in the opposite direction. This is also in line with the fact that nearly 88% of software developers in the IT industry engage in side projects (Stack Overflow, 2024), implying that constraints on such activities can have sizable effects in this sector.

[12] Placebo analyses using only non-IT industries show no statistically significant treatment effects, suggesting that the impact of the Alcatel v. Brown decision was concentrated in the IT sector and unlikely to reflect broader state-level shocks.

Our primary analysis used VC-backed startups as a measure of potential high-growth entrepreneurship. To assess robustness outside the VC context, we additionally examine outcomes from the Entrepreneurial Quality Index (EQI) developed by the Startup Cartography Project (Andrews et al., 2022). The EQI captures the average growth potential of newly founded firms within a state, based on predictive indicators observed at or near the time of business registration. By estimating each startup's likelihood of achieving a high-growth outcome, the EQI provides a complementary measure. The difference-in-differences estimates reported in Table 5 indicate that the *Alcatel v. Brown* ruling led to an approximately 6% decline in entrepreneurial quality (EQI) in treated states relative to control states. This effect is statistically significant at the 1% level.

The consistent negative effects across all dependent variables reinforce the conclusion that the ruling reduced the prevalence of potential high-growth entrepreneurial ventures in treated states relative to control states. Combined with the absence of effects on the quantity of entrepreneurial entry[13], these results suggest that the ruling changed the composition of entrepreneurial activity rather than overall entry, by discouraging potential high-growth ventures.

Test of Mechanism

In this article, we have thus far assumed that the effect of the *Alcatel v. Brown* ruling on high-growth entrepreneurship operates through constraints on hybrid entrepreneurship. In this section, we present a set of supplementary analyses designed to provide additional evidence consistent with this proposed mechanism while also attempting to rule out alternative explanations such as labor mobility for our findings.

[13] Results on entrepreneurial quantity using BDS data are available upon request and show no effect of the ruling on aggregate entrepreneurial entry.

Impact of the Ruling on Hybrid Entrepreneurship.

To verify our identification strategy, it is essential to show that the ruling had a significant effect on entrepreneurial behavior at the individual level. Although the shock is implemented at the aggregate (state) level, its enforcement and interpretation can vary across employees and employers. Showing that the *Alcatel v. Brown* ruling alters individuals' propensity to engage in hybrid entrepreneurship, therefore, provides a critical validation of our assumption.

Using individual level data from the Current Population Survey (see Appendix C for more details on the CPS), we estimate the effect of the *Alcatel v. Brown* ruling on transitions into entrepreneurship using a Linear Probability Model. Columns 1 and 2 of Table 6 report estimates of the likelihood that individuals transition from full-time employment to any form of self-employment, while Columns 3 and 4 isolate transitions specifically into hybrid entrepreneurship, using transitions into other forms of entrepreneurship as the reference category. To address concerns regarding bad controls, we present results both without the full set of controls (Columns 1 and 3) and with them (Columns 2 and 4).

Importantly, Table 6 restricts the analysis to individuals with at least a college degree. This subgroup is of particular interest, given theoretical expectations that the ruling would disproportionately affect more educated individuals for two reasons. First, the legal change specifically concerns ownership over innovative outputs, and its consequences are therefore most salient among knowledge workers, those with higher educational attainment and a greater likelihood of generating IP. Second, hybrid entrepreneurship is commonly employed as a strategy to reduce the risks associated with entrepreneurial entry for individuals facing higher opportunity costs, such as those with higher levels of human-capital (Folta et al., 2010; Panos

et al., 2014). We therefore expect the ruling's effects to be especially pronounced within this segment of the workforce[14].

Consistent with this expectation, we find a statistically significant decline following the ruling. Specifically, the probability that a full-time employee transitions into any form of self-employment falls by approximately 0.1 percentage points ($p = 0.046$) in treated states after the ruling. Given a baseline entry rate of 0.6%, this corresponds to a relative decline of roughly 16.7%. This result remains robust when controlling for a rich set of demographic and socioeconomic characteristics. These findings offer initial evidence that the institutional constraints introduced by the ruling significantly dampened entrepreneurial activity among college-educated workers. We then examine whether the ruling disproportionately affected hybrid entrepreneurship, defined as self-employment concurrent with wage employment. The results show a pronounced decline: the probability of transitioning into hybrid entrepreneurship falls by 4.1 percentage points ($p = 0.031$) in treated states. This effect also remains robust to the inclusion of covariates. Given a baseline rate of hybrid entry of 6.3%, the estimate reflects a substantial relative decline of approximately 65%.

The CPS-based results provide suggestive evidence for our claim that the *Alcatel v. Brown* ruling is an institutional change that constrained hybrid entrepreneurs with higher levels of education. These individuals, who typically leverage hybrid entry to manage risk and opportunity costs (Folta et al., 2010), appear to have been disproportionately deterred by the increased legal uncertainty surrounding project ownership.

[14] As a falsification test, we repeat the analysis for individuals without a college degree and find no effect of the ruling on either overall or hybrid entrepreneurship, reinforcing that *Alcatel v. Brown* primarily constrained high-human-capital employees more likely to pursue high-growth ventures through hybrid entrepreneurship. Results are available upon request.

Impact of the Ruling on Different Startups and Governance of VC Investments. An implication of our theoretical framework is that restricting hybrid entrepreneurship reduces individuals' opportunities for low-cost experimentation before launching a full-time venture (Folta et al., 2010; Raffiee & Feng, 2014). Because early experimentation generates critical signals about technological viability, entrepreneurial ability, and market potential, its absence increases the uncertainty surrounding new startups. This uncertainty should be especially pronounced for ventures that are in their earliest stages of development (Ewens et al., 2018). We therefore expect both (i) stronger negative effects on the formation and financing of early-stage startups and (ii) systematic adjustments in investor behavior consistent with heightened uncertainty (i.e. syndication and staging). We examine these two dimensions below.

Differential Impact on Early- vs. Late-Stage VC-backed startups. As argued above, we expect the negative effects to be more pronounced for nascent startups, which rely more on early experimentation with their business ideas, than for more mature, established companies (Ewens et al., 2018). To test this prediction, we examine the impact of the *Alcatel v. Brown* ruling on startups that received the first round of investment in the early-stage, which target newly formed ventures, with startups that received the first round of investment in the late-stage deals, which typically involve startups that have already achieved a certain level of operational maturity. The findings, presented in Table 7, support our argumentation. The ruling had a significantly stronger negative effect on the number of early-stage deals (IRR = $e^{-0.330} = 0.719$), representing a 28.1% decline ($p = 0.011$), compared to a smaller and marginally significant effect on late-stage deals (IRR = $e^{-0.187} = 0.829$), corresponding to a 17.1% decline ($p = 0.067$). These results suggest that institutional restrictions disproportionately curtail opportunities for entrepreneurial experimentation.

Syndication and staging of VC investment. Larger syndicates and more extensive staging are commonly interpreted as indicators of higher perceived uncertainty in investment decisions (Colombo et al, 2016). Syndication, i.e., joint investment by multiple VCs, helps mitigate risk and information asymmetries, particularly in early-stage environments (Bygrave, 1987; Brander et al., 2002; Tian, 2012; Lerner, 1994), while staging, i.e., the stepwise provision of capital across multiple rounds, allows investors to update their investment as new information emerges (Gompers, 1995; Li, 2008). Building on this logic, our results of Table 8 show that, after the ruling, VC syndicates (Models 1-4) became larger, and financing became more heavily staged (Models 5-8). These effects are especially pronounced for early-stage startups (Models 2 vs 3 and 6 vs 7), where the absence of prior experimentation is most consequential and baseline uncertainty is highest. Overall, these findings suggest that the ruling increases uncertainty surrounding new entrepreneurial opportunities by limiting pre-entry experimentation and prompts VCs to adopt governance mechanisms designed to better navigate that uncertainty.

Alternative Mechanisms

We emphasize hybrid entrepreneurship as the main mechanism through which the Alcatel v. Brown ruling affects high-growth entrepreneurial outcomes, showing that it reduced individuals' propensity to engage in hybrid entrepreneurship, lowered pre-entry experimentation, and altered investor behavior in ways consistent with reduced entrepreneurial experimentation. While other channels may also be relevant, such as potential labor market frictions, we explicitly examine employee mobility as an alternative explanation. Using state-level Job-to-Job Flows from U.S. Census Bureau (2024) we find no evidence that the ruling increased interstate mobility among workers or inventors in treated states relative to control

states (see Appendix D). These results suggest that changes in labor mobility are unlikely to be the primary driver of our findings.

DISCUSSION

This article answers a central question in the entrepreneurship literature: do institutional constraints to hybrid entrepreneurship reduce potential high-growth entrepreneurship? By exploiting the *Alcatel v. Brown* ruling as an institutional change, we show that this ruling led to a decline in high-growth entrepreneurship in the IT industry. States affected by the ruling experienced fewer VC-backed startups, smaller deal sizes, and lower exit success rates, with results robust to an alternative measure outside the VC context: the Entrepreneurship Quality Index. Importantly, we find no evidence that the ruling affected the overall number of new firms, suggesting that its impact is concentrated on the quality rather than the quantity of entrepreneurial activity.

We show that the *Alcatel v. Brown* ruling meaningfully reduced individuals' likelihood of engaging in hybrid entrepreneurship. Consistent with this mechanism, we also document shifts in investor behavior that align with reduced engagement in hybrid entrepreneurship experimentation. While we acknowledge that the ruling may affect high-growth entrepreneurship through alternative channels, we provide additional evidence suggesting that changes in labor mobility are unlikely to be the primary driver of our results.

This article makes three main contributions. First, we contribute to the literature on high-growth entrepreneurship (Autio & Rannikko, 2016; Brown et al., 2017; Eesley, 2016; Egan, 2022) by identifying institutional constraints on hybrid entrepreneurship as an overlooked mechanism shaping the supply of potential high-growth ventures. While the literature has shifted from targeted "picking winners" policies toward enabling conditions for scalable

entrepreneurship (Cantner & Kösters, 2012), we show that the ability to engage in hybrid entrepreneurship under institutional certainty can be itself a key enabling condition.

Regional research has highlighted that high-growth entrepreneurship is more prevalent in regions with strong institutions, skilled labor, knowledge-intensive industries, and supportive financial ecosystems (Audretsch, 2012; Friesenbichler & Hölzl, 2020). Our findings extend this place-based perspective by introducing a distinct institutional channel: legal uncertainty surrounding hybrid entrepreneurship. Our results suggest that environments that protect less the employees' ability to experiment with new ideas while remaining in paid employment without risking the loss of their innovations, are more likely to suffer a drop in high-growth ventures. This mechanism may help explain persistent differences in entrepreneurial dynamism across regions (Mason & Brown, 2013; Autio & Rannikko, 2016; Sleuwaegen & Ramboer, 2020). We also highlight the specificity of this ruling for entrepreneurship. Whereas some prior studies find effects on the quantity and quality of startups (Autio & Rannikko, 2016; Brown et al., 2017; Eesley, 2016; Egan, 2022), we find effects only on quality, shifting the distribution toward high-growth ventures.

Second, our research contributes to the literature on hybrid entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014; Petrova, 2012). While prior work shows that hybrid entrepreneurs respond differently to formal institutional changes such as entry deregulation and bankruptcy laws (Schulz et al., 2016; Schulz et al., 2021), it remains unclear whether these effects translate into broader entrepreneurial outcomes. We address this gap by showing that the *Alcatel v. Brown* ruling, which increased constraints on hybrid entrepreneurship, reduced the emergence of potential high-growth ventures in affected states.

When interpreted cautiously, these findings offer indirect support for the view that hybrid entrepreneurship may serve as an effective pathway to high-growth venture creation,

particularly in the IT industry. This aligns with prior evidence showing that hybrid entrepreneurs who later transition to full-time entrepreneurship have higher survival rates than direct entrants (Raffiee & Feng, 2014) and suggests that hybrid entry may facilitate scalable entrepreneurial activity by enabling low-cost experimentation (Folta et al., 2010). Hybrid entrepreneurship allows individuals to refine ideas under real-world conditions while maintaining employment security, supporting iterative learning and lowering the opportunity costs faced by highly skilled employees in stable jobs (Folta et al., 2010; Raffiee & Feng, 2014; Schulz et al., 2016; Kerr et al., 2014; Burnell et al., 2026).

Third, we extend the literature on how labor market institutions shape entrepreneurship. Prior research has shown that legal protections governing knowledge, such as non-compete clauses and trade-secret enforcement, shape employee mobility, knowledge diffusion, and new venture creation (Bennett et al., 2024; Starr et al., 2018; Castellaneta et al., 2016). Our findings focus on an additional institutional channel that is particularly consequential for hybrid entrepreneurs: ownership rights over innovations developed independently while individuals remain in paid employment (Alyavi & Schulz, 2024).

Importantly, the allocation of ownership rights over employee-generated innovations has implications that extend beyond entrepreneurship itself, as it also affects incumbent firms (Wu et al., 2026; Armstrong et al., 2026). Stronger employer rights may safeguard firm-level innovation and appropriability, but they also discourage hybrid entrepreneurial activity and weaken the pipeline of high-growth ventures. Whether the benefits to incumbents from greater control over employee-generated innovations outweigh the potential loss in high-quality new firm formation remains an open question.

Other forms of knowledge governance may also shape hybrid entrepreneurial activity. For instance, non-compete agreements and mobility restrictions (Castellaneta et al., 2016; Bennett

et al., 2024) are also likely to matter for hybrid entrepreneurship but remain underexplored in this context (Folta et al., 2010; Bögenhold, 2019). This highlights the need for further research on how different institutional arrangements jointly shape hybrid entrepreneurship and, ultimately, the broader entrepreneurial ecosystem.

Despite these contributions and implications, our findings should be interpreted in light of several limitations. First, while the results are consistent with the interpretation that the ruling affected high-growth entrepreneurship through constraints on hybrid entrepreneurship, we do not directly observe individuals' side projects. As a result, we cannot directly test the proposed mechanism at the individual level, and our evidence remains suggestive rather than causal. In addition, although we undertake a range of robustness checks and examine alternative channels, including labor mobility, we cannot fully rule out other mechanisms that we have not identified through which the institutional change may have operated. Furthermore, the analysis is concentrated in the IT sector, where hybrid entrepreneurship is especially prevalent and experimentation costs are relatively low (Wu et al., 2026; Folta et al., 2010), which may limit external validity to other industries with different innovation processes and employment arrangements. Finally, firms vary in how strictly they enforce IP restrictions (Arora et al., 2004), and our design does not capture this heterogeneity in enforcement, which may moderate the observed effects.

These limitations suggest several avenues for future research. In particular, detailed data on side projects and their subsequent outcomes would allow for a more precise identification of the underlying mechanism and strengthen causal inference. Besides, cross-industry comparisons could clarify whether hybrid entrepreneurship plays similar roles in different industries, for example, manufacturing, biotechnology, or creative industries. Variation in IP enforcement strategies may also interact with talent considerations: firms seeking employees

with high entrepreneurial capital might adopt permissive policies to attract talent, while stricter enforcement could deter potential innovators. Future work could investigate why firms differ in their enforcement approaches and how this affects talent attraction and retention.

CONCLUSION

In sum, our study shows that institutional constraints on hybrid entrepreneurship, particularly the Alcatel v. Brown ruling, reduced the prevalence of potential high-growth ventures in affected states. The findings suggest that institutional conditions shaping individuals' ability to experiment with entrepreneurial opportunities while remaining employed influence the quality of entrepreneurial activity.

Acknowledgments

The authors thank Vera Rocha, Tom Grad, Eduardo Melero, and Karl Wennberg for helpful comments on earlier drafts. The authors would also like to thank the Business Department of University Carlos III of Madrid, seminar participants in NCER workshop 2025, AOM, EGOS, Conference on the Dynamics of Entrepreneurship CoDE, Madrid Work and Organization Workshop, IE University of Madrid, Copenhagen Business School, SEI 2025, KU Leuven, and University of Navarra.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Spanish Government with PID2021126435NB-C21, PID2024-160565NB-C21, and FPU2021-02648.

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Tables and Figures

Figure 1. Event Study of the Evolution of the Treatment Effect Before and After the Ruling (Dependent Variable: Number of VC-Backed Startups).

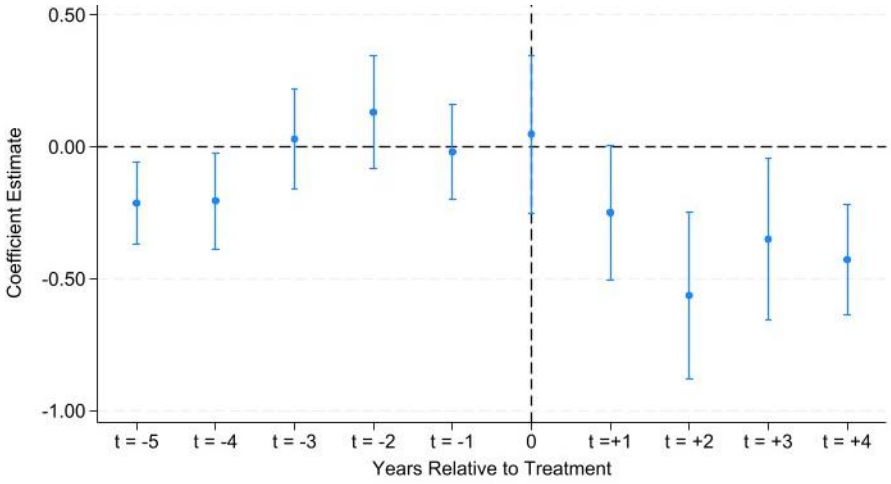

Table 1. US States with Statutory Protection for Employees' Side Projects and Corresponding Enactment Years.

State	Protection	Enacted year
California	California Labor Code §2870 & §2872	1979
Delaware	Delaware Code, 19 §805	1984
Illinois	Illinois Trade Secrets Act, 765 ILCS 1062/2	1983
Kansas	Kansas Statutes Annotated §44-130	1986
Minnesota	Minn. Stat. § 181.78	1977
North Carolina	North Carolina General Statutes § 66-57.1	1981
Utah	Utah Code Annotated § 34-39-3	1989
Washington	Washington Revised Code § 49.44.140-145	1979

Note. Reproduced from Wu et al. (2026).

Table 2. Summary of the Differential Impact of the *Alcatel v. Brown* Ruling on Treated and Control States.

	Before *Alcatel v. Brown*	**After *Alcatel v. Brown***
Treated States (Follow common law principles)	Employer ownership of side-project innovation could only enforced when it was a tangible (typically excluding software ideas) and fully developed innovations.	Employer ownership of side-project innovation applied now even with intangible (software ideas are now included) and unfinalized (early-stage work) innovations.
Control States (Follow their specific statutory protections)	Employer ownership of side-project innovations required proof that the employee was hired to invent or used employer resources to develop that innovation. This standard remained unchanged after the *Alcatel v. Brown* ruling.	

Table 3. Descriptive Statistics for the Main Sample.

	N	SD	Mean	P10	P25	P50	P75	P99
Deals	391	61.01	21.22	1	2	5	15	267
Succ. Exits	391	16.393	5.013	0	0	1	3	87
Avg deal (ln)	382	1.001	8.199	7.048	7.824	8.367	8.829	10.101
Median deal (ln)	382	1.01	7.86	6.745	7.49	8.006	8.412	10.101
Population	391	.88	15.429	14.077	14.89	15.508	15.973	17.387
GDP Growth	391	.023	.03	.005	.014	.027	.045	.094
Taxation	391	1.017	5.413	4.305	4.795	5.313	5.917	8.214
College or above	391	4.548	23.432	17.4	20.3	22.9	26.6	33.2

Note: the sample is restricted to IT-related industries. The table displays the number of observations (N), standard deviation (SD), mean, and selected percentiles (P10, P25, P50, P75, P99).

Table 4. Main Regression Results: PPML and OLS Estimates on VC-backed Startups and Deal Size.

	PPML		OLS		PPML		OLS	
	(1) VC-backed startups	(2) Succ. exits	(3) Avg deal (ln)	(4) Med deal (ln)	(5) VC-backed startups	(6) Succ. exits	(7) Avg deal (ln)	(8) Med deal (ln)
Post * Treated	-0.289***	-0.471***	-0.375**	-0.560***	-0.284***	-0.486***	-0.332*	-0.544**
	(0.081)	(0.108)	(0.161)	(0.198)	(0.101)	(0.083)	(0.165)	(0.206)
	(0.000)	(0.000)	(0.024)	(0.007)	(0.005)	(0.000)	(0.051)	(0.011)
Population (ln)					-0.274	3.122**	2.168	2.769*
					(0.961)	(1.411)	(1.509)	(1.579)
					(0.776)	(0.027)	(0.158)	(0.086)
GDP Growth					1.345	2.257*	-2.556	-2.805
					(1.012)	(1.347)	(2.494)	(2.703)
					(0.184)	(0.094)	(0.311)	(0.305)
Taxation					-0.131*	0.087	0.077	0.152
					(0.079)	(0.149)	(0.154)	(0.151)
					(0.098)	(0.556)	(0.617)	(0.319)
College or above					0.016	0.020	-0.036	-0.068
					(0.035)	(0.030)	(0.132)	(0.147)
					(0.649)	(0.515)	(0.785)	(0.644)
Constant	3.739***	2.930***	7.904***	7.693***	8.518	-49.270**	-24.936	-34.136
	(0.046)	(0.043)	(0.132)	(0.146)	(15.813)	(24.037)	(24.670)	(25.444)
	(0.000)	(0.000)	(0.000)	(0.000)	(0.590)	(0.040)	(0.317)	(0.186)
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N obs	391	391	381	381	391	391	381	381
N States	44	44	43	43	44	44	43	43
F-stat			11.151	4.816			11.293	5.763
Adj. R2			0.299	0.225			0.299	0.226

Note: Analysis based on data from Refinitiv EIKON, restricted to the IT industry. The number of total VC-backed startups and successful exits (measured as the total number per U.S. state-year) are estimated using a Poisson Pseudo-Maximum Likelihood (PPML) model. The average and median VC deal sizes (in thousands of USD, annually per state) are log-transformed and estimated using OLS regression. Standard errors are clustered at the state level. Results are reported as: coefficient (clustered standard error; p-value). Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5. Alternative Measure to the Main Regression Results: OLS Estimates on the Entrepreneurship Quality Index (EQI) — Startup Cartography Project Data.

	OLS	
	(1) EQI (ln)	(2) EQI (ln)
Post * Treated	-0.060***	-0.046**
	(0.019)	(0.019)
	(0.003)	(0.020)
Population (ln)		0.000
		(0.000)
		(0.252)
GDP Growth		-0.229
		(0.459)
		(0.620)
Taxation		-0.017
		(0.015)
		(0.261)
College or above		0.022
		(0.034)
		(0.523)
Constant	-7.535***	-7.566***
	(0.008)	(0.135)
	(0.000)	(0.000)
State FE	Yes	Yes
Year FE	Yes	Yes
N obs	550	539
N States	50	49
F-stat	9.856	2.188
Adj. R-squared	0.933	0.921

Note: Analysis based on data from the Startup Cartography Project. The Entrepreneurship Quality Index is log-transformed and estimated using OLS regression. Standard errors are clustered at the state level. Results are reported as: coefficient (clustered standard error; p-value). Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6. Linear Probability Estimates of the Probability of Transitioning from Full-Time Employment to Self-Employment or Hybrid Entrepreneurship — CPS Sample.

	(1) Self-Employment	(2) Self-Employment	(3) Hybrid Entrepreneurship	(4) Hybrid Entrepreneurship
Post*Treated	-0.001**	-0.001*	-0.041**	-0.041**
	(0.000)	(0.000)	(0.018)	(0.019)
	(0.046)	(0.077)	(0.031)	(0.039)
Age		0.000***		0.000
		(0.000)		(0.000)
		(0.000)		(0.848)
Female		-0.003***		-0.000
		(0.000)		(0.010)
		(0.000)		(0.975)
Married		0.001**		-0.013
		(0.000)		(0.011)
		(0.039)		(0.268)
White		0.000		0.028***
		(0.000)		(0.010)
		(0.551)		(0.007)
Black		-0.000		0.031
		(0.001)		(0.024)
		(0.974)		(0.201)
With children		0.000		-0.006
		(0.000)		(0.011)
		(0.387)		(0.572)
Fam income over		0.001***		-0.001
75,000$		(0.000)		(0.010)
		(0.005)		(0.933)
Fam income		0.004***		-0.030*
missing		(0.000)		(0.017)
		(0.000)		(0.073)
Constant	0.006***	-0.001**	0.126***	0.115***
	(0.000)	(0.001)	(0.009)	(0.027)
	(0.000)	(0.022)	(0.000)	(0.000)
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	483087	483087	2677	2677
N States	50	50	50	50
Adj. R-squared	0.004	0.005	0.127	0.127

Note: Analysis is based on Current Population Survey (CPS) data. Sample is restricted to respondents with a college degree or higher. More details on the sample can be found in Appendix C. OLS models estimate: (1) the probability of becoming any type of self-employed (base category: not self-employed), and (2) the probability of becoming a hybrid entrepreneur (base category: non-hybrid entrepreneurs). Both outcomes are conditional on individuals being full-time, paid employees in the previous period (t – 1). Results are reported as: coefficient (clustered standard error; p-value). Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7. Differential Effects of Ruling by Stage of Development of Startups at the First Round of VC Investment.

	(1)	(2)
	Early stage VC-backed deals	Late stage VC-backed deals
Post * Treated	-0.330**	-0.183*
	(0.129)	(0.101)
	(0.011)	(0.069)
Population (ln)	-1.316	1.729*
	(1.155)	(1.026)
	(0.254)	(0.092)
GDP Growth	0.073	4.003**
	(1.076)	(1.672)
	(0.946)	(0.017)
Taxation	-0.098	-0.194*
	(0.102)	(0.116)
	(0.340)	(0.095)
College or above	0.035	-0.014
	(0.051)	(0.033)
	(0.498)	(0.660)
Constant	24.687	-24.405
	(19.113)	(16.529)
	(0.196)	(0.140)
State FE	Yes	Yes
Year FE	Yes	Yes
N	402	400
N States	48	47

Note: Analysis is based on data from Refinitiv EIKON, restricted to the IT industry. Control variables are sourced from the U.S. Census Bureau. Early-Stage Deals refer to the total number of VC-backed deals classified by Refinitiv EIKON as early-stage (i.e., seed or early-stage) per state-year. Late-Stage Deals refer to the total number of VC deals classified as late-stage (e.g., expansion and late-stage) per state-year. Estimates are obtained using PPLM regression, with standard errors clustered at the state level. Results are reported as: coefficient (clustered standard error; p-value). Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 8. Effect of Treatment on VC Syndication and Staging of Investments.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		DV: syndication size				DV: Staging		
	All	Early Stage	Late Stage	All	All	Early Stage	Late Stage	All
Post × Treated	0.089***	0.116***	0.033	0.043*	0.071*	0.126**	-0.053	-0.050
	(0.023)	(0.026)	(0.029)	(0.026)	(0.042)	(0.050)	(0.062)	(0.063)
	(0.000)	(0.000)	(0.257)	(0.100)	(0.093)	(0.012)	(0.397)	(0.422)
Early stage	0.125***			0.080***	0.223***			0.191***
	(0.027)			(0.020)	(0.022)			(0.023)
	(0.000)			(0.000)	(0.000)			(0.000)
Post× Early stage				-0.026				0.026
				(0.029)				(0.030)
				(0.378)				(0.370)
Treated×Early stage				0.082***				0.003
				(0.029)				(0.035)
				(0.005)				(0.942)
Post × Treated×Early stage				0.065**				0.166***
				(0.029)				(0.046)
				(0.026)				(0.000)
Round size(log)	0.218***	0.221***	0.217***	0.218***				
	(0.006)	(0.004)	(0.019)	(0.007)				
	(0.000)	(0.000)	(0.000)	(0.000)				
Total investment					0.308***	0.324***	0.265***	0.308***
					(0.014)	(0.013)	(0.018)	(0.014)
					(0.000)	(0.000)	(0.000)	(0.000)
Population (ln)	0.848*	1.100*	0.420	0.920*	-0.644	-0.331	-1.194*	-0.524
	(0.472)	(0.591)	(0.647)	(0.478)	(0.553)	(0.660)	(0.671)	(0.542)
	(0.072)	(0.063)	(0.516)	(0.054)	(0.245)	(0.616)	(0.075)	(0.334)
GDP Growth	0.555	0.278	1.088	0.542	1.353**	1.151	2.153**	1.391**
	(0.432)	(0.488)	(0.933)	(0.458)	(0.663)	(0.776)	(0.873)	(0.703)
	(0.199)	(0.568)	(0.244)	(0.237)	(0.041)	(0.138)	(0.014)	(0.048)
Taxation	-0.056*	-0.076**	-0.015	-0.059*	0.007	0.010	-0.014	0.007
	(0.033)	(0.039)	(0.069)	(0.035)	(0.040)	(0.037)	(0.110)	(0.038)
	(0.092)	(0.050)	(0.825)	(0.091)	(0.869)	(0.791)	(0.896)	(0.853)
College or above	-0.002	-0.002	-0.009	-0.003	0.017***	0.021**	0.005	0.016***
	(0.008)	(0.014)	(0.019)	(0.008)	(0.005)	(0.011)	(0.033)	(0.006)
	(0.817)	(0.901)	(0.621)	(0.673)	(0.001)	(0.047)	(0.892)	(0.004)
Constant	-14.664*	-18.568*	-7.731	-15.794**	8.266	3.080	18.086	6.339
	(7.902)	(9.892)	(10.665)	(8.006)	(9.069)	(10.994)	(11.382)	(8.900)
	(0.063)	(0.061)	(0.468)	(0.049)	(0.362)	(0.779)	(0.112)	(0.476)
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7658	5524	2119	7658	7658	5524	2119	7658
N states	47	45	41	47	47	45	41	47

Note: Analysis based on data from Refinitiv EIKON, restricted to the IT industries. Level of analysis is a VC-backed startup observed at the first round of VC investment. The dependent variable in models 1-4 is Syndication size, defined as the number of VCs participating in the round of investment, and in models 5-8 is Staging, defined as the number of VC rounds of investment that a startup received. Columns 1, 4, 5 and 8 shows the full sample. Column 2 (3) 6 (7) show the VC-backed startups that, in the first round of investment, are in the early stage (late stage). The results are estimated using a Poisson Pseudo-Maximum Likelihood (PPML) model. Standard errors are clustered at the state level. Results are reported as: coefficient (clustered standard error; p-value). Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

ONLINE APPENDIX:
"WE OWN WHAT YOU THINK": INSTITUTIONAL CONSTRAINTS ON HYBRID ENTREPRENEURSHIP AND HIGH-GROWTH ENTREPRENEURSHIP.

APPENDIX ROADMAP

Section	Content	Tables
A. EIKON Data	EIKON Data. Sampling Procedure and Main Variable Definitions	A1-2
B. Identification Strategy	Assessing the Validity of the Identification Strategy: Pre-Trend Sensitivity Analyses and Alternative Control-Group Specifications	B1-2
C. CPS Data	CPS Data. Sampling Procedure and Descriptive Statistics	C1-2
D. Employee Mobility	Assessing Employee Mobility as an Alternative Mechanism	D1

APPENDIX A: EIKON Data. Sampling Procedure and Main Variable Definitions

Table A1. Data Sampling Procedure for the Main Analyses — Refinitiv EIKON Data

Steps	Procedure	Observations	Level of data
Step 1: VC data 1997-2007	• All Deal level VC investment 1997-2007 in the United States	157,850	Deal-Startup-Investor
Step 2: Sample restriction	• Limit to only the first round of investment	18,429	Startup
	• Limit to the IT industry	7,658	Startup
Step 3: Preparing sample for estimation	• Collapsing to State-year	416	State (of startup)-Year
Step 4: Final sample	• Excluding observations with missing data in controls	391	State (of startup)-Year

Table A2. Variable Definitions.

Variable Name	Variable Description	Source
VC-backed startups	Count of startups receiving first-round VC funding per state-year.	Refinitiv EIKON
Succ. exits	Count of VC-backed startups with successful exits per state-year.	Refinitiv EIKON
Avg/Med Capital Received (ln)	Natural logarithm of the annual average/median funding (in thousands USD) received by startups backed by VC per state-year.	Refinitiv EIKON
Early-stage startups	Count of startups receiving their first VC investment at an early stage (classified by Refinitiv Eikon as *seed* or *early stage*).	Refinitiv EIKON
Late-stage startups	Count of startups receiving their first VC investment at a late stage (classified by Refinitiv Eikon as *expansion* or *late-stage*).	Refinitiv EIKON
Post	A binary variable equal to 1 if the year is after 2002, and 0 otherwise.	Refinitiv EIKON
Treated	A binary variable equal to 1 for U.S. states without statutory protections for employees' IP ownership (42 states); and 0 for states with such statutory protections, namely: California, Delaware, Illinois, Kansas, Minnesota, North Carolina, Utah, and Washington.	Refinitiv EIKON
EQI (ln)	Natural logarithm of Entrepreneurial Quality Index (EQI): average growth potential of startups per state-year. Estimating the likelihood of high growth outcomes (e.g., IPOs or acquisitions within six years) at founding.	Startup Cartography Project
Population (ln)	Natural logarithm of the state population size per state-year.	U.S. Census Bureau
GDP Growth	Annual percentage growth rate of real Gross Domestic Product (GDP) per state-year.	U.S. Census Bureau
Taxation	Ratio of total state tax revenues to GDP per state-year.	U.S. Census Bureau
College or above	Share of the adult population holding at least a college degree per state-year.	U.S. Census Bureau

APPENDIX B: Test of Validity of the Identification Strategy

Pre-trend prior to treatment. As was shown in the parallel trend analyses, we observe some divergence between the treatment and control groups in periods $t-4$ and $t-5$, which may raise concerns about underlying differences in the evolution of IT entrepreneurship across states. Following recommendations in the recent difference-in-differences literature regarding potential violations of the parallel trends assumption (Roth et al., 2023), first, we directly account for broader trends in the IT sector by constructing a leave-one-out measure of IT startup activity (Table B1). Specifically, for each state, we compute the average level of IT startup activity in all other states during the pre-treatment period and interact with a linear time trend. This approach captures common developments in the IT sector while avoiding mechanical correlation with the focal state's outcome. Second, we estimate specifications with state-specific linear time trends by interacting the state's pre-treatment IT startup activity with a linear time trend, thereby allowing states to follow distinct underlying trajectories in IT entrepreneurship over time. Third, we include an interaction between treatment status and a linear time trend, which permits treated states to evolve along a different smooth trajectory relative to control states throughout the sample period. Across all specifications, the estimated decline in VC-backed IT startups following the *Alcatel v. Brown* ruling remains similar in magnitude and statistical significance.

Suitability of control group. One potential concern with our analysis is the suitability of the control states. Specifically, control states may differ in systematic ways from the treated states, and such underlying differences, not the ruling, could drive our results[15]. To address this issue,

[15] One solution would be matching control and treatment states. However, since we have only 8 control states this is not feasible. Hence, we repeated this analyses at MSA level and conducting a propensity score matching on 2002 characteristics. Results remain very similar to the main findings.

Table B1. Addressing Concerns for Pre-Trend Prior to Treatment.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	DV: VC-backed startups							
Post × Treated	-0.365***	-0.329**	-0.344***	-0.302**	-0.571***	-0.502***	-0.573***	-0.481***
	(0.127)	(0.132)	(0.130)	(0.135)	(0.100)	(0.113)	(0.101)	(0.125)
	(0.004)	(0.013)	(0.008)	(0.025)	(0.000)	(0.000)	(0.000)	(0.000)
IT other states × Trend	0.000	-0.001					0.009**	0.009**
	(0.002)	(0.002)					(0.004)	(0.004)
	(0.807)	(0.740)					(0.032)	(0.034)
IT state × Trend			0.000	0.000			0.000**	0.000**
			(0.000)	(0.000)			(0.000)	(0.000)
			(0.961)	(0.514)			(0.042)	(0.037)
Control × Trend					0.027***	0.037***	-0.216*	-0.220*
					(0.009)	(0.012)	(0.114)	(0.118)
					(0.003)	(0.003)	(0.059)	(0.062)
Treatment × Trend					0.064***	0.062***	-0.169	-0.184
					(0.012)	(0.022)	(0.108)	(0.112)
					(0.000)	(0.005)	(0.118)	(0.102)
Population (ln)		-0.265		-0.171		-0.370		-0.023
		(1.013)		(1.011)		(0.967)		(0.982)
		(0.793)		(0.866)		(0.702)		(0.981)
GDP Growth		1.478		1.595		1.091		1.312
		(1.148)		(1.170)		(1.079)		(1.196)
		(0.198)		(0.173)		(0.312)		(0.273)
Taxation		-0.138*		-0.134*		-0.138*		-0.117
		(0.078)		(0.077)		(0.079)		(0.076)
		(0.077)		(0.084)		(0.080)		(0.125)
College or above		0.025		0.033		0.006		0.029
		(0.039)		(0.042)		(0.034)		(0.042)
		(0.526)		(0.441)		(0.863)		(0.487)
State FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
N	391	391	391	391	391	391	391	391
N_clust	44	44	44	44	44	44	44	44

Note: Analysis based on data from Refinitiv EIKON, restricted to the IT industry. Results are estimated using a Poisson Pseudo-Maximum Likelihood (PPML) model. *Trend* is a linear time trend variable. *IT other states* measures pre-treatment trend in IT sector of all states except the focal state. *IT state* measures pre-treatment trend in IT sector of the focal state. Standard errors are clustered at the state level. Results are reported as: coefficient (clustered standard error; p-value). Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

we use three additional analyses. First, we use our placebo group (the non-IT industries) as control group and restrict the analysis to the treated states only. In practice, this approach compares the effect of the ruling within the same state by contrasting its impact on IT startups versus firms in all other industries. These analyses are conducted at the startup level. The results

(Table B2) indicate that, following the *Alcatel v. Brown* ruling, IT startups raised less funding in both the first round and in total, and received lower valuations.

Table B2. New Treated Group (IT Industry in Affected States) vs. New Control Group (Non-IT in Affected States). Startup-level Analyses.

	(1) Round size (ln)	(2) Valuation (ln)	(3) Total invested (ln)
IT industry	0.047	-0.798	0.456
	(0.057)	(0.500)	(0.309)
	(0.412)	(0.119)	(0.148)
Post * IT industry	-0.231***	-0.268**	-0.187**
	(0.061)	(0.120)	(0.087)
	(0.001)	(0.032)	(0.038)
Early seed	-0.546***	-0.770***	-0.089
	(0.089)	(0.072)	(0.102)
	(0.000)	(0.000)	(0.389)
Population (ln)	0.323	-0.281	-1.802
	(1.511)	(1.495)	(1.557)
	(0.832)	(0.852)	(0.254)
GDP Growth	-2.204	4.328**	-2.442
	(2.378)	(2.099)	(2.561)
	(0.360)	(0.046)	(0.346)
Taxation	-0.096	-0.260*	-0.087
	(0.135)	(0.131)	(0.131)
	(0.479)	(0.055)	(0.512)
College or above	0.094**	0.061	-0.014
	(0.043)	(0.049)	(0.039)
	(0.037)	(0.220)	(0.714)
Constant	1.065	14.305	38.427
	(23.860)	(23.356)	(24.875)
	(0.965)	(0.544)	(0.130)
State FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	8638	2065	8953
N States	41	37	41
F	56.496	44.023	26.512
Adj. R-squared	0.101	0.205	0.151

Note: Analysis based on deal-level data from Refinitiv EIKON, restricted to the states affected by the ruling (previously treated states). Within these states, the ruling impacted only the IT industry. Accordingly, the IT industry in affected states is defined as the new treatment group, while the non-IT industries in affected states serve as the new control group within this restricted sample. Standard errors are clustered at the state level. Results are reported as: coefficient (clustered standard error; p-value). Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

APPENDIX C: CPS Data. Sampling Procedure and Descriptive Statistics

To empirically examine whether the ruling disproportionately affected hybrid entrepreneurs within the overall pool of entrepreneurs, we utilize data from the Current Population Survey (CPS), accessed through IPUMS (Floods et al., 2021). The CPS is a nationally representative monthly survey that covers approximately 65,000 households and 130,000 individuals. Each respondent is interviewed eight times over a 16-month period (in four consecutive months, followed by an eight-month gap, and then four additional monthly interviews). This rotating panel structure allows us to track transitions in employment status and entrepreneurial activity over time. This data has been used in research on hybrid entrepreneurship (e.g., Gänser-Stickler et al., 2022; Schulz et al., 2021). We create hybrid entrepreneurship as a binary variable equal to 1 if an individual was in full-time paid employment during the previous wave and reports multiple job holdings in the current wave—specifically, full-time employment as the primary job and self-employment as a secondary activity. The variable is coded as 0 for self-employed, non-hybrid individuals, i.e. those that report self-employment without maintaining a wage job.

To control factors influencing entrepreneurial behavior, we include a set of individual-level covariates: age, gender, marital status, race (white, black), parental status, and a binary indicator for high household income (above $75,000). These controls account for demographic and socioeconomic characteristics that may shape both the likelihood of entrepreneurial engagement and the opportunity costs associated with it. All control variables except for age are binary indicators. Fam Income Over $75,000 is a dummy variable equal to 1 if the respondent's household income falls into the highest income category provided by CPS across the full sample, and 0 otherwise[16]. Last, following prior research using the data for hybrid

[16] Due to approximately 15% of income values being missing, Fam Income Missing equals 1 if a respondent's income is missing but was assigned a value of 0 in Fam Income over $75,000, and 0 otherwise. The results remain robust when excluding either or both income controls.

entrepreneurship research (Schulz et al., 2021; Gänser-Stickler et al., 2022) the sample is restricted to individuals between 25 and 59 years old to mitigates confounding influences that are specific to younger individuals who are still in their qualification phase and older individuals who are approaching retirement. Sample procedure is reported in Table C1. And descriptive statistics of the CPS variables used are reported in Table C2.

Table C1. Data Sampling Procedure for Supplemental Analysis — CPS Data.

Steps	Procedure	Observations
Step 1: Creating the panel	• Merge CPS into a person-level rotating panel, two years before and after the ruling to fully capture transitions. Corresponding to ~130,000 observations per month (Couch & Fairlie, 2010)[17].	7,978,443
Step 2: Sample restriction	• Drop non-working population. • Restricting age class of entrepreneurs to range from 25 to 59 years (Schulz et al., 2021)	3,727,502 2,841,071
Step 3: Estimating transitions to Entrepreneurship	• Full-time wage employees in the previous wave that transition into any form of self-employment (base category: non-self-employed), by college education. Excluding observations with missing data in controls	483,087 with college 995,585 without college
Step 4: Estimating transitions to hybrid entrepreneurship	• Full-time wage employees in the previous wave that transition into hybrid entrepreneur (base category: self-employed, non-hybrid), by college education. Excluding observations with missing data in controls.	2,677 with college 4,662 without college

Table C2. Descriptive Statistics of CPS Data.

	N	Mean	SD	p10	p25	p50	p75	p99
Self-employment	504055	.006	0.075	0	0	0	0	0
Hybrid entrepreneurship[18]	2826	.063	0.243	0	0	0	0	1
Treated	949860	.773	0.419	0	1	1	1	1
Age	989391	41.482	9.257	29	34	42	49	58
Female	989391	.477	0.499	0	0	0	1	1
Married	989391	.699	0.459	0	0	1	1	1
White	989391	.866	0.341	0	1	1	1	1
Black	989391	.062	0.241	0	0	0	0	1
Fam income >75,000$	989391	.461	0.498	0	0	0	1	1

Note: sample restricted to individuals with college degree or above; and individuals between 25 and 59 years old.

[17] Couch, K. A., & Fairlie, R. (2010). Last hired, first fired? Black-white unemployment and the business cycle. *Demography, 47*(1), 227-247.

[18] This includes only sample of individuals that transitioned to self-employment.

APPENDIX D: Assessing Employee Mobility as an Alternative Mechanism

The *Alcatel v. Brown* ruling could have affected labor mobility if employees with entrepreneurial ambitions chose to relocate to states with stronger statutory protections for employee-generated inventions or changed jobs in response to increased uncertainty surrounding side projects.

To evaluate this possibility, we examine employee mobility using Job-to-Job Flows data from the U.S. Census Bureau. Job-to-job flows provide a broader and more direct proxy for labor mobility relevant to venture creation and entrepreneurial experimentation. However, this data comes with important limitations. In particular, the Census Job-to-Job Flows data are only available for a more restricted time period, primarily post-2000, and for a subset of states, which substantially reduces our sample size and limits comparability with our baseline specifications.

Subject to these constraints, we examine the effect of *Alcatel v. Brown* on job separations among employees in the IT sector (NAICS 51), as well as among college-educated workers within this sector. The data are provided at the state-quarter level.

Table D1 shows no statistically significant effect of the ruling on job-to-job flows following *Alcatel v. Brown*. This finding suggests that the ruling did not meaningfully alter labor mobility patterns among IT workers or highly educated IT employees.

Table D1. Job-to-Job Flow. The Level of Analysis is Quarter State.

	(1) IT employees	(2) College educated IT employees	(3) IT employees	(4) College educated IT employees
Post × Treated	-0.022	-0.042	-0.014	-0.058
	(0.037)	(0.041)	(0.038)	(0.049)
	(0.556)	(0.310)	(0.714)	(0.238)
Population (ln)			1.119**	1.132**
			(0.457)	(0.475)
			(0.014)	(0.017)
GDP Growth			0.000	-0.000
			(0.000)	(0.000)
			(0.306)	(0.718)
Taxation			0.053	0.071*
			(0.037)	(0.043)
			(0.152)	(0.099)
State FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
N obs	1198	1198	1198	1198
N States	44	44	44	44

Note: Analysis based on data from U.S. Census Bureau's Job-to-Job Flows. Results are estimated using a Poisson Pseudo-Maximum Likelihood (PPML) model. IT employees is job-to-job separation in a state and quarter and sector codes 51(information). colleagues educated IT employees is job-to-job separation of college educated employees in a state and quarter and sector codes 51(information). Standard errors are clustered at the state level. Results are reported as: coefficient (clustered standard error; p-value). Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$".