Gender Stereotypes and Entrepreneur Financing

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Abstract

This paper explores the gender gap in high-growth entrepreneurship using unique French administrative data. It shows that the gender gap widens along the entrepreneurship pipeline, with female entrepreneurs facing challenges in accessing external equity and venture capital in male-dominated sectors. However, the gap closes in female-dominated sectors. Self-selection into sectors and context-dependent gender stereotypes among investors contribute to these disparities. Female entrepreneurs outperform their male peers when provided with VC. Moreover, highly skilled and motivated female entrepreneurs meeting VC criteria experience different funding outcomes than their male counterparts, highlighting investor bias towards female entrepreneurs who share characteristics associated with successful entrepreneurs.

Keywords: Gender gap, venture capital, startups, beliefs, stereotypes, selection

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1. Introduction

Is it worth being different? The large literature on discrimination against gender and racial minorities suggests it is not. For example, within symphony orchestras, female musicians are less likely to be hired (Goldin and Rouse, 2000). In the US, "Lakisha" and "Jamal" are less likely to be invited for an interview than "Emily" and "Greg" (Bertrand and Mullainathan, 2004). At S&P 500 firms, women makeup 19% of board members and merely 5% of CEOs (Adams and Ferreira, 2009). In economics and finance academia, 33% of new PhDs are female, and 15% of full professors are women (Chevalier, 2022; Sherman and Tookes, 2022). In entrepreneurship, while women represent approximately 30% of the population of startup founders across time and countries, only 10–15% of founders who receive venture capital (VC) and private equity (PE) funding are women (Ewens and Townsend, 2020; Calder-Wang and Gompers, 2021).

In this paper, I explore the "leaky pipeline" of women in high-growth entrepreneurship and ask whether female entrepreneurs are at a disadvantage in raising capital from equity investors. Entrepreneurship involves multiple stages, such that the gender funding gap can be the result of choices made prior to the creation of the new venture, during the startup creation process, or due to investor bias (Guzman and Kacperczyk, 2019; Ewens and Townsend, 2020; Ewens, 2023).[1] Therefore, understanding whether women face greater disadvantages at creation or whether such disparities tend to widen at the funding stage remain open questions. From a policy perspective, such understanding is critical for addressing gender inequality and increasing female representation in high-growth entrepreneurship.

My approach consists in splitting entrepreneurs between gender-congruent and incongruent sectors, as the sorting of female entrepreneurs across sectors and investors' beliefs about gender may be different depending on whether women represent a minority or the representative group of an activity.[2] Barriers to entry, in terms of human capital accumulation, childcare responsibil-

[1] In the summer of 2017, several cases of discrimination against women in technology companies (e.g., Uber, Google) and VC firms (e.g., Kleiner Perkins Caufield & Byers, 500 Startups) highlighted the treatment of women in Silicon Valley (source: https://goo.gl/VmLJNq). Other anecdotal evidence includes, for instance, the investor John Doerr who summed up his philosophy as follows: "Invest in white male nerds who've dropped out of Harvard or Stanford", or the Witchsy cofounders who created a fake male cofounder named "Keith Mann" to reach VCs via email and received an unprecedented number of replies.

[2] Boards of directors and the mutual fund industry, which have traditionally been settings in finance to examine gender-related issues, are heavily male-dominated and do not allow for a reversal in the representation of women (e.g., Adams and Ferreira, 2009; Niessen-Ruenzi and Ruenzi, 2018). Studies in economics that explore the origins of the gender gap have also focused on specific fields, such as STEM and mathematics (see e.g., Reuben, Sapienza and Zingales, 2014). However, a richer cross-section of sectors is required to examine the effects of the gender-congruity hypothesis. Only a few studies have considered the interaction between gender and the gender composition of an environment (Coffman, 2014; Bordalo et al., 2019; Carlana, 2019).

ities, social norms or anticipated discrimination, can distort women's entry into male-dominated activities (Coffman, 2014; Hsieh et al., 2019; Goldin, 2020; Ashraf et al., 2022). Gender differences in risk attitudes or preferences can also drive the sector choice and the type of business, women choose to start (e.g., Niederle and Vesterlund, 2007; Sapienza, Zingales and Maestripieri, 2009; Cook et al., 2021). In addition, the gender funding gap may be due to a lower propensity for investors to fund female entrepreneurs seeking capital, because of actual or perceived difficulties in selecting and advising female entrepreneurs (Bertrand, Chugh and Mullainathan, 2005; Bordalo et al., 2019; Carlana, 2019).

Exploring gender differences at different stages of the entrepreneurship process and in different sectors is challenging for at least two reasons. First, traditional datasets only collect information about firms that have successfully raised capital in a limited number of sectors, making it difficult to assess the relative importance of each stage and environment in generating less favorable outcomes for female entrepreneurs. Second, sourcing deals in VC heavily relies on informal networks and referrals, such that demand and applications to VCs are not directly observable (Gompers et al., 2020; Howell and Nanda, 2022). Therefore, the profile of firms that could use external equity but do not, could provide a useful counterfactual to identify where the pipeline leaks (Guzman and Kacperczyk, 2019; Ewens and Townsend, 2020).[3] Moreover, surveys attempting to recover entrepreneurs' intentions to grow could help to identify entrepreneurs who are likely to seek external financing.

I use a unique combination of French administrative data and a large-scale survey of entrepreneurs representative of the population of new firms founded between 2002 and 2018. The first advantage of using this data is that it is not subject to sample selection biases.[4] Thus, I can benchmark the proportion of successfully funded entrepreneurs across gender groups to their representation in different sectors and stages of the entrepreneurship process. Second, the survey includes detailed founders' biographical information and startup characteristics. It also elicits founders' motivations and preferences for growth and innovation. Third, the corporate tax files allow me to track entrepreneurs over time and regardless of their funding status, enabling me to characterize differences in the growth and performance of firms by founders' gender

[3]Audit studies (see e.g., Gornall and Strebulaev, 2022), papers relying on crowdfunding platforms such as AngelList (Ewens and Townsend, 2020), and census-like database (Guzman and Kacperczyk, 2019) also overcome the challenge of finding counterfactual for equity-backed firms.

[4]The survey is run every four years on a new cohort of randomly selected entrepreneurs that represent approximately 25% of the population of new firms founded in the first semester that year (see Landier and Thesmar, 2008; Hombert et al., 2020; Hebert, 2022, for other use of the data). Founders take the survey at the end of the first year of operationn.

and funding status from the very early stages of their life-cycles.

My analysis shows that the gender gap widens along the entrepreneurship pipeline, especially in sectors where female entrepreneurs do not fit the activity's stereotypical gender. At the creation stage, women are less likely to start new firms than their male peers, and when they do so, they are likely to be firms with lower growth potential. Female-founded startups account for 29% of new firms and represent 24% of all newly incorporated startups.

However, the results reveal significant variations in entrepreneurs' profiles and startups' characteristics across male and female-dominated sectors.[5] Female entrepreneurs who sort into male-dominated sectors are not representative of the average female entrepreneur. They are more similar to their male peers and more likely to create startups with high-growth potential. Women in male-dominated sectors are more likely to start with a team, focus on innovation, and are equally likely to incorporate and hire their first employee by the end of the first year of operation (Schoar, 2010; Levine and Rubinstein, 2017).

At the funding stage, female entrepreneurs in male-dominated sectors are 26% less likely to use external equity, including 48% less likely to access VC funding. In contrast, the gender gap closes in female-dominated sectors. The disparity in equity funding outcomes between gender-congruent and gender-incongruent sectors is only partly explained by differences in startups' characteristics, founders' preferences, and entrepreneurial abilities. The baseline specification compares male and female-founded startups created in the same year, exact sector, and county. It includes controls such as founders' education, past industry and entrepreneurial experience, team composition, incorporation status, ex-ante motivations, preferences for growth and innovation, amount of startup capital, and detailed business plan information.

The unique features of external equity and VC financing can explain why the gender funding gap persists in this setting and does not when I consider alternative financing sources available to young firms, including bank loans and public grants. First, the selection and evaluation of early-stage startups are characterized by a high degree of information asymmetry with very little historical data and direct comparables, such that investors heavily rely on soft information related to the entrepreneurs' profiles (Brooks et al., 2014; Huang and Pearce, 2015; Bernstein, Korteweg and Laws, 2017; Gompers et al., 2020; Ma and Hu, 2022). Second, the payoff profile of

[5] Male- and female-dominated sectors are classified according to the gender distribution of newly created firms by sector. A sector is female-dominated if more than 50% of its population of startups is female-founded. These sectors represent 19% of the sectors at the 4-digit French SIC.

equity investments incentivizes investors to actively monitor startups through extensive control rights (Kaplan and Stromberg, 2001; Hellmann and Puri, 2002), whereas banks that tend to have more diversified portfolios and monitor to avoid default through the quality of collateral (Berger and Udell, 1995; Schmalz, Sraer and Thesmar, 2017; Adelino, Schoar and Severino, 2015). Third, VCs impose liquidity restrictions on their limited partners, leading to higher return expectations. In contrast, banks are not interested in the business's financial success beyond the repayment of the principal and interests (Winton and Yerramilli, 2008).

What explains the heterogeneity in startups' quality and funding outcomes across sectors? I explore whether skills, preferences, and family responsibilities explain the gender-specific selection of entrepreneurs into sectors. I find that female entrepreneurs starting in female-dominated sectors are significantly more likely to be women with young children, transitioning from being an employee, and benefiting from their spouse's financial support. Their main motivation for creating a new business is to be independent and create their own job. The evidence suggests that self-employment in gender-congruent sectors allows women to balance family and work (Goldin, 2020). Interestingly, I find that male entrepreneurs' family situations do not influence their sector choice, suggesting the influence of social norms or self-stereotyping (Akerlof and Kranton, 2000; Bertrand, 2020).

The profile of female entrepreneurs in male-dominated sectors is very different. Consistent with the existence of gender barriers generating positive selection into gender-incongruent sectors, female entrepreneurs in male-dominated sectors tend to be younger, more educated, have prior experience founding companies, and start with higher growth motivations relative to other women.[6] Therefore, aggregating all female entrepreneurs together and comparing their profiles, startup creation choices, and funding outcomes to male entrepreneurs within the same sector would lead to the mistaken conclusion that even highly skilled and motivated women pursue a different type of entrepreneurship, sort into different sectors, and seek different funding sources. Rather, the evidence shows that female entrepreneurs who sort into male-dominated sectors are not significantly different from men who pursue high-growth entrepreneurship. Yet, highly skilled and motivated women in male-dominated sectors are less likely to access external equity and VC financing.

[6]If women anticipate discrimination and hold back from pursuing high growth entrepreneurial strategies, we would observe that highly skilled and motivated sort into female-dominated sectors, where they would expect an easier path. The fact that they still self-select into male-dominated sectors suggest that they do not have different preferences than their male peers in these sectors.

To quantify the share of the gender gap that is not explained by selection effects in high-growth entrepreneurial strategies I use an Oaxaca-Blinder decomposition. Differences in founder's abilities, motivations, and preferences, as well as startups' characteristics in terms of incorporation, status, sector choice, business model, and financial constraint, account for only one-third of the gender gap in external equity and VC financing. For example, women are less likely to be serial entrepreneurs, but women who are serial entrepreneurs do not have access to external equity in the same way serial male entrepreneurs do. Overall, two-thirds of the gap remains unexplained. Differences in returns to entrepreneurial experience, preferences for growth, and innovation drive most of the unexplained effect. The unexplained effect is even larger in male-dominated sectors and not significantly different from zero in female-dominated sectors. Hence, female entrepreneurs' use or non-use of external equity and VC in male-dominated sectors remains mostly unexplained by a model focusing on entrepreneurs' abilities, preferences and choices made in earlier stages of the entrepreneurship pipeline.

The interpretation relies on the assumption that my empirical model is not missing important control variables. The concern is that gender may correlate with unobserved entrepreneurs' abilities or preferences (e.g., worse quality projects or preference for non-equity funding), so gender may simply pick up omitted quality variables or unobservable preferences. I statistically evaluate the extent to which the selection of omitted variables would need to be substantial to explain my results, using the approach in Altonji, Elder and Taber (2005) and Oster (2019).[7] I assume that the explanatory power of potential omitted variables is proportionate to the observed control variables and that the selected control variables are the most obvious and intuitive controls (Angrist and Pischke, 2010). I find that the gender gap in external equity and VC remains statistically different from zero. To invalidate my estimates, any omitted variables would need to carry approximately twice the explanatory power of the variables already accounted for in my model.

I run two additional robustness tests to mitigate specific concerns about gender differences in the demand for external financing and the preference for alternative funding sources. First, I restrict the control group to entrepreneurs who do not use external equity or VC but who do report the ambition to grow the startup, who incorporate, who are serial entrepreneurs, who do not have children, or who report difficulties in getting funding. I do not find that the gender

[7]This test has also been applied in the finance literature in Mian and Sufi (2014), Heimer, Myrseth and Schoenle (2019), Ma and Hu (2022), and Cook, Marx and Yimfor (2023).

funding gap is significantly different from the baseline sample, although the likelihood to use external equity is higher in these subsamples. Second, I verify that female entrepreneurs who rely bank loans and public grants are not less likely to use external equity.[8] However, I find that female entrepreneurs substitute to some extent the lack of external equity in male-dominated sectors with household debt and personal resources.

To assess the role of discrimination-related explanations in the VC funding gap, I design an "outcome test". If, at the selection stage, requirements for funding are set at the correct level, we would not observe any systematic differences in performance between male and female-founded startups provided with VC (statistical discrimination, Phelps et al., 1972; Arrow, 1973). In contrast, if one group has been held at a higher bar by investors, this group should outperform relative to the other group (taste-based discrimination Becker, 1957, 1993). Although the average newly created female-founded business tends to underperform, female-founded startups backed with VC are more likely to still exist after three years and experience higher revenue growth than their male peers.[9] Consistent with the Oaxaca-Blinder decomposition, the outcome test suggests that equity investors evaluate male and female entrepreneurs using different criteria and apply a higher bar to female entrepreneurs. Investors may be biased against female entrepreneurs or form inaccurate stereotypes about the likelihood of success for female-founded startups (Bordalo et al., 2016, 2019).

To better understand the source of bias, I conduct two additional tests using Crunchbase, which provides data on the lead investor's gender and the time series of deals. First, I find evidence of homophily effects (Ewens and Townsend, 2020), indicating that female-founded startups raise more equity when the lead investment partner is a woman. Second, I observe that the initial disparity in VC funding for female-founded startups decreases over time, implying that investors may be revising their beliefs (Bohren, Imas and Rosenberg, 2019). Although distinguishing between various sources of gender discrimination is challenging, these findings shed light on the root causes of bias, which can help develop appropriate strategies to address

[8]Instead, I find a positive correlation between the use of external equity and the use of public grants and bank loans for both male and female-founded startups, suggesting the existence of complementarity between external equity and bank loans, also recently highlighted by the collapse of the Silicon Valley bank (Hellmann, Lindsey and Puri, 2007).

[9]The lower performance of the average female-founded startup in male-dominated sectors can be rationalized by the lack of VC funding or other potential challenges experienced during the startup creation process. For instance, investors may require certain challenges to be addressed before committing to funding, such as attracting skilled employees or securing contracts with suppliers and customers. Additional results show that female entrepreneurs with children face difficulties securing commercial spaces.

and eliminate them.[10]

My paper contributes to the growing literature on gender and entrepreneurship. Existing studies have established that female entrepreneurs face challenges in accessing VCs and angel investors' money. These studies have primarily focused on factors such as homophily and network effects (Brush, 1992; Becker-Blease and Sohl, 2007; Raina, 2019; Ewens and Townsend, 2020; Calder-Wang and Gompers, 2021; Zhang, 2021; Gornall and Strebulaev, 2022; Howell and Nanda, 2022).[11] Specifically, Ewens and Townsend (2020) find that female entrepreneurs seeking capital are less likely to be targeted by male investors, indicating the presence of biases against female entrepreneurs. Cook, Marx and Yimfor (2023) reach a similar conclusion for Black founders. In my paper, I use creation choices made by founders before any funding decisions to identify the pipeline of women in high-growth entrepreneurship. I shed light on significant variations in startup creation choices and funding outcomes between male and female entrepreneurs across sectors. Female entrepreneurs who start in male-dominated sectors create startups with higher growth potential relative to other women. However, it is precisely in these sectors that they face greater difficulties in accessing external equity, while the gender gap closes in female-dominated sectors. Investors may exaggerate features associated with the average female entrepreneurs, such that even highly skilled and motivated female entrepreneurs may be stereotypically perceived as less competent (Bordalo et al., 2016, 2019).

This paper is related to the literature on VCs' and equity investors' decision-making (Gompers et al., 2020), which has documented the importance of founding teams in attracting investors and the presence of frictions in VCs' decision-making (Hellmann and Puri, 2002; Kaplan, Sensoy and Strömberg, 2009; Bernstein, Korteweg and Laws, 2017). Although investors may display different forms of biases, my findings suggest the existence of context-dependent gender stereotypes among equity investors. I show that VC-backed female-founded startups outperform their male counterparts in male-dominated sectors.[12] Moreover, highly skilled and

[10]Specifically, this study could rationalize policy interventions aiming to increase the participation of underrepresented minorities, such as promoting more female entrepreneurs in male-dominated sectors. Achieving a balanced representation of male and female entrepreneurs in gender-unbalanced industries is expected to mitigate the impact of stereotypes. On the other hand, addressing taste-based discrimination behaviors may be more suitable through measures like quotas and women-only funding programs.

[11]Another strand of this literature focuses on the entry of women in entrepreneurship. See among others Gottlieb, Townsend and Xu (2022); Naaraayanan (2021); Zandberg (2021); Core (2022); Mertz, Ronchi and Salvestrini (2022).

[12]The over-performance of the minority group has also been documented in the lending market (Ferguson and Peters, 1995; Shaffer, 1996), among equity analysts (Kumar, 2010), in the mutual fund industry (Kumar, Niessen-Ruenzi and Spalt, 2015; Chuprinin and Sosyura, 2018), in the bail market (Ewens, Tomlin and Wang, 2014; Arnold, Dobbie and Yang, 2018), in a math internet forum (Bohren, Imas and Rosenberg, 2019), and in economics publications (Card et al., 2019). Video-based studies find that equity investors ask different questions

motivated female entrepreneurs who meet the criteria for VC funding experience different outcomes compared to their male counterparts, indicating that investors respond more favorably to characteristics associated with successful entrepreneurs when observed in male entrepreneurs than in female entrepreneurs.

More broadly, this paper contributes to the economic literature examining the origins of the gender gap, as well as to the recent literature in finance that focuses on labor market outcomes of executives and high-skilled workers, particularly in male-dominated environments (Bertrand and Hallock, 2001; Barber and Odean, 2001; Adams and Ferreira, 2009; Bertrand, Goldin and Katz, 2010; Fang and Huang, 2017; Azmat and Ferrer, 2017; Duchin, Simutin and Sosyura, 2021; Egan, Matvos and Seru, 2022; Lagaras et al., 2023). My study focuses on female entrepreneurs and uses the large cross-section of sectors in the French economy to explore the sorting of entrepreneurs into gender-congruent and incongruent sectors. I show that average gender differences in skills and preferences within sectors are relatively small compared to the substantial variation observed within genders across different sectors (Goldin, 2014; Bertrand, 2020). Female entrepreneurs motivated by independence and flexibility tend to choose female-dominated sectors, although gender norms and self-stereotyping may also influence their decision-making (Akerlof and Kranton, 2000). In contrast, and indicative of gender barriers leading to positive selection effects in gender-incongruent sectors, female entrepreneurs in male-dominated sectors exhibit high levels of education and motivation, and their choices in creating startups do not differ significantly from their male counterparts (Adams and Funk, 2012; Adams and Ragunathan, 2017).[13]

2. Empirical Strategy

2.1. Startup creation choices and funding decision

I use the rich cross-section of sectors available in French administrative data to uncover the heterogeneity in the gender gaps in startup creation choices and funding decisions across sectors. My approach consists of categorizing entrepreneurs in male and female-dominated sectors, as the sorting of female entrepreneurs, capital availability, and investors' beliefs about gender may

and value different traits depending on whether the entrepreneur is a man or a woman (see e.g., Balachandra et al., 2019; Brooks et al., 2014; Ma and Hu, 2022).

[13]Similarlt, Adams and Funk (2012) and Adams and Ragunathan (2017) argue that women who sit on boards and reach top corporate positions are not necessarily different from men in those positions.

be different depending on the sector of activity. The empirical specification is given by the following equation:

$$\text{Creation choice}_i = \delta_z + \delta_{kt} + \beta_1 \text{Female}_i + \beta_2 \text{Female}_i \times \text{F-dominated sector}_{kt} + \gamma' X_i + \varepsilon_i \quad (1)$$

Where Creation choice$_i$ is a dummy variable that takes the value one if startup i created in sector k and county z during cohort-year t, is incorporated, and zero if the entrepreneur remains self-employed. I consider other startup creation outcomes, including a dummy variable that takes the value one if the startup is co-founded, hires at least one employee by the end of the first year of operation, is an innovative or a B2B business, and focuses on non-local customers. The main independent variable is the dummy Female$_i$, which captures the founder's gender, which is interacted with F-dominated sector$_{kt}$, which is defined at the 4-digit SIC level and takes the value one if at least 50% of startups within a sector-year are female-founded, and zero otherwise.

δ_z and δ_{kt} correspond to county and French SIC-4 sector $\times$ cohort-year fixed effects, respectively. Fixed effects capture time-varying sector effects such as sector size, sector competition, and the frequency of female entrepreneurs within a sector. The specification accounts for the fact that entrepreneurs with specific abilities may cluster in certain sectors and geographies. X_i represents a vector of entrepreneurs' biographical information and startups' characteristics. All variables are defined in Appendix Table A.

Equation 1 captures the marginal effect of being a female entrepreneur in a female-dominated sector and allows me to identify heterogeneity in startup creation choices across sectors. β_1 or β_2 different from zero imply that male and female entrepreneurs make different startup creation choices in both male and female-dominated sectors. $\beta_1 = 0$ and $\beta_2 \neq 0$ imply that male and female entrepreneurs make the same choices in male-dominated sectors and different choices only in female-dominated sectors. $\beta_1 \neq 0$ and $\beta_2 = 0$ imply that male and female entrepreneurs make different startup creation choices in both male and female-dominated sectors and that these choices are not significantly different across sectors.

Next, I compare entrepreneurs' funding outcomes across gender-congruent sectors. The empirical specification is given by the following equation:

$$\text{Funded}_i = \delta_z + \delta_{kt} + \beta_1 \text{Female}_i + \beta_2 \text{Female}_i \times \text{F-dominated sector}_{kt} + \gamma' X_i + \varepsilon_i \quad (2)$$

Where Funded_i is a dummy variable that takes the value one if the startup i is created in sector k and county z and belongs to cohort-year t, is using external funding, and zero, otherwise. I consider external financing sources: external equity, VC, bank loans, personal debt, microcredit, other loans, and public grants. One difference with startup creation choices of Equation 1 is that funding outcomes are equilibrium outcomes that depend on the founder's decision to seek external financing (demand) and the investor's decision to invest in this startup (supply).

The null hypothesis is that there is no gender gap in either male-dominated sectors ($\beta_1 = 0$) or female-dominated sectors ($\beta_2 = 0$), assuming that the control variables X_i fully account for gender differences in abilities, preferences, and startup characteristics. However, there are three reasons to expect $\beta_1 < 0$ or, and $\beta_2 < 0$.

First, investors may be less likely to back female-founded startups because they are biased. Taste-based discrimination is one possible source, where investors have an inherent dislike for female entrepreneurs (Becker, 1957), resulting in systematic underfunding regardless of their abilities and sector of activity ($\beta_1 < 0$ and $\beta_2 = 0$). Biased beliefs about gender, including context-dependent stereotypes, can also contribute to this bias, leading to a higher likelihood of external equity funding in gender-congruent sectors only ($\beta_1 < 0$ and $\beta_2 > 0$) (Bordalo et al., 2016, 2019).

Second, investors may engage in statistical discrimination by using gender as a proxy for unobserved variables associated with success (Phelps et al., 1972; Arrow, 1973). Under this scenario, investors' beliefs are rational, as they select entrepreneurs based on the true average abilities of their gender group within and across sectors. Consequently, female-founded startups may have, on average, worse performance outcomes than their male peers. These true differences in entrepreneurs' abilities between gender-congruent and incongruent sectors may be driven by self-selection into sectors and will be reflected in startup creation choices and funding outcomes ($\beta_1 < 0$ and $\beta_2 > 0$ of Equations 1 and 2).[14]

[14]In Appendix B, I propose a simple model with Bayesian belief updating to interpret the evidence and identify sources of discrimination. Entrepreneurs of male or female gender start in sectors characterized by different gender representations. Investors make investment decisions based on signals they observe about entrepreneurs' unobservable abilities. Investors are rational when they select entrepreneurs according to the true average abilities of their gender group in the sector (statistical discrimination, Phelps et al., 1972; Arrow, 1973). Investors are biased against a gender group if they systematically apply higher standards to this group. Thus, entrepreneurs of that gender end up being systematically underfunded regardless of the sector of activity or their abilities (taste-based discrimination, Becker, 1957). Finally, investors display a form of biased belief, called *context-dependent stereotypes*, wherein their investment decisions favor entrepreneurs in gender-congruent sectors (Bordalo et al., 2016, 2019). According to this benchmark, the average abilities of entrepreneurs are overestimated when they belong to the dominant gender group and underestimated when they belong to the minority group.

Third, the sign of $\beta_1 < 0$ and $\beta_2 < 0$ could be driven by omitted variables that investors observe but researchers do not. The concern is that gender may correlate with unobserved entrepreneurial abilities or preferences, such as lower-quality projects or a preference for non-equity funding. In such cases, the estimates of Equation 2 may capture omitted quality variables or unobservable preferences.

The identification challenge lies in quantifying β_1 and β_2 of Equation 2, and explaining why they are different from zero. My identification strategy cannot fully rule out omitted variables or cleanly separate sources of discrimination. However, I apply the Oster (2019)'s test to quantify the possible influence of omitted variables on my estimates of the gender funding gap. I use the choices made by entrepreneurs prior to any funding decisions to identify selection effects that can drive differences in qualities between male and female entrepreneurs. Further, I implement an outcome test to separate statistical discrimination from bias.

2.2. Omitted variables bias

Equation 2 assumes that conditioning on the controls X_i perfectly accounts for gender differences in abilities and preferences. To some extent, they do. However, it is still possible that omitted variables are driving the results. I address this concern in two ways.

First, I include a wide range of individual characteristics (X_i) that likely capture entrepreneurial abilities and preferences, but are not commonly available in large datasets (Guzman and Kacperczyk, 2019; Ewens, 2023). These variables include family situation, motivations for starting a startup, business model, startup capital, sources of income, and other funding sources. These variables help capture important dimensions that may influence the need for external financing and the preference for using external equity over other financing sources.

Second, to further address the potential influence of omitted variables, I use a formal test adapted from Altonji, Elder and Taber (2005) and Oster (2019) that allows me to bound the estimates of the gender funding gap. This test incorporates changes in R^2 values when additional controls are added to the regression. Specifically, I compare the uncontrolled (u) regression (baseline model) to the controlled (c) regression from Equation 2.[15] Denoting the estimates from these regressions as (β_u, R^2_u) and (β_c, R^2_c) respectively, I calculate a bias-adjusted

[15]Since the test is designed for one variable only, I retain only the female entrepreneur coefficient (β_1) from equation 2 and not the gender congruence effect.

coefficient denoted as β_{adj} as follows:

$$\beta_{adj} = \beta_c - \delta \frac{(\beta_u - \beta_c)(R^2_{max} - R^2_c)}{R^2_c - R^2_u} \tag{3}$$

Where, R^2_{max} represents the hypothetical overall R^2 of a model that includes both observable and unobservable variables. This measure indicates the extent to which the variation in the outcome variable can be explained by controlling for all factors. The parameter δ captures the level of selection on unobservables relative to observable controls, and for this analysis, I assume $\delta = 1$, which assumes that the explanatory power of omitted variables is proportionate to the observed control variables (Oster, 2019). In line with previous studies Mian and Sufi (2014), Heimer, Myrseth and Schoenle (2019), and Ma and Hu (2022), I set the values of the test as $R^2_{max} = \min(2 \cdot R^2_c, 1)$, indicating substantial variations in the use of external equity.[16] Results are presented in Section 6.2.

2.3. Selection effects high growth entrepreneurship

Gender differences in demand for VC and external equity financing may ultimately explain the gender funding gap. While the demand and applications for VC financing are not directly observable (Gompers et al., 2020), we can infer the profiles of entrepreneurs likely to seek equity funding from their selection into high-growth entrepreneurial strategies, and motivations extracted from the survey.

Estimates from equation 1 identify startup creation choices made by male and female entrepreneurs between maleand female-dominated sectors. Entrepreneurs who express ambition for growth, incorporate their startups, have co-founders, or hire employees are more likely to persue high-growth entrepreneurial strategies (Schoar, 2010; Levine and Rubinstein, 2017). Therefore, assuming that entrepreneurs' choices align with their funding decisions, these outcomes provide valuable insights into the entrepreneurs likely to pursue external equity financing.

In addition, I endogenize the choice between a female- and male-dominated sector by considering the different selection processes for female entrepreneurs depending on whether they

[16]Previous research found that estimated R^2 in the use of VC are typically small (Bernstein, Korteweg and Laws, 2017; Ewens and Townsend, 2020). It is worth noting that while the R^2 values for VC in my model are relatively small (4.8% for external equity and 3.2% for VC only), the R^2 for bank loans is higher at 24% (see Table 5).

enter a sector where women represent the dominant group.

$$\begin{aligned} \text{F-dominated sector}_{kt} = \delta_z + \delta_t + \beta_1 \text{Female}_i + \beta_2 \text{Characteristics}_i \\ + \beta_3 \text{Female}_i \times \text{Characteristics}_i + \gamma' X_i + \varepsilon_i \end{aligned} \tag{4}$$

Where F-dominated sector$_{kt}$ is a dummy variable that takes the value one if the entrepreneur i is created in a female-dominated sector k at time t. Entrepreneur's gender ($Female_i$) is interacted with an entrepreneur's individual characteristics ($Characteristics_i$). The vector X_i includes other individual characteristics.

The sector choice can be influenced by skills, preferences, and gender barriers, leading to variations in abilities and startup quality across sectors. Positive selection of highly skilled and motivated entrepreneurs in gender-incongruent sectors suggests the existence of gender barriers (Goldin, 2020; Ashraf et al., 2022). In contrast, gender-congruent sectors, where barriers are expected to be lower, may attract individuals motivated by independence and flexibility, allowing them to balance work and family responsibilities. Additionally, consistent with social norms and self-stereotyping, women may endogeneously develop skills and preferences associated with female-dominated sectors (Akerlof and Kranton, 2000; Bertrand, 2020).

A related concern is that entrepreneurs may hold back from pursuing high-growth entrepreneurial strategies and do not seek external equity financing in gender-incongruent sectors because of anticipated discrimination (Coffman, 2014). If that was the case, highly skilled and motivated entrepreneurs would self-select into gender-congruent sectors where they do not anticipate discrimination ($\beta_2 > 0$ of Equation 1). In contrast, women who would still choose to start in gender-incongruent sectors would make startup creation choices associated with relatively lower growth potential than those who start in female-dominated sectors ($\beta_1 > 0$).

Finally, even after considering earlier choices made in the entrepreneurship pipeline, female entrepreneurs may still prefer alternative financing sources, such as bank debt, over external equity to fund their startups. If this is true, we would expect a negative correlation between external equity financing and other available financing sources. Such a negative correlation would suggest that entrepreneurs substitute equity financing with alternative sources. Additionally, I examine the responses to a question regarding entrepreneurs' main difficulties at the time of creation. An entrepreneur who identifies "getting funding" as her main difficulty likely faces financial constraints and would likely use VC financing if available (See Sections 6.3 and 6.4 for

the results).

2.4. Outcome test

I implement an "outcome test" to distinguish between statistical discrimination and investor bias. Following Becker (1993), I compare the future corporate performance of startups based on gender and funding status. If investors were rational and based their selection on the true average abilities of each gender group, we would expect no systematic gender differences in the performance of male- and female-founded startups that received VC financing. However, if female-founded startups were underfunded due to biased beliefs or preferences, the female-founded startups that managed to secure VC funding should outperform their male counterparts, as the bar to secure funding in the first place was set higher.

Empirically, I interact gender with the VC financing status on measures of startups' future performance and growth.

$$\text{Future Performance}_{i,\Delta_t} = \delta_z + \delta_{kt} + \beta_1 \text{Female}_i + \beta_2 \text{VC}_i + \beta_3 \text{Female}_i \times \text{VC}_i + \gamma' X_i + \varepsilon_{i,t} \quad (5)$$

Where $\text{Future Performance}_{i,\Delta_t}$ represents the future performance of startups up to five years after their creation. According to statistical discrimination, we would not expect any systematic differences in future performance between genders ($\beta_3 = 0$ of Equation 5). In contrast, the biased beliefs view predicts that successfully funded female entrepreneurs outperform their male counterparts ($\beta_1 + \beta_2 + \beta_3 > 0$) who started the same year, in the same activity, and the same county. The results are presented in Section 7.1.

2.5. Preference-based versus belief-based discrimination

The next challenge is to differentiate between preference-based discrimination and belief-based discrimination. Both lead to similar predictions in terms of performance. However, the key distinction lies in the underlying source of the bias. Taste-based discrimination is driven by personal biases or preferences that are usually exogenous and preexist the interaction with the entrepreneurs, such as biases acquired during investors' childhood (Duchin, Simutin and Sosyura, 2021) or from institutional practices (Small and Pager, 2020). In contrast, discrimination based on miscalibrated beliefs is driven by incorrect or inaccurate perceptions about

certain groups, which are usually "implicit" and come into play when gender becomes salient during personal interactions (Bertrand, Chugh and Mullainathan, 2005; Carlana, 2019). This form of bias is also more flexible, as it is context-dependent and can be reversed as in Bordalo et al. (2016); Bohren, Imas and Rosenberg (2019). I conduct three sets of tests to examine potential shifts in the gender funding gap.

First, in the spirit of Bohren, Imas and Rosenberg (2019), I use the time series on fundraising to examine whether the early-stage gap in VC funding for female-founded startups diminishes, which would indicate that investors revise their biased beliefs over time.

Second, following Ewens and Townsend (2020), I use the cross-section of investors' gender to test the homophily hypothesis. This hypothesis suggests that female entrepreneurs have a higher likelihood of raising external equity if the lead partner is also a woman. This analysis uses deals retrieved from Crunchbase and is presented in Section 7.2.

Finally, building on Bordalo et al. (2016) and Bordalo et al. (2019), I use the cross-section of sectors to test the stereotypical association of entrepreneurs' gender and sector gender congruence. Specifically, in Equation 2, I test whether the gender funding gap observed in male-dominated sectors reverses in female-dominated sectors. If investors held context-dependent stereotypes, they would likely overestimate the average abilities of entrepreneurs who belong to the gender group that is more representative in the sector, while underestimating the abilities of the minority group. As a result, male entrepreneurs would be more likely to use external equity in male-dominated sectors and female-entrepreneurs would be more likely to use it in female-dominated sectors ($\beta_1 < 0$ and $\beta_2 > 0$). Hence, differences in perceived entrepreneurs' abilities predict asymmetric funding outcomes across sectors.

3. Data and Descriptive Statistics

3.1. Data sources

My dataset consists of the merging of the *Système d'Information des Nouvelles Entreprises* (SINE) Survey with corporate tax files (FICUS-FARE) available from the French Bureau of Statistics (Insee).

Survey of entrepreneurs. The SINE survey is conducted every four years and sent to approximately 25% of entrepreneurs who started businesses in France during specific cohorts (2002, 2006, 2010, 2014, and 2018). The survey achieves a high response rate of around 90% due to oversight by tax authorities. Completed by CEOs or main business owners, the questionnaires gather information about the entrepreneurs and their ventures. The dataset excludes entrepreneurs who inherited or took over existing businesses, focusing on real startups. Each cohort consists of a repeated cross-section of approximately 15,000 to 40,000 firms that are are randomly selected from firm registries.[17]

The SINE survey collects biographical variables such as gender, age, citizenship, education, experience, and family information. I create a dummy variable *Expert* for entrepreneurs with at least three years of industry experience. The *Serial* dummy indicates whether the entrepreneur had founded a startup before the one surveyed. Family situation is also captured, with the variable *Married* indicating marriage or common-law partnership, and *Children* representing the presence of children at the start of the venture. The question about children is limited to the 2006, 2014, and 2018 cohorts.

Entrepreneurs are also asked about their motivations for starting a business and their growth aspirations. I classify entrepreneurs as *High-growth oriented* if their aim is to "develop the company" rather than simply creating a job for themselves. In a separate question, entrepreneurs select up to three primary motivations for starting a business from a list that includes seeking *independence*, addressing *unemployment*, pursuing a *taste* for entrepreneurship and challenges, seizing an *opportunity*, exploring a *new idea* for a product, service, or market, following the example of a *successful peer*, or other reasons. Entrepreneurs also indicate whether their startup introduces an *innovation* in terms of product, production, marketing, or organization. Information regarding their business model is collected, including whether the startup is business or customer-oriented (*B2B* or *B2C*), the geographical scope of the clientele (*Non-local customers*), and the size of the customer base (*fewer than ten customers*, *many customers*, or *many customers with a few large ones*). Entrepreneurs report the amount of startup capital

[17]For more information about these data sources: www.insee.fr/sine and www.cnis.fr/sine. Note that the size of the 2018 cohort is half that of the typical cohort, as a new separate survey was introduced in 2018 to survey "auto-entrepreneurs", a new regime of self-employed individuals. In addition, note that the merging of the tax files and the 2002 and 2006 cohorts resulted in the loss of around half the companies due to the absence of self-employment data in older tax files (FICUS files). The introduction of the FARE tax file methodology in 2008 expanded coverage (FARE files). In addition, I do not have access to the tax files for 2018 and later. As a result, the dataset based on the intersection between the SINE survey and the tax files is used only in the performance regressions in Section 7.1.

invested by the end of the first year of operation, categorized into different ranges from <€2,000 to ≥€160,000.

Entrepreneurs in the survey disclose their external financing sources during their first year of operation. These sources can include multiple options, both external financing and personal resources. External financing is categorized into debt and equity. Debt encompasses various types such as *bank loan*, *personal loan* (household bank loans), *microcredits* (loans from family, friends, and crowdfunding), and *other loans* (including subsidized loans like zero-percent loans). *External equity* includes *VC* and other forms of external equity like angel investment, seed capital, corporate venture capital, and other business equity.[18] *Public grants* form a diverse category that includes cash stipends from various governmental and public programs.

Tax files. The *Bénéfices Industriels et Commerciaux* and *Bénéfices Non-commerciaux* tax files, along with the *Déclarations Annuelles des Donn'ees Sociales* (employer payroll declarations), provide detailed yearly accounting information (balance sheet and income statements) and employment data for firms from 2002 to 2017. These tax files cover all firms subject to regular or simplified corporate tax regimes.[19] I extract information such as sales, employment size, total and tangible assets, earnings before interest and tax (EBIT), and net income from the tax files. The tax files also provide data on incorporation status, location, and industrial activity.[20] I classify firms as either *incorporated* or *self-employed*.

Firm registry. I use the firm registry (*SIRENE Création* files) from 2002 to 2018 to identify male- and female-dominated sectors. The firm registry contains information on all newly created firms in France, regardless of industry, legal status, and geographic location. A sector is considered female-dominated if at least 50% of the newly created firms within that sector are

[18] VC financing was separately identified starting from the 2010 cohort, while earlier cohorts combined it with other forms of external equity funding. Similarly, *crowdfunding* was introduced as a separate category in the 2014 cohort. *VC* and other external equity sources are grouped together due to their shared characteristics of target selection and shareholder activism.

[19] Small firms with annual sales below €32,600 (€81,500 in retail and wholesale trade) can choose the special micro-business tax regime (*micro-enterprise*). Income for these firms is taxed at the personal level, and they do not appear in the corporate tax files before 2008.

[20] France is divided into 96 counties (*départments*). The French SIC is known as *Nomenclature des Activités Francaises* (NAF) and consists of 324 sectors at the 4-digit level, allowing for detailed sector classification. Note that there was a significant change in the French SIC structure in 2008 (NAF revision 2). I use the NAF Revision 1 structure for pre-2008 data and NAF Revision 2 for post-2008 data. In France, the incorporation status includes *personne morale* (corporate entity) and *personne physique* (self-employed individual) statuses. The *personne morale* status includes societe anonyme (SA), SARL, SAS, SNC, and other statuses, while the *personne physique* status includes artisans-commercants, profession liberale, exploitant agricole, and other less commonly used statuses.

female-founded.[21]

Angel, Seed, VC, and PE deals. The French administrative data lacks information on equity investors' identification. To address this, I use Crunchbas, which provides details on equity deals from 2000 to 2022. I analyze the types of equity deals and the gender of general partners (GPs) and investors. Due to the limited sample size of the intersection between Crunchbase and the survey of entrepreneurs (278 companies), I conduct the homophily analysis on the complete Crunchbase dataset, which includes all deals involving a French company.[22]

I focus on the lead investors to identify the investors' gender. If the lead investor is an individual (i.e., business angel), the gender is directly provided, or I use their first name to identify their gender using the API Genderize.io. If the lead investor is an investment firm, I retrieved their founders' first names and use the Genderize.io's API too. I keep the dominant gender among lead investors for each deal. Similarly, I identify the startup founders' gender based on their first names. If there are several founders, I keep the dominant gender among the startup's founders. Moreover, I identify Crunchbase's startup industries by manually linking industry descriptions in Crunchbase to the French SIC sectors. I then use the firm registry to determine whether a sector is male or female-dominated.

3.2. Descriptive Statistics

3.2.1 The entrepreneurship gender gap over time

Panel A of Table 1 shows that female entrepreneurs start 28% of the 131,284 new firms in the 2002-2018 cohorts. The gender gap, although significant, shows a gradual decrease, with

[21] Using the firm registry allows for a representative sample of new firms and covers the entire population of new firms. While small businesses and sole proprietorships typically report the founder's gender in the *SIRENE Création* files, incorporated startups founded by teams of co-founders may not report the founder's gender. This could result in an overestimation of the number of female-dominated sectors in a given year. To address this potential issue, I also create an alternative measure of female-dominated sectors at the SIC-2 sector level, which may, on the contrary, underestimate the number of female-dominated sectors.

[22] I begin with a dataset of 5,098 Crunchbase deals from 2000 to 2020. Note that Crunchbase's coverage improved, particularly after 2010. To identify the unique French company identifiers (Siren) based on company names, I use an API provided by the French Statistical Institute (api.insee.fr). However, the API could not find matches for 1,115 companies. I then merge the list of Siren obtained from the API with the companies in the SINE survey and retain the overlapping sample. This results in 278 companies from the survey that have reported at least one deal in Crunchbase. Among these, 6 companies had an IPO, and 33 had an acquisition event. Additionally, within the merged sample, I identified 36 early-stage VC deals, 88 seed investment deals, and 34 late-stage deals. Only a minority of external equity deals reported by entrepreneurs (3,367 external equity deals and 233 VC deals) overlap with Crunchbase. Furthermore, this analysis highlights that most deals involving business angels are not captured in Crunchbase.

female founders increasing from 27% in 2002 to 30% in 2018. In Panel B, female-dominated sectors account for 20% of the total population of entrepreneurs, with 58% of them being female. Conversely, male-dominated sectors attract 80% of new firms and have four times the number of male entrepreneurs compared to female entrepreneurs.

[Insert Table 1 here]

Appendix Table IA1 shows that female-founded start-ups are concentrated in healthcare sectors (63%), educational activities (41%), and service-related sectors (61%). IT and financial services include 17% and 24% female entrepreneurs, respectively. At the 4-digit SIC level, women tend to sort relatively the most in the"hairdressing and other beauty treatment" (78%) and "other human health activities" (71%). By contrast, "forging, pressing, stamping", the manufacture of "bodies for motor vehicles" and the "repair of electrical equipment" include 3-4% of female-founded start-ups.

3.2.2 Are male and female entrepreneurs different?

Table 1 reveals key characteristics of the sample entrepreneurs. Around half of the entrepreneurs are 40 years or older. Female founders, on average, have higher levels of education compared to their male counterparts, with 50% holding an undergraduate or graduate degree compared to 36% of male entrepreneurs. However, among highly educated entrepreneurs, men are twice as likely as women to have graduated from elite French engineering or business schools. Female entrepreneurs have less industry and entrepreneurial experience, with 51% indicating at least three years of sector experience before starting up compared to 63% of male founders. Additionally, 22% of female entrepreneurs have previously founded a start-up, while this figure is 33% for male entrepreneurs.[23]

70% of entrepreneurs in the sample are married, and 55% have children. Female entrepreneurs are less likely to be married and more likely to have children than male entrepreneurs. In terms of team composition, both male and female entrepreneurs are equally likely to start with co-founders (24%). However, female entrepreneurs are more inclined to

[23]Consistent with the univariate comparisons, Appendix Table IA2 (column 1) shows that female entrepreneurs are 6% more likely to have an undergraduate degree and 7% more likely to hold a graduate degree, but 13% less likely to hold a degree from an elite school. They are also 6% less likely to have significant industry experience and 8% less likely to have previously founded a start-up compared to male entrepreneurs who started in the same sector, year, and county.

launch a new business with their spouse and less likely to start with a business partner.

In terms of motivations for starting a startup, female entrepreneurs are less likely to be high-growth oriented (28% versus 38% for males) and less likely to incorporate their new venture compared to male-founded startups (44% versus 57%). The most common motivation among all entrepreneurs is to become independent (62%), followed by a taste for entrepreneurship or new challenges (44%). Female entrepreneurs are less likely to cite a taste for entrepreneurship as a reason for starting a business, but they are more likely to mention seizing an opportunity. Both male and female entrepreneurs are equally likely to start due to a new idea (16%) or because of the influence of a successful peer (10%).

3.2.3 Are male- and female-founded start-ups different?

43% of entrepreneurs describe their business as innovative. Female entrepreneurs are more likely than men to introduce product innovations (37% versus 34% respectively), while male entrepreneurs are more likely to introduce innovations in production and organization. In terms of other business model aspects, male-founded startups have a higher likelihood of being B2B (43% versus 28%). The majority of startups have a local customer base (56%), with female-founded startups even more likely to have a local customer base (66% versus 52%). In terms of startup capital, 53% of new firms start with less than €8,000, 14% start with €40,000 or more, and approximately 7% start with over €80,000.

Panel D highlights that 49% of new firms rely on external financing within their first year of operation. The most common form of external financing is bank debt, with 27% of startups using bank loans, 12% using personal bank loans, and around 10% using non-bank loans such as microcredit, crowdfunding, or subsidized loans. Additionally, 2.2% of startups use external equity, including 0.3% that use VC. Male-founded startups have a higher usage of external equity (2.5%) compared to female entrepreneurs (1.4%). Furthermore, 0.4% of male-founded startups receive VC backing, while only 0.1% of female-founded startups do so.[24]

[Insert Table 2 here]

[24] 0.3% of firms in my sample that receive VC funding at the end of their first year of operation is comparable to Puri and Zarutskie (2012), who find that approximately 1% of newly created firms in the US receive VC funding at some point during their life cycle. While the proportion of startups using external equity financing is relatively small, these firms contribute significantly to job creation and economic growth.

3.2.4 How does France compare to the rest of the world?

I collected equity deals from Crunchbase for various countries, including France, the US, the UK, Canada, Germany, and Israel. In Appendix Figures IA1, I find that the US leads in terms of the number and amount of VC funding raised. France has comparable deal numbers to Canada and Germany.

Additionally, I obtained data from the European Venture Capital Association (EVCA) and plotted VC investment amounts at the country level for all European countries in Figure IA2. The figures confirm that Germany and France have similar levels of VC investment, ranking among the most VC-intensive economies in Europe after the UK. In Figure IA3, I focus on France, Germany, and the UK, comparing invested amounts by investment stage. Notably, these three countries show similar investment levels at the Seed stage, while Germany and the UK exhibit lower levels at the Series A and B stages.[25]

4. Gender Stereotypes, Startup Creation Choices, and Funding Outcomes

4.1. Gender stereotypes and startup creation choices

I analyze the startup creation choices of male and female entrepreneurs in male and female-dominated sectors. Following Equation 1, I compare male and female-founded startups created in the same year, 4-digit French SIC sector, and county, while controlling for observable differences in biographical characteristics. Standard errors are clustered at the 4-digit SIC level. Table 3 presents the results, and Appendix Figures IA6 plot the unconditional means by founder's gender across sectors.

The findings indicate that female entrepreneurs starting in male-dominated sectors make different startup creation choices compared to their male counterparts in these sectors and female entrepreneurs in female-dominated sectors. Female-founded startups in male-dominated

[25] In a note to the Conseil d'Analyse Econonomique, Ekeland, Landier and Tirole (2016) discuss the specificities of the VC industry in the French economy. The authors highlight four main distinctions between the VC in France and the rest of the world. First, they also note that the activity in France is comparable to other European countries, such as Germany and the UK, in terms of the number of deals. However, one important difference is that investors are mostly French VC firms, whereas UK and Germany receive capital from international VC firms. Second, France is characterized by lower activity in terms of business angel investors. Third, public intervention in the VC market is more important in France, especially through the publicly funded Banque Publique d'Investissement (BPI). Fourth, the exit market, particularly for IPOs, is less dynamic than in the US.

sectors are 20% (= $\frac{0.05}{0.2453}$) more likely to be founded in teams than their male peers (column 1). They are also equally likely to be incorporated (column 2) and 17% more likely to have at least one employee by the end of the first year (column 3), demonstrating their intention to grow. In contrast, female-founded startups in female-dominated sectors are 14% less likely to be started with co-founders (column 1). These female entrepreneurs are also less likely to incorporate the new venture (column 2) and hire employees compared to male entrepreneurs in female-dominated sectors (column 3).

Regarding the business model, female-founded startups in male-dominated sectors are 2% more likely to be innovative than their male counterparts (column 4). Specifically, they are more likely to introduce product innovations than innovations in production (columns 5 and 6). Additionally, female-founded startups are less likely to start a B2B business and more likely to focus on local customers compared to male entrepreneurs in both male and female-dominated sectors. However, these differences are more pronounced in female-dominated sectors sectors, suggesting that the quality of startups in these sectors is lower than in male-dominated sectors.

Results in Appendix Table IA4 show that female-founded startups in male-dominated sectors are equally or slightly less likely to introduce marketing or organizational innovations (columns 4 and 5). Furthermore, female entrepreneurs have a similar number of customers as their male counterparts in both male- and female-dominated sectors (columns 6 and 7). However, male-founded startups, particularly in male-dominated sectors, are more likely to have a few large customers (column 8), which is consistent with the fact that female entrepreneurs start B2C businesses and male entrepreneurs are more likely to start B2B businesses.

Overall, the findings indicate female entrepreneurs are on average less likely to create startups with high growth potential, but I show that these effects are driven by female entrepreneurs in female-dominated sectors. In contrast, female entrepreneurs who start in male-dominated sectors are more likely to make startup creation choices revealing their intentions to grow relative to the average male entrepreneur in these sectors and other female entrepreneurs. Hence, the results highlight the value of the gender (in)congruent sector framework to uncover substantial heterogeneity in the female-founded startups' profiles.

[Insert Table 3 here]

4.2. Gender stereotypes and motivations

Table 4 examines the effects of gender-congruent sectors on entrepreneurs' growth intentions and motivations. The specifications are similar to those in Table 3. The results in column (1) indicate that female entrepreneurs are significantly less likely to report their main ambition as "to develop the company" compared to "to create their own job," but the gap is smaller in male-dominated sectors.[26]

Regarding ex-ante motivations to start a new venture, derived from the survey question "What are your three main motivations?", the findings show that male and female entrepreneurs in male-dominated sectors are equally likely to start because of a new idea, although female entrepreneurs are less likely to state this when starting in female-dominated sectors (column 2). However, female entrepreneurs in both gender-congruent and gender-incongruent sectors are more likely to start because they see an opportunity or follow the example of a successful peer (columns 3 and 4). Conversely, they are less likely to start due to a taste for entrepreneurship (column 5). The primary motivation for both male and female entrepreneurs starting in a gender-congruent sector is to be independent and not have a boss (column 6).

Overall, the results show that most entrepreneurs do not intend to grow. However, the minority of entrepreneurs who do and start in gender-incongruent sectors, make startup creation choices that reveal growth potential.[27]

[Insert Table 4 here]

[26]To further explore the meaning of the variable "High growth-oriented", I examine its correlations with entrepreneurs' biographical characteristics and detailed ex-ante motivations. High growth-oriented entrepreneurs tend to be younger than 40 years old, highly educated, serial entrepreneurs, and not industry experts. The variable is positively correlated with having a new idea (column 2), starting because of an opportunity (column 3), following the example of successful peers (column 4), and having a taste for entrepreneurship and new challenges (column 5). Conversely, the variable is negatively correlated with the desire for independence (column 6). The correlations give confidence in the validity of the "high-growth oriented" variable to capture entrepreneurs' intention to grow.

[27]In Appendix Tables IA5 and IA6, I examine startup creation choices and entrepreneurs' growth preferences, conditional on being externally funded or equity-backed. The results indicate that male and female entrepreneurs who receive external funding, regardless of the gender congruence of the sector, do not significantly differ in their founding choices and growth preferences from the overall population of male and female entrepreneurs. However, when considering only those who are equity-backed, male and female entrepreneurs become more similar in both male and female-dominated sectors. Differences in reported high growth orientation, likelihood of incorporation, and founding a B2B business are no longer statistically significant, suggesting that the subset of male and female-founded firms that receive external equity funding exhibit greater similarity than the overall population of firms.

4.3. Gender stereotypes and entrepreneur financing

Next, I examine the effects of gender-(in)congruent sectors on startup funding decisions. Following Equation 2, I compare male and female-founded startups within the same cohort year, sector of activity, and county. All models include biographical and startup characteristics that are correlated with the use of external financing. Standard errors are clustered at the sector level. Table 5 presents the results and Appendix Figures IA7 display the unconditional means of VC financing, bank loans, and public grants by founder's gender and sector gender congruence.

The findings indicate that female-founded startups in male-dominated sectors are less likely to access external equity (26%= $\frac{-0.0066}{0.0254}$) and VC financing (48%= $\frac{-0.0014}{0.0029}$) compared to similar male-founded startups in these sectors (columns 1 and 2). In addition, female entrepreneurs in male-dominated sectors are less likely to use external equity (18%= $\frac{-0.0047}{0.0254}$) and VC financing (59%) than female entrepreneurs in female-dominated sectors, and they have a similar likelihood of using external equity as male entrepreneurs in these sectors.[28]

When considering other external financing sources, I do not observe the same asymmetric effects across male and female-dominated sectors (column 3). Female-founded startups in male-dominated sectors have similar likelihoods of using external financing as their male counterparts, indicating that they compensate for the lack of external equity with alternative sources. Further analysis reveals that female entrepreneurs are equally likely to use public grants or subsidies as male entrepreneurs in male-dominated sectors, but they rely more on this financing source in female-dominated sectors (column 4). This difference is likely due to the availability of specific grants for female entrepreneurs in female-dominated industries.

In terms of bank loans, female entrepreneurs have similar probabilities as male entrepreneurs in both male and female-dominated sectors to use corporate and personal bank loans (columns 5 and 6). However, female entrepreneurs are 16% more likely to use other types of loans, including subsidized loans and microcredit than their male peers (columns 7 and 8). Although, female entrepreneurs in male-dominated sectors seem, on average, more likely to rely on non-bank or household debt, it is important to note that these financing sources may reflect different entrepreneurial profiles.

[28] In Appendix Table IA10, I further investigate the different types of external equity financing using data from Crunchbase. The results indicate that female entrepreneurs tend to raise lower amounts of equity in male-dominated sectors. However, in female-dominated sectors, they raise equal to or larger amounts compared to their male counterparts. This effect is primarily driven by angel financing and early-stage venture capital, while no significant gender disparity is found in later investment rounds.

Hence, I examine the correlations between the different funding sources and entrepreneurs and startups' profiles. The results show that having a graduate degree, particularly from an elite school, is positively correlated with the use of VC and other forms of external equity. However, higher education shows a negative correlation with bank loans and no significant correlation with other types of loans. Moreover, industry experience is negatively correlated with the use of VC financing, whereas serial entrepreneurs are 40% more likely to use external equity. Conversely, the correlation with bank debt is opposite, where corporate bank debt is positively correlated with industry experience but negatively correlated with entrepreneurial experience.

Moreover, the incorporation status, growth preferences, and innovation are positively correlated with external equity and VC financing. Additionally, founding an innovative business is positively correlated with public grants and bank debt, while being high growth-oriented is not significantly related to bank loans and negatively related to public grants. Lastly, B2B firms and those targeting non-local customers have a higher likelihood of accessing external equity and VC financing. In summary, the findings indicate that the characteristics of entrepreneurs that are positively correlated with the use of VC and external equity are either negatively correlated or not significantly related to the use of debt. This suggests that entrepreneurs who secure VC funding and those who rely on personal bank debt or nonbank debt to finance their new ventures have distinct profiles.

[Insert Table 5 here]

4.4. Gender stereotypes and highly skilled female entrepreneurs

In Table 6, I further analyze the characteristics of female entrepreneurs who are more likely to access external equity and VC financing. I interact the founder's gender with proxies of entrepreneurial abilities and growth intentions, while controlling for baseline controls and fixed effects. If the baseline estimation in Table 5, columns 1 and 2, was biased downward, we would expect a positive coefficient on the interaction term between gender and entrepreneurial abilities and preferences, indicating a greater likelihood of accessing external equity.

The gender disparity in VC financing is driven by highly skilled and motivated female entrepreneurs. Despite possessing similar skills and growth preferences, highly skilled and motivated female entrepreneurs are less likely to obtain external equity compared to their male counterparts. Serial female entrepreneurs in male-dominated sectors are 56% ($= \frac{-0.0112-0.0040}{0.0271}$)

less likely to secure external equity relative to first-time female entrepreneurs and male entrepreneurs in the same sector (column 1). Similarly, serial female entrepreneurs in female-dominated sectors are 67% ($= \frac{-0.0124}{0.0184}$) less likely to access external equity compared to their male peers (column 2). Moreover, while incorporated male-founded startups are 36% ($= \frac{0.0099}{0.0271}$) more likely to obtain external equity, female-founded startups have the same likelihood of accessing it as self-employed male entrepreneurs (columns 3 and 4). Likewise, female entrepreneurs who express the intention to grow or start innovative businesses have the same probability of accessing external equity as male entrepreneurs who start to create their own job or do start innovative ventures (columns 5 and 8). In contrast, male entrepreneurs with growth or innovation preferences are twice as likely to access external equity compared to other male entrepreneurs.

Overall, the findings suggest that female entrepreneurs face challenges in securing external equity, even in the presence of signals that could be interpreted as indicative of high entrepreneurial ability and superior motivations. The evidence suggests that equity investors evaluate skills and motivations differently based on the gender of the entrepreneur.

[Insert Table 6 here]

4.5. Gender stereotypes and the effects of having children

In Appendix Table IA8, I replicate the main findings using a subsample of entrepreneurs who do not have children. By focusing on this group, I aim to investigate whether the presence of children influences growth intentions, startup creation choices, and funding decisions. Free from childcare responsibilities, female entrepreneurs should face fewer barriers to pursuing high-growth entrepreneurship and seeking external equity financing.

The results show that female entrepreneurs without children still exhibit a lower likelihood of using external equity and VC financing in male-dominated sectors and a higher likelihood of accessing it in female-dominated sectors. The coefficients reported in columns (1) and (2) are not statistically different from those estimated in the baseline sample, indicating that factors related to demand-side considerations linked to having children are unlikely to fully explain the lower use of external equity by female entrepreneurs. Regarding alternative financing sources, the evidence indicates that female entrepreneurs without children no longer show a higher reliance on external financing in female-dominated sectors compared to their male counterparts. The effect is primarily driven by public grants, suggesting that these programs may be designed to

specifically target female entrepreneurs with children (panel A, columns 3 and 4).

Examining the startup creation outcomes of entrepreneurs without children (panel B), the results align with the baseline estimations reported in Table 3. Female entrepreneurs in male-dominated sectors are equally likely to incorporate their businesses and hire their first employee by the end of the first year. In contrast, those starting in female-dominated sectors are less likely to make choices associated with growth potential. Furthermore, I find that female entrepreneurs without children no longer report the motivation to become their own boss in female-dominated sectors, suggesting that this motivation is driven by female entrepreneurs with children (panel C, column 6). Overall, the evidence suggests that having children influences startup creation choices and ex-ante motivations. However, it is insufficient to explain why female entrepreneurs have a lower likelihood of accessing external equity financing in male-dominated sectors.

5. Selection in High Growth Entrepreneurship

The differences in creation and funding outcomes presented in the previous section could reflect the gender-specific selection of entrepreneurs in high-growth entrepreneurship. Specifically, barriers associated with starting in male-dominated sectors may lead to a positive selection of women who have to overcome higher barriers. Therefore, we would expect significant differences in the profiles of women across male and female-dominated sectors. Highly skilled and highly motivated female entrepreneurs would be more likely to start in male-dominated sectors, while female-dominated sectors, characterized by lower entry barriers for women, would attract those seeking flexibility or conforming to social norms. Table 7 reports the results.

5.1. The effects of skills and preferences

The evidence shows that female entrepreneurs who self-select into gender-congruent sectors differ across various observable characteristics from those who opt for gender-incongruent sectors. Specifically, younger women (column 1), those who graduated from elite schools (column 2), serial entrepreneurs (column 3), those who incorporate their businesses (column 9), start innovative ventures (column 10), and have growth intentions (column 11) are significantly less likely to self-select into female-dominated sectors. Hence, consistent with the findings on startups' creation outcomes, gender-incongruent sectors draw a specific population of female

entrepreneurs with the average external equity user profile. On the other hand, women with industry experience are more likely to opt for female-dominated sectors, which is consistent with the general sorting of women in the labor market (column 4).

Moreover, I explore the detailed motivations of entrepreneurs for sorting into gender-congruent sectors. Female entrepreneurs who start businesses due to a new idea (column 12) or an opportunity (column 13) are more likely to choose male-dominated sectors. Conversely, women who seek independence (column 16) are significantly more inclined to select female-dominated sectors. In addition, I do not find significant differences between female entrepreneurs and their male peers in terms of sector choices when it comes to starting a business to follow the example of a successful peer or due to a taste for entrepreneurship (columns 14 and 15).

5.2. The effects of family situation, flexibility and gender norms

In columns (6) to (8), I analyze how having children influences sector choice. The results show that having children is negatively correlated with the selection of a female-dominated sector for both male and female entrepreneurs (column 1). However, female entrepreneurs with children, and aged 35 to 44 years are more likely to start in a female-dominated sector compared to their male peers and other women (column 7). This suggests that starting a business in a female-dominated sector allows women, particularly those with young children, to balance family responsibilities and work. In contrast, men in the same age group who have children and start a new business are not more likely to start in a gender-congruent sector, likely because they face different constraints.

In columns (17) and (18), I show that women who were previously employed and have children are more likely to start in a female-dominated sector, while having children does not affect previously employed male entrepreneurs' sector choice. Moreover, female entrepreneurs who were previously employed and do not have children are not significantly more likely to start in a female-dominated sector (column 18). Interestingly, I do not find that female entrepreneurs who have children and transition from other employment situations, unemployment (column 19), student (column 20), or CEO/already self-employed (column 21), make different sector choices than their male peers. These findings suggest that female-dominated sectors draw a specific population of women who have children and are likely to value flexibility and the opportunity

for work-life balance.

Finally, I examine the effect of being married or in a spousal relationship and show that it does not influence sector choice for both male and female entrepreneurs (column 8). However, the evidence shows that female entrepreneurs who rely on their spouses' income during the startup creation process are more likely to start in female-dominated sectors (column 22). In contrast, female entrepreneurs who depend on their own other employment income as an additional source are more likely to choose a male-dominated sector (column 23). These findings suggest that female-dominated sectors attract female entrepreneurs seeking lifestyle businesses or desiring greater flexibility in raising their children. The choice of a gender-congruent sector may also reflect adherence to social norms or self-stereotyping.[29]

[Insert Table 7 here]

6. The Unexplained Gender Funding Gap in Entrepreneurship

6.1. Quantifying the unexplained effect in the gender funding gap

I use an Oaxaca-Blinder decomposition to quantify the portion of the gender gap in external equity that is not explained by demand-side factors including entrepreneurs' abilities, preferences and startups creation choices made earlier in the pipeline. This decomposition helps identify whether the gender gap in equity financing is primarily due to differences in observable characteristics ("explained effect") or differences in the treatment of entrepreneurs based on their gender ("unexplained effect") (Blinder, 1973; Oaxaca, 1973). Additionally, the Oaxaca-Blinder decomposition helps pinpoint factors that contribute the most to the gender funding gap.

I start by estimating separate OLS regressions for male (m) and female (f) entrepreneurs: External equity$_m = \beta_m \dot{X}_m + \varepsilon_m$ and External equity$_f = \beta_f \dot{X}_f + \varepsilon_f$, where External equity$_i$ is

[29]In Appendix Table IA12, I analyze the decision to incorporate the new venture conditional on the sector choice. The interaction between gender and characteristics associated with higher likelihood of using external equity reveals that highly educated women from elite schools, those who are high-growth oriented are relatively more likely to incorporate their firms compared to other women (column 1), and reaching a similar likelihood as male entrepreneurs with the same profile. In addition, the evidence shows that female entrepreneurs aged 40 or older with children and those financially supported by their spouses are less likely to incorporate their ventures (columns 7 and 8). Overall, the decision to incorporate aligns with the sector choice, although the sector choice appears to be a more predictive of entrepreneurs' growth preferences, as it is likely to occur before the decision to incorporate.

the use of external equity including VC, and X is a vector of baseline control variables. By subtracting the female equation from the male equation, I obtain:

$$\text{External equity}_m - \text{External equity}_f = \beta_m \overline{X_m} - \beta_f \overline{X_f} = \underbrace{\beta_m(\overline{X_m} - \overline{X_f})}_{\text{Explained effect}} + \underbrace{\overline{X_f}(\beta_m - \beta_f)}_{\text{Unexplained effect}} \quad (6)$$

The first term in Equation 6 represents the "explained effect", which represents the impact of gender differences in the explanatory variables using the male coefficients. The second term represents the "unexplained effect", which corresponds to the average difference between a female entrepreneur's actual use of external equity and her predicted use of external equity based on the male coefficients. The unexplained effect is often considered an estimate of discrimination, reflecting unequal use of external equity for equally qualified entrepreneurs (Blau and Kahn, 2017). It is important to note that these findings rely on the assumption that the regression model does not omit relevant predictors (See Section 6.2 for a detailed discussion).

The results of the decomposition are plotted in Figure 8, and the coefficients are reported in Appendix Table IA13 (columns 1 and 2). I also perform the decomposition on subsamples of firms in male and female-dominated sectors, respectively, (columns 3 to 6), and plotted in Appendix Figures IA14. Additionally, I include family variables in models reported in columns 7 to 8, and plotted in Appendix Figure IA15. I also decompose the use of VC financing in Appendix Figure IA16.

[Insert Figure 8 here]

I find that both "explained effects" and "unexplained effects" contribute to the gender funding gap in external equity. Specifically, female entrepreneurs are less likely to be serial entrepreneurs, which is a characteristic associated with the use of external equity. However, serial female entrepreneurs do not have access to external equity in the same way serial male entrepreneurs do. Similarly, female entrepreneurs are less likely to define their main objective as developing the startup. However, high growth-oriented female entrepreneurs are less likely to raise external equity financing than male entrepreneurs who report the same growth intentions.

The differences in composition effects explain only a small portion of the gender gap in the use of external equity and VC financing. Approximately 64% of the gender gap remains unexplained. In male-dominated sectors, this unexplained gap accounts for 80% of the gender

funding gap, whereas in female-dominated sectors, the unexplained effect is not significantly different from zero. These findings suggest that in male-domianted sectors demand-side factors alone are unlikely to fully explain the gender funding gap. Characteristics that positively influence the use of external equity for male entrepreneurs have a negative impact on the use of external equity for female entrepreneurs.

6.2. The omitted variable bias

In this section, I address the potential omitted variable bias in the use of external equity and VC financing specifications (Table 5, columns 1 and 2). The concern is that gender may be correlated with unobserved factors such as project quality or a preference for non-equity funding, causing gender to capture omitted quality variables or unobservable preferences. To tackle this concern, I adopt the strategy outlined in Section 2.2.

First, in Table 9, I examine the sensitivity of the use of external equity (columns 1 to 3) and VC financing (columns 4 to 6) to gender when additional observed control variables are included. The results demonstrate that the estimates remain stable in terms of economic magnitude and statistical significance across the unrestricted, baseline, and augmented specifications. This suggests that the findings are unlikely to be driven by omitted variables bias that is correlated with the entrepreneur's gender.

Second, to further address the potential influence of omitted variables, I employ a formal test adapted from Altonji, Elder and Taber (2005) and Oster (2019) to bound my estimates of the gender funding gap (see Equation 3). I find that the bias-adjusted coefficient (β_{adj}) is close to the estimated value (β_c), and the null hypothesis of $\beta = 0$ can be rejected. The estimated parameter ranges for external equity are [-0.0070,-0.0017], and for VC financing are [-0.0015,-0.0009], both significantly different from zero. Furthermore, I extend the model to its limit case and show that the results hold even when the explanatory power of omitted variables accounts for 131% and 248% of that of the observed variables.

While it is impossible to completely rule out the confounding effects of omitted variables on the estimates of the gender funding gap, this methodology helps quantify the magnitude that omitted variables would need to have in order to explain away the observed results. Hence, the evidence shows gender does not seem to be correlated with the equity funding decision solely as a proxy for omitted startup quality or unobservable entrepreneurs' preferences.

[Insert Table 9 here]

6.3. Are female entrepreneurs less likely to seek external equity?

One specific concern with the interpretation of coefficients in the baseline model of Table 5, columns 1 and 2 is that we cannot tell whether female-founded startups are less likely to use external equity and VC, because their applications were more often rejected or because they never seek external equity. In Appendix Table IA7, I address this concern by conditioning the estimation sample on characteristics associated with external equity and VC.

Among serial female entrepreneurs, I find that female entrepreneurs in male and female-dominated sectors are 37% and 50% less likely to use external equity and VC financing, respectively (panels A and B, column 1). The effects are not significantly different from the estimated coefficients in the baseline sample. Similar results hold for sub-samples of innovative startups, incorporated startups, high growth-oriented entrepreneurs, and financially constrained entrepreneurs (columns 2, 3, 4, and 7). I also use a new proxy that captures entrepreneurs' financial constraint. Entrepreneurs are asked in the survey to report their main difficulties during the creation. I condition the sample to entrepreneurs who report difficulties getting funding. The results show that female-founded startups are 26% and 60% significantly less likely to use external equity and VC funding. Hence, if the baseline estimation suffered from a downward bias due to not observing the demand for external equity, we would expect a smaller gender effect in these sub samples with more homogeneous population of entrepreneurs.

6.4. Do female entrepreneurs substitute the lack of external equity?

How do female entrepreneurs finance their growth if they face challenges in accessing external financing in male-dominated sectors? Do they turn to alternative funding sources instead? To investigate this, I examine the correlation between the use of external equity and other financing options. Table 11 presents the results.

The findings reveal a positive correlation between the use of external equity and bank debt in both male and female-dominated sectors (columns 1 and 2). The effect is not statistically different for male and female-founded startups, suggesting the absence of substitution effects between these two funding sources and, if anything, the presence of complementarities.[30] Ad-

[30]This finding aligns with the evidence from Appendix Table IA18 that focuses on the shares of bank debt and

ditionally, I find evidence of complementarities between the use of external equity and the use of subsidized loans and public grants in female-dominated sectors for both male and female entrepreneurs (columns 5 to 8).

Regarding household debt, I find that female entrepreneurs in male-dominated sectors who rely on personal debt are less likely to use external equity, suggesting substitution effects between external equity and household debt (column 3). However, I do not observe the same negative correlation for female entrepreneurs in female-dominated sectors who use household debt for their startups (column 4). These results suggest that female entrepreneurs in male-dominated sectors may partially substitute the lack of external equity with household debt, although the amounts of household debt are likely to be smaller than those typically raised through equity rounds.

In Appendix Table IA18, I focus on the shares inside equity and other funding in the startup's capital structure. I find that, on average, female-founded startups use 1.5% less inside equity compared to male-founded startups (baseline = 62%). Startups that use VC have 28% less inside equity, suggesting that external equity substitutes for inside equity (column 2). Moreover, there is no evidence to suggest that this substitution effect is attenuated for female entrepreneurs, indicating that VC-backed female-founded startups receive lower amounts of external equity compared to their male counterparts. This interpretation is supported by the finding that the share of "other funding sources" in female-founded startups is significantly smaller than in male-founded startups, and only 8% larger than the average startup, while male-founded startups have a share that is 31% larger than the average (baseline = 7%). The evidence indicates that female-founded startups not only have lower access to external equity and VC but also receive lower amounts. However, the use of personal resources and household debt partially mitigate these effects.

[Insert Table 11 here]

shows that bank loans make up approximately 30% of the average startups' capital structure, with no significant gender differences or variation by VC funding status (column 3).

7. Discrimination in High Growth Entrepreneurship

7.1. VC financing and performance outcomes

After testing the relative importance of omitted variables and showing that female entrepreneurs substitute partially the lack of external equity by household debt and personal resources, my next set of tests attempts to distinguish between statistical discrimination versus investor bias. I conduct an outcome test that examines the future corporate performance of startups by gender and funding status. I measure performance using the likelihood of surviving after 3 and 5 years, employment and sales growth rates, and successful exits through M&As and IPOs. Focusing on continuous performance measures, such as employment and sales growth, helps capture the performance outcomes of the "marginal entrepreneur" and minimize the potential influence of confounding factors. The results are presented in Table 10, with Panel A focusing on male-dominated sectors and Panel B on female-dominated sectors. All models include the same baseline controls as in Tables 3 and 5.

The evidence reveals that female-founded startups in male-dominated sectors, which did not receive VC funding, tend to underperform their male peers in terms of the probability of survival after three years (panel A, column 1) and in terms of three-year employment and revenue growth rates (columns 3, 4, and 5). The probabilities of survival after five years and of exiting through M&As or IPOs are similar between male and female entrepreneurs, albeit with the caveat that the number of these successful exits is small in the estimation sample. These findings are surprising in the light of the quality of startups created by female entrepreneurs in male-dominated startups. Lack of VC funding or other forms of missed opportunities could potentially explained this effect.

Moreover, I find that female-founded startups that received VC financing are 17% ($= \frac{12\%-1.7\%}{60\%}$) more likely to still be in operation after three years compared to their male counterparts (column 1). The evidence also shows that VC-backed female-founded startups experience 50% ($= \frac{0.62-0.036}{0.52}$) greater sales growth than comparable male-founded startups between the first and third year (column 3). After five years, the likelihood of survival and the sales growth of VC-backed male and female-founded startups are not significantly different (columns 2 and 4). In terms of employment growth, female-founded startups have significantly lower growth than male-founded startups in the first three years, but this difference becomes insignificant

after five years (columns 5 and 6).

Overall, the findings suggest that female-founded startups that receive VC funding outperform their male counterparts in terms of survival probability and sales growth. This indicates that the bar for securing funding was set higher for female-founded startups, suggesting the presence of bias among VC investors. Moreover, the performance of both VC-backed and non-VC-backed startups is influenced by whether they received VC funding, which further emphasizes the potential advising role of VC investors. However, it is important to note that this analysis can only compare outcomes for average female and male-founded startups, as there is no clear instrument to identify the marginal entrepreneur, which is a limitation of this exercise.

[Insert Table 10 here]

7.2. VC financing and homophily

Next, I conduct two additional tests to gain further insights into the sources of the investor bias. I retrieved deal information from Crunchbase, which includes information about the lead partners involved in the deals and the types of deals. The results of these tests are presented in Table 12.

In columns (1) and (2), I categorize startups based on whether they operate in male-dominated or female-dominated sectors. The findings indicate that female-founded startups raise lower funding amounts when the lead investor is male, whereas having a female investor has a positive impact on the amount raised (column 1). This effect is particularly pronounced in female-dominated sectors (column 2). Further analysis reveals that this effect is primarily driven by seed or early-stage funding rounds (columns 3 and 4). These results suggest the presence of homophily effects, where female founders are more likely to attract funding when the lead investor shares the same gender.

In column (6), I exploit the variation in fundraising over time to demonstrate that the early-stage gap in VC funding for female-founded startups diminishes when the lead investor is female. This reversal of dynamics can be interpreted as evidence that biased beliefs held by investors are being disproven. The findings do not align with the presence of gender stereotypes among equity investors.

[Insert Table 12 here]

7.3. Difficulties reported at firm creation and discrimination beyond funding

Female entrepreneurs may face additional forms of discrimination during the startup creation process, which can increase the challenges they face when seeking VC funding and affect their initial performance. Investors may require certain challenges to be addressed before committing to funding, such as the ability to attract skilled employees or secure contracts with suppliers and customers. To explore these potential hurdles, I analyze the survey responses from entrepreneurs regarding the main difficulties they faced during startup creation in Table 13.

The most commonly reported difficulty by entrepreneurs is the administrative burden of starting a new business, with 38% of entrepreneurs reporting this issue. There is no significant difference in reporting this difficulty between genders (column 1). However, entrepreneurs who have incorporated their ventures are more likely to report this challenge, while serial entrepreneurs are less likely to raise this concern, which aligns with their greater experience. The second most reported difficulty is the difficulty of obtaining funding, with 20% of entrepreneurs reporting this issue (column 2). Female entrepreneurs with children who have incorporated their ventures are significantly more likely to report this difficulty. In contrast, male entrepreneurs with the same characteristics are less likely to report this issue. Hence, the evidence suggests that female entrepreneurs who aspire to grow their ventures and those who balance entrepreneurship with family responsibilities face the most significant financial constraints. Similar effects are observed in the reported difficulties of opening a bank account and obtaining bank overdrafts (columns 3 and 4).

Regarding other reported difficulties during firm creation, 9% of entrepreneurs report challenges in hiring skilled workers (column 5), 11% struggle to find suitable commercial spaces (column 6), 17% encounter difficulties in finding clients (column 7), and 16% face challenges in pricing their products (column 8). No significant gender differences are found, except that female entrepreneurs seem to face pricing difficulties, which could be attributed to their relative lack of industry and entrepreneurial experience, as well as their likelihood to introduce innovative products. Moreover, female entrepreneurs with children appear to have more difficulty finding commercial spaces to rent, suggesting potential discrimination by landlords. Interestingly, younger and non-French entrepreneurs also report this difficulty more frequently. However, drawing stronger conclusions requires more information about the demand and supply

dynamics in these specific cases.

[Insert Table 13 here]

8. Conclusion

This paper investigates the gender gap in high-growth entrepreneurship, focusing on the creation and funding stages of the entrepreneurship pipeline. Using unique French administrative data and a representative survey of entrepreneurs, I identify significant variations in the creation choices and funding outcomes between male and female entrepreneurs across male and female dominated sectors. The results show that, on average, women are less likely to become entrepreneurs, and when they do, they tend to create startups with lower growth potential. However, the minority of highly skilled and motivated female entrepreneurs who self-select into male-dominated sectors create startups with high growth potential, similar to their male counterparts.

At the funding stage, female entrepreneurs in male-dominated sectors face significant disadvantages. They are 26% less likely to access external equity, including a 48% reduced likelihood of securing VC funding. In contrast, the gender gap closes in female-dominated sectors. This disparity in equity funding outcomes between gender-congruent and gender-incongruent sectors cannot be fully explained by differences in startup characteristics, founders' preferences, and entrepreneurial abilities, highlighting the presence of biases among investors.

The evidence suggests that investors may miss valuable investment opportunities by exaggerating some features of the average entrepreneur and applying higher standards to female entrepreneurs. Female entrepreneurs who deviate from the stereotypical gender in male-dominated sectors experience more significant funding challenges. This indicates the presence of context-dependent gender stereotypes among investors. Moreover, female-founded startups outperform their male counterparts when provided with VC in male-dominated sectors, suggesting that investors respond more favorably to characteristics associated with successful entrepreneurs when observed in male entrepreneurs than in female entrepreneurs.

This research contributes to the growing literature on gender and entrepreneurship by shedding light on the pipeline of women in high-growth entrepreneurship and examining the impact of sectoral heterogeneity on entrepreneurial outcomes. It highlights the importance of

understanding the interaction between gender and the gender composition of the entrepreneurial environment to fully grasp the gender gap in entrepreneurial finance.

References

Adams, Renée B, and Daniel Ferreira. 2009. "Women in the boardroom and their impact on governance and performance." *Journal of Financial Economics*, 94(2): 291–309.

Adams, Renée B, and Patricia Funk. 2012. "Beyond the glass ceiling: Does gender matter?" *Management Science*, 58(2): 219–235.

Adams, Renée B, and Vanitha Ragunathan. 2017. "Lehman sisters." *Working Paper*.

Adelino, Manuel, Antoinette Schoar, and Felipe Severino. 2015. "House prices, collateral, and self-employment." *Journal of Financial Economics*, 117(2): 288–306.

Akerlof, George A, and Rachel E Kranton. 2000. "Economics and identity." *Quarterly Journal of Economics*, 115(3): 715–753.

Altonji, Joseph G, Todd E Elder, and Christopher R Taber. 2005. "Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools." *Journal of Political Economy*, 113(1): 151–184.

Angrist, Joshua D, and Jörn-Steffen Pischke. 2010. "The credibility revolution in empirical economics: How better research design is taking the con out of econometrics." *Journal of Economic Perspectives*, 24(2): 3–30.

Arnold, David, Will Dobbie, and Crystal S Yang. 2018. "Racial bias in bail decisions." *Quarterly Journal of Economics*, 133(4): 1885–1932.

Arrow, Kenneth. 1973. "The theory of discrimination." *Discrimination in Labor Markets*, 3(10): 3–33.

Ashraf, Nava, Oriana Bandiera, Virginia Minni, and Vıctor Quintas-Martınez. 2022. "Gender roles and the misallocation of labour across countries." *Working Paper*.

Azmat, Ghazala, and Rosa Ferrer. 2017. "Gender gaps in performance: Evidence from young lawyers." *Journal of Political Economy*, 125(5): 1306–1355.

Balachandra, Lakshmi, Tony Briggs, Kim Eddleston, and Candida Brush. 2019. "Don't pitch like a girl! How gender stereotypes influence investor decisions." *Entrepreneurship Theory and Practice*, 43(1): 116–137.

Barber, Brad M, and Terrance Odean. 2001. "Boys will be boys: Gender, overconfidence, and common stock investment." *Quarterly Journal of Economics*, 116(1): 261–292.

Becker-Blease, John, and Jeffrey Sohl. 2007. "Do women-owned businesses have equal access to angel capital?" *Journal of Business Venturing*, 22(4): 503–521.

Becker, Gary S. 1957. "The economics of discrimination." *University of Chicago*.

Becker, Gary S. 1993. "Nobel lecture: The economic way of looking at behavior." *Journal of Political Economy*, 101(3): 385–409.

Berger, Allen N, and Gregory F Udell. 1995. "Relationship lending and lines of credit in small firm finance." *Journal of Business*, 351–381.

Bernstein, Shai, Arthur Korteweg, and Kevin Laws. 2017. "Attracting early-stage investors: Evidence from a randomized field experiment." *Journal of Finance*, 72(2): 509–538.

Bertrand, Marianne. 2020. "Gender in the twenty-first century." *AEA Papers and proceedings*, 110: 1–24.

Bertrand, Marianne, and Kevin F Hallock. 2001. "The gender gap in top corporate jobs." *Industrial and Labor Relations Review*, 55(1): 3–21.

Bertrand, Marianne, and Sendhil Mullainathan. 2004. "Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination." *American Economic Review*, 94(4): 991–1013.

Bertrand, Marianne, Claudia Goldin, and Lawrence F Katz. 2010. "Dynamics of the gender gap for young professionals in the financial and corporate sectors." *American Economic Journal: Applied Economics*, 2(3): 228–255.

Bertrand, Marianne, Dolly Chugh, and Sendhil Mullainathan. 2005. "Implicit discrimination." *American Economic Review*, 95(2): 94–98.

Blau, Francine D, and Lawrence M Kahn. 2017. "The gender wage gap: Extent, trends, and explanations." *Journal of Economic Literature*, 55(3): 789–865.

Blinder, Alan S. 1973. "Wage discrimination: Reduced form and structural estimates." *Journal of Human Resources*, 436–455.

Bohren, J Aislinn, Alex Imas, and Michael Rosenberg. 2019. "The dynamics of discrimination: Theory and evidence." *American Economic Review*, 109(10): 3395–3436.

Bordalo, Pedro, Katherine Coffman, Nicola Gennaioli, and Andrei Shleifer. 2016. "Stereotypes." *Quarterly Journal of Economics*, 131(4): 1753–1794.

Bordalo, Pedro, Katherine Coffman, Nicola Gennaioli, and Andrei Shleifer. 2019. "Beliefs about gender." *American Economic Review*, 109(3): 739–73.

Brooks, Alison Wood, Laura Huang, Sarah Wood Kearney, and Fiona E Murray. 2014. "Investors prefer entrepreneurial ventures pitched by attractive men." *Proceedings of the National Academy of Sciences*, 111(12): 4427–4431.

Brush, Candida G. 1992. "Research on women business owners: Past trends, a new perspective and future directions." *Entrepreneurship Theory and Practice*, 16(4): 5–30.

Calder-Wang, Sophie, and Paul A Gompers. 2021. "And the children shall lead: Gender diversity and performance in venture capital." *Journal of Financial Economics*, 142(1): 1–22.

Card, David, Stefano DellaVigna, Patricia Funk, Nagore Iriberri, et al. 2019. "Are referees and editors in economics gender neutral?" *Quarterly Journal of Economics*.

Carlana, Michela. 2019. "Implicit stereotypes: Evidence from teachers gender bias." *Quarterly Journal of Economics*, 134(3): 1163–1224.

Chevalier, Judy. 2022. "Report: Committee on the Status of Women in the Economics Profession (CSWEP)." 112: 746–67.

Chuprinin, Oleg, and Denis Sosyura. 2018. "Family descent as a signal of managerial quality: Evidence from mutual funds." *Review of Financial Studies*, 31(10): 3756–3820.

Coffman, Katherine. 2014. "Evidence on self-stereotyping and the contribution of ideas." *Quarterly Journal of Economics*, 129(4): 1625–1660.

Cook, Cody, Rebecca Diamond, Jonathan V Hall, John A List, and Paul Oyer. 2021. "The gender earnings gap in the gig economy: Evidence from over a million rideshare drivers." *Review of Economic Studies*, 88(5): 2210–2238.

Cook, Lisa D, Matt Marx, and Emmanuel Yimfor. 2023. "Funding Black High-Growth Startups." *Working Paper*.

Core, Fabrizio. 2022. "Female innovative entrepreneurship and maternity risk." *Working Paper*.

Duchin, Ran, Mikhail Simutin, and Denis Sosyura. 2021. "The origins and real effects of the gender gap: Evidence from CEOs formative years." *The Review of Financial Studies*, 34(2): 700–762.

Egan, Mark, Gregor Matvos, and Amit Seru. 2022. "When Harry fired Sally: The double standard in punishing misconduct." *Journal of Political Economy*, 130(5): 1184–1248.

Ekeland, Marie, Augustin Landier, and Jean Tirole. 2016. "Renforcer le capital-risque francais." *Les notes du conseil d'analyse economique*, , (6): 1–12.

Ewens, Michael. 2023. "Race and gender in entrepreneurial finance." Hanbook of the Economics of Corporate Finance.

Ewens, Michael, and Richard R Townsend. 2020. "Are early stage investors biased against women?" *Journal of Financial Economics*, 135(3): 653–677.

Ewens, Michael, Bryan Tomlin, and Liang Choon Wang. 2014. "Statistical discrimination or prejudice? A large sample field experiment." *Review of Economics and Statistics*, 96(1): 119–134.

Fang, Lily Hua, and Sterling Huang. 2017. "Gender and connections among Wall Street analysts." *The Review of Financial Studies*, 30(9): 3305–3335.

Ferguson, Michael F, and Stephen R Peters. 1995. "What constitutes evidence of discrimination in lending?" *Journal of Finance*, 50(2): 739–748.

Goldin, Claudia. 2014. "A grand gender convergence: Its last chapter." *American Economic Review*, 104(4): 1091–1119.

Goldin, Claudia. 2020. "Journey across a century of women." *NBER Reporter*, 3: 1–7.

Goldin, Claudia, and Cecilia Rouse. 2000. "Orchestrating impartiality: The impact of "blind" auditions on female musicians." *American Economic Review*, 90(4): 715–741.

Gompers, Paul A, Will Gornall, Steven N Kaplan, and Ilya A Strebulaev. 2020. "How do venture capitalists make decisions?" *Journal of Financial Economics*, 135(1): 169–190.

Gornall, Will, and Ilya A Strebulaev. 2022. "Gender, race, and entrepreneurship: A randomized field experiment on venture capitalists and angels." *Management Science*.

Gottlieb, Joshua D, Richard R Townsend, and Ting Xu. 2022. "Does career risk deter potential entrepreneurs?" *Review of Financial Studies*, 35(9): 3973–4015.

Guzman, Jorge, and Aleksandra Olenka Kacperczyk. 2019. "Gender gap in entrepreneurship." *Research Policy*, 48(7): 1666–1680.

Hebert, Camille. 2022. "Learning from errors in entrepreneurs." *Working Paper*.

Heimer, Rawley Z, Kristian Ove R Myrseth, and Raphael S Schoenle. 2019. "YOLO: Mortality beliefs and household finance puzzles." *Journal of Finance*, 74(6): 2957–2996.

Hellmann, Thomas, and Manju Puri. 2002. "Venture capital and the professionalization of start-up firms: Empirical evidence." *Journal of Finance*, 57(1): 169–197.

Hellmann, Thomas, Laura Lindsey, and Manju Puri. 2007. "Building relationships early: Banks in venture capital." *Review of Financial Studies*, 21(2): 513–541.

Hombert, Johan, Antoinette Schoar, David Sraer, and David Thesmar. 2020. "Can unemployment insurance spur entrepreneurial activity? Evidence from France." *Journal of Finance*, 75(3): 1247–1285.

Howell, Sabrina, and Ramana Nanda. 2022. "Networking frictions in venture capital, and the gender gap in entrepreneurship." *Journal of Financial and Quantitative Analysis*.

Hsieh, Chang-Tai, Erik Hurst, Charles I Jones, and Peter J Klenow. 2019. "The allocation of talent and US economic growth." *Econometrica*, 87(5): 1439–1474.

Huang, Laura, and Jone L Pearce. 2015. "Managing the unknowable: The effectiveness of early-stage investor gut feel in entrepreneurial investment decisions." *Administrative Science Quarterly*, 60(4): 634–670.

Kaplan, Steven N, and Per Stromberg. 2001. "Venture capitals as principals: Contracting, screening, and monitoring." *American Economic Review*, 91(2): 426–430.

Kaplan, Steven N, Berk A Sensoy, and Per Strömberg. 2009. "Should investors bet on the jockey or the horse? Evidence from the evolution of firms from early business plans to public companies." *Journal of Finance*, 64(1): 75–115.

Kumar, Alok. 2010. "Self-selection and the forecasting abilities of female equity analysts." *Journal of Accounting Research*, 48(2): 393–435.

Kumar, Alok, Alexandra Niessen-Ruenzi, and Oliver G Spalt. 2015. "What's in a name? Mutual fund flows when managers have foreign-sounding names." *Review of Financial Studies*, 28(8): 2281–2321.

Lagaras, Spyridon, Maria-Teresa Marchica, Elena Simintzi, Margarita Tsoutsoura, and Daniel Wolfenzon. 2023. "Women in the financial sector." *Working Paper*.

Landier, Augustin, and David Thesmar. 2008. "Financial contracting with optimistic entrepreneurs." *Review of Financial Studies*, 22(1): 117–150.

Levine, Ross, and Yona Rubinstein. 2017. "Smart and illicit: Who becomes an entrepreneur and do they earn more?" *Quarterly Journal of Economics*, 132(2): 963–1018.

Ma, Song, and Allen Hu. 2022. "Human interactions and financial investment: A video-based approach." *Working Paper*.

Mertz, Mikkel Baggesgaard, Maddalena Ronchi, and Viola Salvestrini. 2022. "Early exposure to entrepreneurship and the creation of female entrepreneurs." *Working Paper*.

Mian, Atif, and Amir Sufi. 2014. "What explains the 2007–2009 drop in employment?" *Econometrica*, 82(6): 2197–2223.

Naaraayanan, Lakshmi. 2021. "Women's Inheritance Rights and Entrepreneurship Gender Gap." *Working Paper*.

Niederle, Muriel, and Lise Vesterlund. 2007. "Do women shy away from competition? Do men compete too much?" *Quarterly Journal of Economics*, 122(3): 1067–1101.

Niessen-Ruenzi, Alexandra, and Stefan Ruenzi. 2018. "Sex matters: Gender bias in the mutual fund industry." *Management Science*.

Oaxaca, Ronald. 1973. "Male-female wage differentials in urban labor markets." *International Economic Review*, 693–709.

Oster, Emily. 2019. "Unobservable selection and coefficient stability: Theory and evidence." *Journal of Business & Economic Statistics*, 37(2): 187–204.

Phelps, Edmund S, et al. 1972. "The statistical theory of racism and sexism." *American Economic Review*, 62(4): 659–661.

Puri, Manju, and Rebecca Zarutskie. 2012. "On the life cycle dynamics of venture-capital-and non-venture-capital-financed firms." *Journal of Finance*, 67(6): 2247–2293.

Raina, Sahil. 2019. "VCs, Founders, and the Performance Gender Gap." *Working Paper*.

Reuben, Ernesto, Paola Sapienza, and Luigi Zingales. 2014. "How stereotypes impair women's careers in science." *Proceedings of the National Academy of Sciences*, 111(12): 4403–4408.

Sapienza, Paola, Luigi Zingales, and Dario Maestripieri. 2009. "Gender differences in financial risk aversion and career choices are affected by testosterone." *Proceedings of the National Academy of Sciences*, 106(36): 15268–15273.

Schmalz, Martin C, David A Sraer, and David Thesmar. 2017. "Housing collateral and entrepreneurship." *Journal of Finance*, 72(1): 99–132.

Schoar, Antoinette. 2010. "The divide between subsistence and transformational entrepreneurship." *Innovation Policy and the Economy*, 10(1): 57–81.

Shaffer, Sherrill. 1996. "Evidence of discrimination in lending: An extension." *Journal of Finance*, 51(4): 1551–1554.

Sherman, Mila Getmansky, and Heather E Tookes. 2022. "Female representation in the academic finance profession." *Journal of Finance*, 77(1): 317–365.

Small, Mario L, and Devah Pager. 2020. "Sociological perspectives on racial discrimination." *Journal of Economic Perspectives*, 34(2): 49–67.

Winton, Andrew, and Vijay Yerramilli. 2008. "Entrepreneurial finance: Banks versus venture capital." *Journal of Financial Economics*, 88(1): 51–79.

Zandberg, Jonathan. 2021. "Family comes first: Reproductive health and the gender gap in entrepreneurship." *Journal of Financial Economics*, 140(3): 838–864.

Zhang, Ye. 2021. "Discrimination in the venture capital industry: Evidence from two randomized controlled trials." *Working Paper*.

Tables

Table 1. Male and Female-Founded Start-ups by Cohort and Characteristics

Source: SINE survey and firm registry. Panel A reports the number and percentage of male and female-founded startups. Panel B reports the distributions of male and female-founded startups in male- and female-dominated sectors. A female-dominated sector is a 4-digit French SIC that includes at least 50% of female-founded startups. Panel C reports the percentage of female-founded startups, the percentage of incorporated firms, and the percentage of equity-backed firms by 1-digit French SIC sectors.

Panel A. Male and female start-ups founders

	Cohort					
	2002	2006	2010	2014	2018	Total
Male entrepreneurs	15,300	22,030	24,351	21,013	10,607	93,301
%	72.12	71.37	71.67	69.72	70.31	71.07
Female entrepreneurs	5,921	8,857	9,621	9,131	4,479	38,009
%	27.88	28.63	28.33	30.28	29.69	28.93
Total	21,216	30,867	33,975	30,140	15,086	131,284

Panel B. Start-ups founders by male and female-dominated sectors

	Cohorts					
	2002	2006	2010	2014	2018	Total
Male-dominated sectors	17,657	24,827	28,528	23,148	11,029	105,189
%	83.22	80.43	83.97	76.80	73.11	80.12
M in M-dominated sector	13,881	19,474	22,043	18,238	8,661	82,297
%	65.43	63.09	64.88	60.51	57.41	62.69
F in M-dominated sector	3,776	5,353	6,485	4,910	2,368	22,892
%	17.80	17.34	19.09	16.29	15.70	17.44
Female-dominated sectors	3,559	6,040	5,447	6,992	4,057	26,095
%	16.78	19.57	16.03	23.20	26.89	19.88
M in F-dominated sector	1,419	2,556	2,308	2,775	1,946	11,004
%	6.69	8.28	6.79	9.21	12.90	8.38
F in F-dominated sectors	2,140	3,484	3,139	4,217	2,111	15,091
%	10.09	11.29	9.24	13.99	13.99	11.49
Total	21,216	30,867	33,975	30,140	15,086	131,284

Panel C. Sectors at the 1-digit French SIC level

Rank	Sector (1-digit French SIC)	# Start-ups	% Female	% Incorporated	% Equity deals
1	Human health and social work activities	7586	0.628	0.14	0.009
2	Other service activities	8283	0.606	0.359	0.016
3	Education	3918	0.411	0.493	0.019
4	Arts, entertainment and recreation	3743	0.363	0.483	0.027
5	Accommodation and food service activities	10280	0.342	0.588	0.031
6	Professional, scientific and technical activities	13719	0.329	0.553	0.022
7	Real estate activities	5616	0.317	0.619	0.031
8	Wholesale and retail trade, repair of motor vehicles and motorcycles	23876	0.312	0.511	0.025
9	Administrative and support service activities	9115	0.276	0.58	0.025
10	Manufacturing	9927	0.259	0.513	0.031
11	Agriculture, forestry and fishing	1309	0.259	0.513	0.011
12	Financial and insurance activities	2220	0.247	0.638	0.036
13	Information and communication	6017	0.174	0.759	0.035
14	Transportation and storage	5192	0.168	0.649	0.027
15	Mining and quarrying	96	0.156	0.5	0.052
16	Water supply, sewerage, waste management and remediation activities	643	0.148	0.583	0.047
17	Electricity, gas, steam and air conditioning supply	1298	0.145	0.948	0.064
18	Construction	25423	0.08	0.503	0.024

Table 2. Entrepreneurs' Profiles and Start-ups' Characteristics

Source: SINE survey and tax files. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. The table presents entrepreneurs' biographical characteristics (panel A), growth preferences (panel B), startups' characteristics and business model information (panel C), startup's funding sources and startup capital (panel D), startup performance (panel E), and sectors' characteristics (panel F). The mean and number of observations by gender group are reported as are t-statistics and p-values of the mean differences between male and female entrepreneurs. Appendix A provides variable definitions and data sources.

	All	Male		Female			
Variables	Mean	N	Mean	N	Mean	difference	t-stat
Panel A. Entrepreneurs' biographical characteristics							
24 or younger	0.054	93114	0.051	37894	0.063	-0.01***	(-8.65)
25-34	0.309	93114	0.298	37894	0.335	-0.04***	(-13.18)
35-44	0.326	93114	0.327	37894	0.323	0.00	(1.62)
45-54	0.217	93114	0.220	37894	0.209	0.01***	(4.31)
55 or older	0.094	93114	0.105	37894	0.070	0.03***	(21.04)
Age $\geq$ 40	0.466	93301	0.481	37983	0.431	0.05***	(16.54)
French	0.906	93301	0.897	37983	0.926	-0.03***	(-17.19)
Education:							
No degree	0.190	93301	0.209	37983	0.143	0.07***	(29.35)
High school	0.410	93301	0.429	37983	0.363	0.07***	(22.11)
Undergraduate	0.153	93301	0.135	37983	0.198	-0.06***	(-27.13)
Graduate	0.248	93301	0.228	37983	0.296	-0.07***	(-24.94)
Elite school	0.049	93301	0.056	37983	0.029	0.03***	(24.10)
Experience:							
Industry expert	0.601	93301	0.635	37983	0.518	0.12***	(38.68)
Serial entrepreneur	0.300	93301	0.332	37983	0.221	0.11***	(41.95)
Previously CEO	0.071	93301	0.086	37983	0.033	0.05***	(40.53)
Previously self-employed	0.133	93301	0.143	37983	0.108	0.03***	(17.35)
Previously employee	0.384	93301	0.387	37983	0.379	0.01**	(2.46)
Previously unemployed	0.378	93301	0.360	37983	0.423	-0.06***	(-20.94)
Previously student	0.034	93301	0.025	37983	0.056	-0.03***	(-24.42)
Family:							
Children	0.555	53650	0.549	22443	0.570	-0.02***	(-5.30)
Married	0.706	78001	0.720	32067	0.673	0.05***	(15.31)
Sources of income:							
Spouse income	0.314	52595	0.306	20975	0.337	-0.03***	(-8.13)
Other employment income	0.160	52595	0.161	20975	0.158	0.00	(1.03)
No other income	0.482	52595	0.488	20975	0.467	0.02***	(5.29)
Panel B: Entrepreneurs' growth preferences							
High-growth oriented	0.349	93301	0.377	37983	0.281	0.10***	(34.21)
Detailed motivations for entry:							
Independence	0.626	93301	0.629	37983	0.620	0.01***	(3.05)
Taste	0.437	93301	0.450	37983	0.404	0.05***	(15.28)
Opportunity	0.196	93301	0.190	37983	0.211	-0.02***	(-8.78)
New Idea	0.162	93301	0.161	37983	0.165	-0.00	(-1.41)
Successful peer	0.102	93301	0.104	37983	0.097	0.01***	(3.68)
Unemployed	0.224	93301	0.214	37983	0.249	-0.04***	(-13.57)
Other reasons	0.300	93301	0.296	37983	0.308	-0.01***	(-4.30)
Reported difficulties at start:							
Nothing	0.244	78001	0.246	32067	0.238	0.01***	(2.84)
Getting funding	0.205	78001	0.213	32067	0.186	0.03***	(10.25)
Bank overdraft	0.078	78001	0.082	32067	0.069	0.01***	(7.16)
Open bank account	0.066	78001	0.068	32067	0.061	0.01***	(4.59)
Hiring skilled workers	0.092	78001	0.101	32067	0.069	0.03***	(17.71)
Pricing products	0.164	78001	0.161	32067	0.171	-0.01***	(-3.76)
Finding location	0.113	78001	0.105	32067	0.132	-0.03***	(-12.46)
Finding clients	0.186	78001	0.178	32067	0.206	-0.03***	(-10.67)
Administrative tasks	0.389	78001	0.384	32067	0.400	-0.02***	(-4.99)
Panel C: Startups' characteristics and business model							
Incorporated	0.531	93301	0.566	37983	0.445	0.12***	(39.79)
Team :							
Co-founder(s)	0.245	93301	0.248	37983	0.238	0.01***	(3.75)
Co-founded with spouse	0.093	93301	0.090	37983	0.101	-0.01***	(-6.18)
Co-founded with family	0.040	93301	0.040	37983	0.040	-0.00	(-0.08)
Co-founded with business partners	0.120	93301	0.126	37983	0.106	0.02***	(10.09)

Entrepreneurs' Profiles and Start-ups' Characteristics
(Continued)

	All	Male		Female			
Variables	Mean	N	Mean	N	Mean	difference	t-stat
Panel C: Startups' characteristics and business model							
Innovation:							
Innovative business	0.433	93301	0.426	37983	0.452	-0.03***	(-8.66)
Innovative product	0.347	93301	0.336	37983	0.375	-0.04***	(-13.33)
Innovative production	0.097	93301	0.105	37983	0.080	0.02***	(14.52)
Innovative marketing	0.133	78001	0.133	32067	0.131	0.00	(0.77)
Innovative organization	0.154	60664	0.160	24667	0.139	0.02***	(7.99)
Business model:							
B2B business model	0.388	93301	0.430	37983	0.286	0.14***	(51.10)
Non-local clientele	0.438	93301	0.477	37983	0.341		
Domestic customers	0.381	93301	0.418	37983	0.290	0.13***	(45.03)
International customers	0.057	93301	0.059	37983	0.051	0.01***	(6.07)
Local customers	0.562	93301	0.523	37983	0.659	-0.14***	(-46.37)
1 or 2 customers	0.141	93298	0.152	37980	0.113	0.04***	(19.46)
3 to 10 customers	0.270	93298	0.284	37980	0.235	0.05***	(18.70)
Many customers	0.455	93298	0.425	37980	0.528	-0.10***	(-34.18)
Many customers, a few large ones	0.135	93298	0.140	37980	0.124	0.02***	(7.56)
Panel D: Startups' funding and startup capital							
External funding sources:							
External financing	0.493	93301	0.493	37983	0.495	-0.00	(-0.76)
External equity	0.025	93301	0.029	37983	0.017	0.01***	(14.22)
VC only	0.003	55971	0.004	23230	0.001	0.00***	(5.93)
Other external equity	0.022	93301	0.025	37983	0.015	0.01***	(12.70)
Bank loan	0.271	93301	0.276	37983	0.259	0.02***	(6.31)
Household debt	0.121	93301	0.117	37983	0.128	-0.01***	(-5.55)
Microcredit	0.017	55971	0.015	23230	0.021	-0.01***	(-5.38)
Other loans	0.082	93301	0.079	37983	0.089	-0.01***	(-5.90)
Public grant	0.204	93301	0.200	37983	0.214	-0.01***	(-5.32)
% Funding sources:							
% Personal resources	62.276	24340	62.790	9621	60.976	1.81***	(3.69)
% Bank loans	30.391	24340	29.946	9621	31.514	-1.57***	(-3.46)
% Other financing	7.333	24340	7.264	9621	7.510	-0.25	(-1.07)
Startup capital:							
Startup Capital <2k	0.241	93301	0.222	37983	0.288	-0.07***	(-24.64)
Startup Capital 2-8€	0.290	93301	0.293	37983	0.281	0.01***	(4.69)
Startup Capital 8-16€	0.169	93301	0.176	37983	0.151	0.03***	(11.47)
Startup Capital 16-40€	0.156	93301	0.161	37983	0.145	0.02***	(7.28)
Startup Capital 40-80€	0.066	93301	0.066	37983	0.065	0.00	(0.80)
Startup Capital 80-160€	0.043	93301	0.043	37983	0.042	0.00	(0.66)
Startup Capital ≥160k	0.036	93301	0.039	37983	0.029	0.01***	(9.59)
Panel E. Startups' performance							
Survival ≥3 years	0.658	93301	0.663	37983	0.646	0.02***	(6.13)
Survival ≥5 years	0.380	93301	0.385	37983	0.369	0.02***	(5.25)
Employment size:							
Zero	0.807	93115	0.795	37894	0.838	-0.04***	(-18.58)
1	0.093	93115	0.098	37894	0.082	0.02***	(9.19)
2	0.042	93115	0.045	37894	0.035	0.01***	(7.98)
3	0.020	93115	0.022	37894	0.017	0.00***	(5.43)
3	0.020	93115	0.022	37894	0.017		
4-5	0.019	93115	0.020	37894	0.014	0.01***	(8.46)
6-10	0.013	93115	0.014	37894	0.009	0.01***	(7.97)
11+	0.006	93115	0.007	37894	0.005	0.00***	(4.60)
Δ sales$_{t=0,3}$	0.5496	48209	0.5627	19168	0.5169	0.05***	(6.01)
Δ sales$_{t=0,5}$	0.5383	26637	0.5543	10185	0.4964	0.06***	(4.78)
Δ employees$_{t=0,3}$	0.1758	11978	0.1883	3661	0.1349	0.05***	(4.57)
Δ employees$_{t=0,5}$	0.3419	6158	0.3634	1827	0.2696	0.09***	(5.15)
Exit Acquisition	0.0005	93288	0.0005	37982	0.0003	0.00**	(2.51)
Exit IPO	0.0000	93288	0.0001	37982	0.0000	0.00**	(2.24)

Table 3. Gender Stereotypes and Startup Creation Choices

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to analyze the effect of gender congruence on startup creation choices. The dependent variables are defined as follows: *Co-founders* that equals to one if the startup is founded by a team (column 1), *Incorporated* that equals to one if the startup is incorporated as opposed to a sole-proprietorship (column 2), *Has one employee* that equals to one if the startup hires at least one employee by the end of the first year of operation (column 3), *Innovative* business that equals to one if the startup innovates in at least one dimension (column 4), makes a product innovation (column 5), or makes an innovation in terms of production process (column 6), *B2B* equals one if the startup is a Business-to-business firm (column 7), *Non-local clients* that equals one if the startup's customer base is a national or foreign as opposed to local (column 8). The Baseline controls include the following dummy variables: *Undergraduate*, *Graduate*, and *Elite school*, which respectively equal one if the entrepreneur has at least a three-year or at least a five-year university degree, or/and Graduate from an elite engineering or business school. *Expert*, which equals one if the entrepreneur has at least three years of work experience in the sector, and *Serial*, which equals one if the entrepreneur has previously founded another startup. *High-growth oriented* equals one if the entrepreneur's main ambition is to grow the start as opposed to being self-employed. All models include county and 4-digit SIC sector × cohort-year fixed effects and startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	Creation Choices			Business model				
	Started with Co-founder(s)	Incorporated Startup	At least 1 employee	Innovative business			B2B	Non-local customers
				All innovation	Product	Production		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0503***	0.0089	0.0274***	0.0077*	0.0114***	-0.0151***	-0.0362***	-0.0510***
	(0.010)	(0.008)	(0.010)	(0.004)	(0.004)	(0.002)	(0.007)	(0.006)
Female × F-dominated sector	-0.0845***	-0.1019***	-0.0721***	0.0041	0.0136	-0.0023	-0.0406***	-0.0368***
	(0.021)	(0.019)	(0.018)	(0.011)	(0.011)	(0.005)	(0.011)	(0.010)
Age ≥ 40	-0.0112***	0.0164***	0.0038	-0.0232***	-0.0251***	-0.0033	0.0126***	0.0306***
	(0.004)	(0.004)	(0.005)	(0.003)	(0.003)	(0.002)	(0.004)	(0.004)
French	-0.0122**	0.0245***	-0.0474***	0.0327***	0.0264***	-0.0071*	-0.0329*	-0.0362***
	(0.005)	(0.008)	(0.011)	(0.006)	(0.005)	(0.004)	(0.018)	(0.008)
Undergraduate	0.0220**	0.0529***	0.0023	0.0262***	0.0164**	0.0018	0.0502***	0.0108
	(0.011)	(0.006)	(0.004)	(0.008)	(0.007)	(0.003)	(0.006)	(0.008)
Graduate	0.0124*	0.0574***	-0.0022	0.0310***	0.0202***	0.0076***	0.0604***	0.0665***
	(0.007)	(0.006)	(0.004)	(0.006)	(0.005)	(0.003)	(0.007)	(0.006)
Elite school	0.0017	0.0251***	-0.0020	0.0250***	0.0220***	0.0100*	0.0699***	0.0508***
	(0.007)	(0.007)	(0.006)	(0.009)	(0.008)	(0.005)	(0.010)	(0.008)
Industry expert	-0.0163**	0.0026	0.0073	-0.0081*	-0.0100***	0.0083***	0.0608***	0.0030
	(0.007)	(0.006)	(0.005)	(0.004)	(0.004)	(0.002)	(0.007)	(0.005)
Serial entrepreneur	0.0227***	0.0228***	0.0409***	0.0164***	0.0134***	0.0063***	0.0086***	0.0211***
	(0.004)	(0.005)	(0.004)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)
High-growth oriented	0.1275***	0.1164***	0.1258***	0.1436***	0.1074***	0.0578***	0.0412***	0.0593***
	(0.005)	(0.005)	(0.006)	(0.004)	(0.004)	(0.002)	(0.004)	(0.005)
Co-founder(s)		0.1701***	0.0921***	0.0200***	0.0226***	0.0026	0.0094***	0.0164***
		(0.008)	(0.005)	(0.005)	(0.005)	(0.002)	(0.004)	(0.005)
B2B business model	0.0096***	0.0583***	0.0539***	-0.0226***	-0.0275***	0.0104***		0.2555***
	(0.003)	(0.005)	(0.009)	(0.006)	(0.005)	(0.003)		(0.007)
Non-local clientele	0.0140***	0.0325***	-0.0008	0.0494***	0.0378***	0.0228***	0.2144***	
	(0.004)	(0.003)	(0.005)	(0.005)	(0.005)	(0.003)	(0.008)	
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.092	0.365	0.192	0.113	0.118	0.051	0.306	0.202
N	131,284	131,284	131,007	131,284	131,284	131,284	131,284	131,284
Mean dep. var.	0.2452	0.5308	0.1928	0.4334	0.3470	0.0975	0.3884	0.4375

Table 4. Gender Stereotypes and Entrepreneur Motivations

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to analyze the effect of gender stereotypes on entrepreneurs' growth preferences and ex-ante motivations. The dependent variables are as follows: *High-growth oriented* that equals one if the entrepreneur's main ambition is to grow the start instead of being self-employed (column 1). Dependent variables stem from the question "What are your three main motivations?", and correspond to the respective following answers: "a new idea of product, service, or market" *New idea* (column 2), "an opportunity to create a startup" *Opportunity* (column 3), "Follow the example of a successful peer" *Successful peers* (column 4), "the taste for entrepreneurship or new challenges" *Taste* (column 5), "the desire to be independent" *Independence* (column 6), "unemployed" (column 7), and "Other reasons" (column 8). All models include the baseline controls of table 3 and county and 4-digit SIC sector × cohort-year fixed effects, in addition to startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	High growth oriented	New idea	Opportunity	Successful peers	Taste	Independence	Unemployed	Other motivations
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0393***	0.0024	0.0208***	0.0070***	-0.0313***	-0.0341***	0.0337***	-0.0064*
	(0.006)	(0.004)	(0.005)	(0.002)	(0.005)	(0.006)	(0.004)	(0.004)
Female × F-dominated sector	-0.0585***	-0.0092	-0.0096	-0.0073	0.0231**	0.0346***	0.0087	-0.0132
	(0.011)	(0.006)	(0.009)	(0.006)	(0.011)	(0.012)	(0.013)	(0.011)
Age ≥ 40	-0.0499***	0.0023	-0.0273***	-0.0539***	-0.0706***	-0.1371***	0.0413***	-0.0441***
	(0.005)	(0.003)	(0.004)	(0.002)	(0.005)	(0.004)	(0.003)	(0.004)
French	-0.0133**	0.0249***	0.0418***	0.0019	0.0944***	-0.0006	-0.0010	-0.0001
	(0.007)	(0.004)	(0.005)	(0.003)	(0.007)	(0.005)	(0.004)	(0.005)
Undergraduate	0.0160**	0.0406***	0.0267***	-0.0016	0.0585***	-0.0011	-0.0401***	0.0063*
	(0.006)	(0.005)	(0.005)	(0.003)	(0.006)	(0.007)	(0.006)	(0.003)
Graduate	0.0301***	0.0525***	0.0128***	-0.0090***	0.0520***	-0.0406***	-0.0440***	0.0105**
	(0.007)	(0.005)	(0.004)	(0.003)	(0.006)	(0.005)	(0.005)	(0.004)
Elite school	0.0455***	0.0359***	0.0010	0.0118***	0.0362***	-0.0189**	0.0044	-0.0384***
	(0.011)	(0.008)	(0.005)	(0.004)	(0.008)	(0.008)	(0.006)	(0.007)
Industry expert	0.0003	-0.0277***	0.0123***	0.0054***	0.0182***	0.0436***	-0.0462***	0.0182***
	(0.005)	(0.003)	(0.004)	(0.002)	(0.004)	(0.005)	(0.005)	(0.005)
Serial entrepreneur	0.0503***	0.0413***	-0.0064**	-0.0414***	-0.0007	-0.0935***	-0.0645***	0.0226***
	(0.004)	(0.003)	(0.003)	(0.003)	(0.005)	(0.004)	(0.004)	(0.003)
Co-founder(s)	0.1711***	0.0216***	0.0662***	0.0052**	0.0142***	-0.0655***	-0.0543***	-0.0001
	(0.008)	(0.004)	(0.004)	(0.002)	(0.004)	(0.005)	(0.003)	(0.003)
Innovative business	0.1466***	0.1665***	-0.0050	0.0051**	0.1024***	0.0124***	0.0061*	-0.0151***
	(0.004)	(0.006)	(0.003)	(0.002)	(0.003)	(0.004)	(0.003)	(0.004)
High-growth oriented		0.0714***	0.0445***	0.0119***	0.1848***	-0.1073***	-0.0785***	-0.0225***
		(0.004)	(0.004)	(0.002)	(0.004)	(0.004)	(0.004)	(0.004)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	0.126	0.144	0.052	0.048	0.106	0.095	0.070	0.051
R^2	131,284	131,284	131,284	131,284	131,284	131,284	131,284	131,284
N	0.3494	0.1623	0.1960	0.1020	0.4370	0.6261	0.2243	0.2999

Table 5. Gender Stereotypes and Entrepreneur Financing

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to analyze the effect of gender stereotypes on the use of funding sources available to startups. The dependent variables are as follows: *External equity* financing including VC (column 1), *VC* only (column 2), *External financing* of any kind (column 3), use of *Public grants* (column 4), *Bank debt* financing (column 5), use of *Personal bank debt* (column 6), and *Microcredit* (column 7), and use of *Other loans* (column 8). *Female* is a dummy variable equal to one if a woman runs the startup. *F-dominated sector* is a dummy variable equal to 1 if the sector includes at least 50% of startups founded by women.The Baseline controls include the following dummy variables: *Undergraduate*, *Graduate*, and *Elite school*, which respectively equal one if the entrepreneur has at least a three-year or at least a five-year university degree, or/and Graduate from an elite engineering or business school. *Expert*, which equals one if the entrepreneur has at least three years of work experience in the sector, and *Serial*, which equals one if the entrepreneur has previously founded another startup. *Incorporated* equals one if the startup is incorporated instead of a sole-proprietorship. *High-growth oriented* equals one if the entrepreneur's main ambition is to grow the start as opposed to be self-employed. *Innovative business* equals one if the entrepreneur reports any innovation in his business model. *B2B* equals one if the startup is a Business-to-business firm. *Non-local clients* equals one if the startup's customer base is national or foreign as opposed to local. All models include county and 4-digit SIC sector × cohort-year fixed effects and startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	External equity		All external	Public	Bank loans		Other loans	
	All	VC only	Financing	Grants	Corporate debt	Household debt	Microcredit	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0066***	-0.0014***	0.0065	0.0043	0.0013	0.0040*	0.0038*	0.0130***
	(0.001)	(0.000)	(0.005)	(0.004)	(0.004)	(0.002)	(0.002)	(0.002)
Female × F-dominated sector	0.0047**	0.0016**	0.0277***	0.0194***	0.0154*	0.0047	0.0005	0.0038
	(0.002)	(0.001)	(0.010)	(0.007)	(0.008)	(0.004)	(0.003)	(0.006)
Age ≥ 40	0.0013	0.0001	-0.0370***	-0.0076***	-0.0425***	-0.0042**	-0.0001	-0.0121***
	(0.001)	(0.000)	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)
French	0.0006	0.0004	0.0908***	0.0533***	0.0762***	0.0179***	-0.0068***	0.0046**
	(0.001)	(0.001)	(0.006)	(0.003)	(0.005)	(0.003)	(0.002)	(0.002)
Undergraduate	0.0018	-0.0021***	-0.0005	0.0147***	0.0036	-0.0050*	-0.0005	0.0028
	(0.001)	(0.000)	(0.005)	(0.005)	(0.005)	(0.003)	(0.001)	(0.003)
Graduate	0.0060***	0.0009	-0.0311***	0.0096***	-0.0309***	-0.0144***	-0.0026**	-0.0022
	(0.002)	(0.001)	(0.005)	(0.004)	(0.003)	(0.003)	(0.001)	(0.002)
Elite school	0.0109***	0.0083***	-0.0335***	0.0056	-0.0411***	-0.0193***	0.0026	-0.0030
	(0.004)	(0.002)	(0.007)	(0.005)	(0.006)	(0.004)	(0.002)	(0.004)
Industry expert	0.0013	-0.0012**	0.0182***	-0.0164***	0.0316***	0.0044**	-0.0042***	0.0042**
	(0.001)	(0.000)	(0.004)	(0.003)	(0.003)	(0.002)	(0.001)	(0.002)
Serial entrepreneur	0.0101***	0.0010**	-0.0624***	-0.0718***	-0.0393***	-0.0050***	-0.0024**	-0.0225***
	(0.001)	(0.000)	(0.005)	(0.003)	(0.004)	(0.002)	(0.001)	(0.002)
Co-founder(s)	0.0141***	0.0026***	-0.0231***	-0.0340***	0.0062*	-0.0161***	-0.0041***	-0.0082***
	(0.002)	(0.001)	(0.003)	(0.003)	(0.004)	(0.003)	(0.001)	(0.002)
Incorporated	0.0145***	0.0001	-0.0413***	-0.0612***	0.0532***	-0.0598***	-0.0104***	-0.0050**
	(0.001)	(0.000)	(0.004)	(0.004)	(0.006)	(0.005)	(0.001)	(0.002)
High-growth oriented	0.0140***	0.0018***	0.0038	-0.0129***	0.0010	0.0022	0.0031***	0.0065***
	(0.001)	(0.000)	(0.003)	(0.002)	(0.003)	(0.002)	(0.001)	(0.002)
Innovative business	0.0042***	0.0020***	0.0536***	0.0546***	0.0168***	0.0180***	0.0062***	0.0200***
	(0.001)	(0.000)	(0.003)	(0.003)	(0.004)	(0.002)	(0.001)	(0.002)
B2B business model	0.0056***	-0.0008	-0.0275***	-0.0108***	-0.0162***	-0.0129***	-0.0038***	-0.0028
	(0.001)	(0.001)	(0.004)	(0.003)	(0.004)	(0.002)	(0.001)	(0.002)
Non-local clientele	0.0009	0.0010**	-0.0467***	-0.0164***	-0.0406***	-0.0077***	-0.0026**	-0.0083***
	(0.001)	(0.000)	(0.004)	(0.003)	(0.003)	(0.002)	(0.001)	(0.002)
Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.049	0.032	0.266	0.263	0.241	0.080	0.034	0.060
N	131,284	79,201	131,284	131,284	131,284	131,284	79,201	131,284
Mean dep. var.	0.0254	0.0030	0.4933	0.2043	0.2711	0.1205	0.0165	0.0819

Table 6. Gender Stereotypes and Interactions with Skills and Preferences

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to test whether skills and growth preferences mitigate the effects of gender stereotypes on the use of external equity. The dependent variable is *External equity*, which equals one if the startup uses VC or other external equity financing. The independent variable *Female* is interacted with several items capturing entrepreneurs' skills and preferences: *Serial entrepreneur* (columns 1 and 2), *Incorporated startup* (columns 3 and 4), *High growth oriented* (columns 5 and 6) and *Innovative* business (columns 7 and 8). The effects of skills and preferences are estimated on the subsample of firms started in male-dominated sectors (even columns) and female-dominated sectors (odd columns), respectively. A 4-digit French SIC female-dominated sectors include at least 50% female-founded startups. All models include the same baseline controls as Table 5. All models include county and 4-digit SIC sector × cohort-year fixed effects and startup capital fixed effects. Clustered standard errors at the 4-digit SIC sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	1(External equity)							
Sectors:	Male-dominated (1)	Female-dominated (2)	Male-dominated (3)	Female-dominated (4)	Male-dominated (5)	Female-dominated (6)	Male-dominated (7)	Female-dominated (8)
Female	-0.0039***	0.0009	-0.0007	0.0011	-0.0044***	0.0022	-0.0022	-0.0019
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.003)
Female × Serial entrepreneur	-0.0110***	-0.0127**						
	(0.002)	(0.005)						
Female × Incorporated			-0.0106***	-0.0086**				
			(0.002)	(0.004)				
Female × High-growth					-0.0068**	-0.0168***		
					(0.003)	(0.005)		
Female × Innovative							-0.0100***	-0.0014
							(0.002)	(0.003)
Serial entrepreneur	0.0122***	0.0163***	0.0100***	0.0097***	0.0101***	0.0096***	0.0102***	0.0098***
	(0.001)	(0.004)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)
Incorporated	0.0141***	0.0168***	0.0164***	0.0212***	0.0142***	0.0168***	0.0141***	0.0167***
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
High-growth oriented	0.0142***	0.0126***	0.0142***	0.0126***	0.0156***	0.0211***	0.0142***	0.0127***
	(0.001)	(0.003)	(0.001)	(0.003)	(0.002)	(0.004)	(0.001)	(0.003)
Innovative business	0.0057***	-0.0020	0.0057***	-0.0021	0.0057***	-0.0020	0.0079***	-0.0013
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.003)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.048	0.054	0.048	0.054	0.048	0.055	0.048	0.054
N	105,165	26,034	105,165	26,034	105,165	26,034	105,165	26,034
Mean dep. var.	0.0271	0.0184	0.0271	0.0184	0.0271	0.0184	0.0271	0.0184

Table 7. Selection into High-Growth Entrepreneurial Strategies and the Choice of Gender-Congruent Sectors

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to test whether entrepreneurs self-select into high-growth entrepreneurial strategies and, specifically, whether they sort into a gender-congruent sector. The dependent variable is a dummy variable that takes the value one if the 4-digit SIC sector is female-dominated according to the percentage of new female-founded firms in the sector. The main independent variable is *Female*, which interacted with the following interaction items that capture entrepreneurs' and startups' characteristics. The effects of having children are estimated on subsamples of entrepreneurs' age: 18 to 34 years old (column 6), 35 to 44 years old (column 7), and older than 45 years old (column 8). The effects of being previously employed in columns (17) to (18) are estimated on subsamples of entrepreneurs who have children (column 17) and who do not (column 18). All variables' definitions are given in Appendix Table A. All models include the same baseline controls as Table 5, county, cohort-year fixed effects, and startup capital fixed effects. Clustered standard errors at the 4-digit SIC sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable	1(Female-dominated sector)							
	Human capital				Family situation			
Iteration item:	Age≥40	Elite school	Serial entrepreneur	Industry expert	Has Children			Married
Sample:					[18–34]	[35–44]	Age ≥45	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female × Item	-0.0670***	-0.0989**	-0.0345*	0.0800***	0.0212	0.0466**	0.0156	-0.0022
	(0.014)	(0.032)	(0.012)	(0.016)	(0.009)	(0.006)	(0.013)	(0.010)
Item	0.0086*	-0.0385**	0.0117	-0.0086	-0.0272**	-0.0181**	-0.0061**	-0.0013
	(0.004)	(0.012)	(0.006)	(0.005)	(0.006)	(0.004)	(0.001)	(0.002)
Female	0.2654***	0.2388***	0.2440***	0.1914***	0.2870***	0.2058***	0.1988***	0.2364***
	(0.018)	(0.016)	(0.017)	(0.011)	(0.021)	(0.008)	(0.009)	(0.016)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.151	0.150	0.150	0.152	0.220	0.142	0.097	0.151
N	131,284	131,284	131,284	131,284	27,201	24,372	24,520	110,068
Mean dep. var.	0.1988	0.1988	0.1988	0.1988	0.2552	0.2103	0.2048	0.2047
	Growth intentions			Detailed motivations items				
Iteration item:	Incorporated	Innovative	High growth	New ideas	Opportunity	Successful peer	Taste	Independence
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Female × Item	-0.2222***	-0.0266*	-0.1138***	-0.0772***	-0.0164*	-0.0087	-0.0134	0.0870***
	(0.020)	(0.011)	(0.019)	(0.014)	(0.006)	(0.009)	(0.012)	(0.004)
Item	-0.0223	0.0377**	0.0099	0.0339**	0.0177***	-0.0265***	0.0006	-0.0263***
	(0.017)	(0.010)	(0.006)	(0.008)	(0.002)	(0.005)	(0.003)	(0.002)
Female	0.3430***	0.2473***	0.2706***	0.2480***	0.2383***	0.2360***	0.2409***	0.1812***
	(0.022)	(0.016)	(0.019)	(0.016)	(0.016)	(0.015)	(0.017)	(0.017)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.165	0.150	0.153	0.151	0.150	0.150	0.150	0.152
N	131,284	131,284	131,284	131,284	131,284	131,284	131,284	131,284
Mean dep. var.	0.1988	0.1988	0.1988	0.1988	0.1988	0.1988	0.1988	0.1988
	Previous employment situation					Other available incomes		
Iteration item:	Previously Employee		Unemployed	Student	CEO/Self-employed	Spouse	Employment	None
Sample:	Children	No children						
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
Female × Item	0.0595**	0.0294	-0.0095	-0.0206	-0.0964***	0.0663**	-0.0682***	-0.0075
	(0.011)	(0.011)	(0.009)	(0.048)	(0.006)	(0.018)	(0.005)	(0.019)
Item	-0.0085	-0.0050	-0.0330**	0.0921**	0.0152*	-0.0100	0.0175	-0.0007
	(0.009)	(0.006)	(0.008)	(0.025)	(0.006)	(0.006)	(0.016)	(0.002)
Female	0.2379***	0.2366***	0.2408***	0.2355***	0.2272***	0.2267***	0.2594***	0.2521***
	(0.017)	(0.016)	(0.013)	(0.016)	(0.017)	(0.017)	(0.016)	(0.022)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.160	0.152	0.151	0.151	0.128	0.178	0.178	0.177
N	42,247	33,846	131,284	131,284	80,819	73,597	73,597	73,597
Mean dep. var.	0.2172	0.2338	0.1988	0.1988	0.1973	0.2003	0.2003	0.2003

Table 8. Oaxaca-Blinder Decomposition of the Entrepreneurs' Use of External Equity

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. The figure plots the results of the Blinder-Oaxaca decomposition of the difference in the use of external equity between male and female entrepreneurs. Corresponding coefficients are reported in the Appendix Table IA13, columns (1) and (2). Mean differences are decomposed between the "explained effect" and the "unexplained effect". They are estimated using separate OLS regressions for male and female entrepreneurs. The explained effects correspond to the impact of gender differences in the explanatory variables evaluated using the male equation coefficients. The unexplained effects correspond to the average female residuals from the male equation. The model includes the following groups of variables: Age and citizenship include Age≥40 and French. Education includes Undergraduate, Graduate, and Elite school. Industry expert, Serial entrepreneur, the incorporation status are also included. Team composition includes Co-founded, Spouse, Relatives, and Business partners. Growth preferences include High growth-oriented and detailed ex-ante motivations. The business model includes B2B, Number of customers, and Non-local customers. Startup capital includes the categories of startup capital. Other funding includes alternative financing sources. Gender congruence includes the F-dominated sector and its interaction with Female entrepreneur. Coefficients are displayed in Appendix Table IA13.

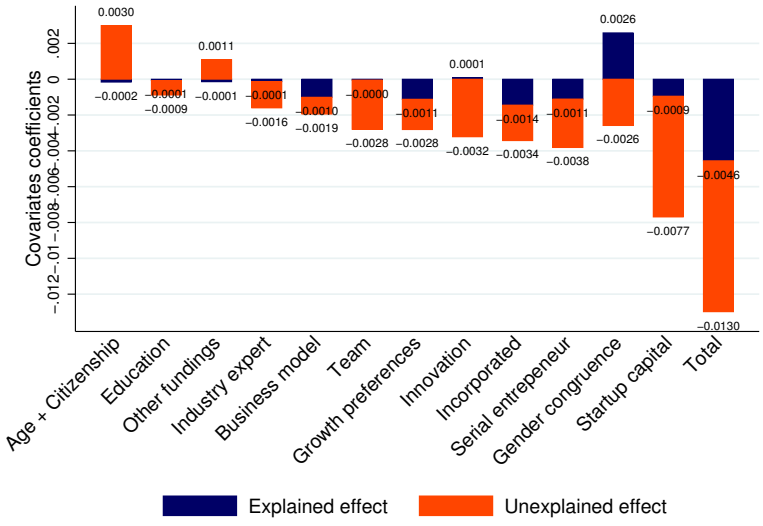


Table 9. Oster (2019)'s Robustness Test to Omitted Variables

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table tests the role of omitted variables in gender funding gap. Panel A uses OLS to test the robustness of the model to including additional control variables. I estimate the following linear models External equity $= \beta X + \varepsilon$ and $VC = \beta X + \varepsilon$ without any control variables to obtain β_u and R^2_u (columns 1 and 4), then with the baseline control variables and fixed effects of Table 5 (columns 2 and 5), and then with the additional control variables, including alternative financing sources and detailed ex-ante motivations to start (columns 3 and 6).
Panel B implements the test designed by Oster (2019) to assess the robustness of the augmented model (panel A columns 3 and 6) to the omitted variable bias. Note that the test is designed to access the robustness of only one variable at a time: *Female* in male-dominated sectors. For any given combination δ and R^2_{max}, Oster (2019) defines the bias-adjusted coefficient β_{adj} that is given by the following equation: $\beta_{adj} = \beta_c - \delta \frac{(\beta_u - \beta_c)(R^2_{max} - R^2_c)}{R^2_c - R^2_u}$. Assumptions of the model are $\delta = 1$, which means that omitted variables are proportionate to observed control variables, and $R^2_{max} = min(2\dot{R}^2_c, 1)$, which means that the model explains sizable variations in the use of external equity. Panel B and C report the adjusted coefficient β_{adj}, the bouded coefficients that is the interval between β_c and β_{adj}, whether the null hypothesis $\beta = 0$ is rejected, and the δ_{max} value to make $\beta = 0$.

Panel A: Baseline and augmented models

Dependent variable:	1(External equity)			1(VC)		
Model:	Unrestricted	Restricted		Unrestricted	Restricted	
Controls:	None	Baseline	Augmented	None	Baseline	Augmented
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.0122***	-0.0066***	-0.0070***	-0.0021***	-0.0014***	-0.0015***
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Female × F-dominated sector		0.0046**	0.0047**		0.0016**	0.0016**
		(0.002)	(0.002)		(0.001)	(0.001)
Human capital	No	Yes	Yes	No	Yes	Yes
Startup characteristics	No	Yes	Yes	No	Yes	Yes
Business model	No	Yes	Yes	No	Yes	Yes
Startup capital	No	Yes	Yes	No	Yes	Yes
Other motivations	No	No	Yes	No	Yes	Yes
Other financing sources	No	No	Yes	No	Yes	Yes
Sector × Cohort-year FE	No	Yes	Yes	No	Yes	Yes
County FE	No	Yes	Yes	No	Yes	Yes
R^2	0.0012	0.0486	0.0499	0.0003	0.0322	0.0347
N	131,284	131,284	131,284	79,201	79,201	79,201
Mean dep. var.	0.0254	0.0254	0.0254	0.0030	0.0030	0.0030

Panel B: Oster (2019)'s test for omitted variables in the external equity model

Parameters:	$R^2_{max} = min(2 * R^2_c, 1) = 0.0998$ and $\delta = 1$							
Model:	Uncontrolled effect		Controlled effect		Identified set		Reject	δ_{max} s.t. $\beta = 0$
Controls:	None		Augmented		[bound1 ; bound2]		Null?	and R^2_{max}
Treatment variable:	β_u	R^2_u	β_c	R^2_c	$[\beta_c$; $\beta_{adj}]$			
Female	-0.0122	0.0012	-0.0070	0.0499	-0.0070	-0.0017	Yes	1.314

Panel C: Oster (2019)'s tests for omitted variables in the VC only model

Choice of Parameters:	$R^2_{max} = min(2 * R^2_c, 1) = 0.0694$ and $\delta = 1$							
Model:	Uncontrolled effect		Controlled effect		Identified set		Reject	δ_{max} s.t. $\beta = 0$
Controls:	None		Augmented		[bound1 ; bound2]		Null?	and R^2_{max}
Treatment variable:	β_u	R^2_u	β_c	R^2_c	$[\beta_c$; $\beta_{adj}]$			
Female	-0.0021	0.0003	-0.0015	0.0347	-0.0015	-0.0009	Yes	2.478

Table 10. VC Financing and Entrepreneurs' Performance

Source: SINE survey, firm registry, and tax files. *Sample:* New firms founded in 2010, 2014, and 2018. This table uses OLS to analyze the performance of female-founded versus male-founded startups depending on their VC funding status and in male-dominated sectors (Panel A) and in female-dominated sectors (Panel B), respectively. The dependent variables are the likelihood to survive after 3 years, after 5 years, the sales growth between year 0 to year 3, and between year 0 to year 5, and the employment growth between year 0 to year 3, and between year 0 to year 5. The main independent variables are the entrepreneur's gender, *Female*, and interacted with *VC*. All models include the baseline control variables and county and 4-digit French SIC sector × cohort-year fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Panel A: Performance in Male-dominated sectors

Dependent variable	1(Survival)		Δ sales		Δ employment		Exits	
	≥3	≥5	(0,3)	(0,5)	(0,3)	(0,5)	M&A	IPO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0173***	-0.0062	-0.0362***	-0.0701***	-0.0514***	-0.0500	-0.0001	-0.0000
	(0.01)	(0.00)	(0.01)	(0.03)	(0.02)	(0.03)	(0.00)	(0.00)
VC	-0.0201	0.0005	0.0002	0.4188**	0.1268	0.3215	0.0042	0.0051
	(0.03)	(0.02)	(0.12)	(0.17)	(0.14)	(0.26)	(0.00)	(0.01)
Female × VC	0.1235**	0.0442	0.6199**	0.2258	0.2166	-0.9414*	-0.0050	-0.0052
	(0.05)	(0.05)	(0.28)	(0.22)	(0.24)	(0.53)	(0.00)	(0.01)
Age ≥ 40	0.0001	-0.0007	-0.0487***	-0.1278***	-0.0299**	-0.0741***	0.0002	0.0001
	(0.00)	(0.00)	(0.01)	(0.02)	(0.02)	(0.02)	(0.00)	(0.00)
French	0.0149**	0.0066	-0.0158	-0.0410	0.0462*	0.0638	0.0001	0.0000
	(0.01)	(0.00)	(0.02)	(0.04)	(0.03)	(0.05)	(0.00)	(0.00)
Undergraduate	-0.0025	-0.0058	0.0425***	0.0402	0.0519**	0.0446	-0.0001	-0.0001
	(0.00)	(0.00)	(0.01)	(0.03)	(0.02)	(0.04)	(0.00)	(0.00)
Graduate	0.0075	0.0039	0.0323**	0.0148	0.0192	-0.0300	-0.0001	-0.0001
	(0.01)	(0.00)	(0.01)	(0.03)	(0.02)	(0.03)	(0.00)	(0.00)
Elite school	-0.0117*	-0.0056	-0.0112	-0.0743	0.0629*	0.0170	0.0014**	-0.0001
	(0.01)	(0.01)	(0.03)	(0.05)	(0.04)	(0.05)	(0.00)	(0.00)
Industry expert	0.0286***	0.0219***	0.0162	0.0351	-0.0231	-0.0160	-0.0001	-0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.02)	(0.03)	(0.00)	(0.00)
Serial entrepreneur	0.0119***	-0.0040	-0.0309**	-0.0702***	-0.0298**	-0.0211	0.0003*	0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)	(0.00)	(0.00)
Co-founder(s)	0.0047	0.0034	0.0375***	0.0327	0.0087	-0.0450*	0.0003	0.0001
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.03)	(0.00)	(0.00)
Incorporated	0.1513***	0.1038***	0.1044***	0.4616***	0.0324	0.0905**	0.0002*	0.0000
	(0.01)	(0.01)	(0.02)	(0.04)	(0.03)	(0.05)	(0.00)	(0.00)
High-growth oriented	-0.0020	0.0028	0.0650***	0.0430**	0.0166	-0.0066	0.0003*	0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)	(0.00)	(0.00)
Innovative business	-0.0034	-0.0014	-0.0063	0.0086	0.0168	0.0033	0.0001	0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.03)	(0.00)	(0.00)
B2B business model	0.0010	0.0011	0.0335**	0.0331	0.0069	0.0117	0.0002	-0.0001
	(0.01)	(0.00)	(0.02)	(0.03)	(0.02)	(0.03)	(0.00)	(0.00)
Non-local clientele	-0.0010	-0.0023	0.0149	0.0182	0.0004	0.0252	-0.0000	-0.0001
	(0.00)	(0.00)	(0.01)	(0.03)	(0.02)	(0.03)	(0.00)	(0.00)
Sector FE × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.365	0.450	0.077	0.109	0.080	0.108	0.042	0.053
N	62,708	62,708	34,327	15,182	8,757	3,251	62,708	62,708
Mean dep. var.	0.6005	0.2537	0.5271	0.3603	0.1988	0.3062	0.0004	0.0000

Panel B: Performance in Female-dominated sectors

Dependent variable	1(Survival)		Δ sales		Δ employment		Exits
	≥3	≥5	(0,3)	(0,5)	(0,3)	(0,5)	M&A
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	0.0051	-0.0046	0.0075	-0.0159	-0.0262	-0.0410	-0.0001
	(0.01)	(0.00)	(0.02)	(0.04)	(0.03)	(0.07)	(0.00)
VC	0.0384	0.0003	-0.0105	-0.4803	0.2558	0.5099	-0.0017
	(0.07)	(0.06)	(0.45)	(0.43)	(0.32)	(0.49)	(0.00)
Female × VC	0.1107	0.1106	0.4968	0.9983	-0.1551	-1.0372**	0.0014
	(0.08)	(0.13)	(0.57)	(0.78)	(0.42)	(0.51)	(0.00)
Sector FE × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.472	0.560	0.085	0.149	0.198	0.267	0.018
N	16,492	16,492	9,270	3,550	1,442	521	16,492
Mean dep. var.	0.5693	0.2048	0.5141	0.4092	0.1792	0.2252	0.0004

Table 11. Do Entrepreneurs Substitute External Equity with Other Funding Sources?

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to test whether entrepreneurs use alternative funding sources to complement or substitute external equity financing in male and female-dominated sectors. The dependent variable is *External equity*, which equals one if the startup uses VC or other sources of external equity. The independent variable *Female* is interacted with alternative funding sources: *Bank loans* (columns 1 and 2), *Personal loans* (columns 3 and 4), *Other loans* (columns 5 and 6) and *Public grants* business (columns 7 and 8). The effects between are estimated on the subsamples of firms started in male-dominated sectors (even columns) and female-dominated sectors (odd columns). All models include the same baseline controls as Table 5, county and 4-digit SIC sector × cohort-year fixed effects, and startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable	1(External equity)							
Sectors:	Male-dominated (1)	Female-dominated (2)	Male-dominated (3)	Female-dominated (4)	Male-dominated (5)	Female-dominated (6)	Male-dominated (7)	Female-dominated (8)
Bank loan	0.0057***	0.0117***						
	(0.002)	(0.004)						
Female × Bank loans	-0.0030	-0.0045						
	(0.003)	(0.005)						
Personal loan			-0.0026	-0.0065				
			(0.002)	(0.005)				
Female × Personal loans			-0.0071**	-0.0011				
			(0.003)	(0.005)				
Other loans					0.0017	0.0240***		
					(0.002)	(0.009)		
Female × Other loans					0.0034	-0.0180*		
					(0.005)	(0.010)		
Public grant							0.0009	0.0123**
							(0.002)	(0.005)
Female × Public grants							-0.0024	-0.0088
							(0.002)	(0.005)
Female	-0.0058***	-0.0015	-0.0057***	-0.0023	-0.0069***	-0.0014	-0.0061***	-0.0011
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.048	0.055	0.048	0.054	0.048	0.055	0.048	0.054
N	105,165	26,034	105,165	26,034	105,165	26,034	105,165	26,034
Mean dep. var.	0.0271	0.0184	0.0271	0.0184	0.0271	0.0184	0.0271	0.0184

Table 12. Gender Stereotypes and Investors' Homophily

Source: Crunchbase France, Firm registry, and Genderize.io. *Sample:* French firms reported deals in Crunchbase. The Table uses OLS to test the effects of investors' gender homophily. The dependent variables are the Log of total funding by investment type: all for male-dominated sectors (column 1), all for female-dominated sectors (column 2), seed (column 3), early stage (column 4), late stage (column 5), and a dummy variable that takes the value one if the startup raises a second round of VC, and zero if not (column 6). The main independent variable is the founders' dominant gender, interacted with the lead investor's gender. The fouder's and lead investor's genders are determined based on first names and Genderize.io. Male and female-dominated sectors are determined based on keywords available in the Crunchbase company's industry description and then matched to the list of female-dominated sectors. All models include deal-year fixed effects. Clustered standard errors at the deal-year level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	Log(Total funding)					2nd Round
	M-dominated sectors	F-dominated sectors	Seed	Early stage	Later stage	
	(1)	(2)	(3)	(4)	(5)	(6)
Female-founded	-0.9984***	-2.9124***	-1.0744***	-1.1332***	-0.3411	-0.0196
	(0.20)	(0.00)	(0.26)	(0.14)	(0.33)	(0.08)
Female investor	0.1996	-2.3936***	0.4317	0.2104	0.1159	0.0360
	(0.23)	(0.00)	(0.43)	(0.28)	(0.52)	(0.05)
Female founder × Female investor	1.0082***	7.7759***	1.5098***	2.1076***	1.5349*	0.3569***
	(0.32)	(0.00)	(0.42)	(0.32)	(0.72)	(0.12)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.091	0.305	0.118	0.081	0.173	0.053
N	363	27	213	470	75	425

Table 13. Firm Creation and Reported Difficulties

Source: SINE survey. *Sample:* New firms founded in 2006, 2010, 2014, and 2018. This table uses OLS to test whether male and female entrepreneurs report different difficulties in creating a new firm. The dependent variable is the difficulty items that stem from the survey question "What are the main difficulties you faced during the startup creation process?". The main independent variables are the entrepreneur's gender, *Female*, interacted with the variables *Female-dominated sectors*, *Children*, and *Incorporated* startup. All models include the baseline human capital and startup control variables. They also include county and 4-digit French SIC sector × cohort-year fixed effects, and startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Reported Difficulties:	Administrative tasks	Getting financing	Opening bank account	Getting bank overdraft	Hiring skilled workers	Finding commercial space	Finding clients	Pricing Products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0035	-0.0329***	-0.0078**	-0.0111**	0.0083	-0.0050	0.0092	0.0229***
	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)
Female × F-dominated sector	0.0022	0.0046	-0.0046	-0.0016	-0.0205*	-0.0012	0.0262**	0.0114
	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Children	-0.0074	-0.0095***	-0.0080***	-0.0026	0.0019	-0.0089***	0.0020	0.0061**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Female × Children	-0.0078	0.0217***	0.0156***	0.0134**	0.0031	0.0123**	0.0023	-0.0069
	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)
Incorporated	0.0117**	-0.0206***	0.0054**	0.0044	0.0415***	0.0051	-0.0189***	-0.0330***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Female × Incorporated	0.0039	0.0192**	0.0076*	0.0147***	-0.0067	0.0085	-0.0035	0.0072
	(0.01)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)
Age ≥ 40	-0.0510***	-0.0097***	0.0002	0.0102***	-0.0142***	-0.0114***	-0.0241***	-0.0377***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
French	0.0184***	-0.0166***	-0.0448***	-0.0090**	-0.0142***	-0.0176***	-0.0040	0.0366***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Undergraduate	0.0290***	-0.0196***	-0.0078**	-0.0039	0.0023	0.0055	0.0170***	-0.0025
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Graduate	0.0290***	-0.0315***	-0.0116***	-0.0155***	0.0032	0.0201***	0.0300***	0.0153***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Elite school	-0.0068	-0.0129**	0.0009	-0.0180***	-0.0047	-0.0208***	0.0120	-0.0177***
	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Industry expert	0.0118***	-0.0252***	-0.0050**	-0.0046	0.0019	0.0052	-0.0287***	-0.0277***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Serial entrepreneur	-0.0626***	0.0087***	0.0020	0.0317***	0.0386***	0.0009	-0.0410***	-0.0528***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Co-founder(s)	0.0187***	0.0190***	0.0060***	0.0020	0.0077**	0.0231***	-0.0168***	-0.0062*
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Innovative business	0.0435***	0.0476***	0.0105***	0.0164***	0.0126***	0.0367***	0.0166***	0.0357***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
High-growth oriented	-0.0143***	0.0589***	0.0126***	0.0324***	0.0840***	0.0319***	-0.0173***	-0.0116***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
B2B business model	-0.0152***	-0.0026	0.0087***	0.0123***	0.0165***	-0.0304***	-0.0026	-0.0058
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
Non-local clientele	0.0055	-0.0112***	0.0131***	0.0058**	-0.0004	-0.0248***	-0.0065*	-0.0291***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Sector × Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.046	0.097	0.037	0.042	0.106	0.092	0.048	0.076
N	76,093	76,093	76,093	76,093	76,093	76,093	76,093	76,093
Mean Dep. Var.	0.379	0.202	0.074	0.080	0.089	0.109	0.172	0.159

Variable Description

Variable	Description
Biographical characteristics and Experience (Source: SINE)	
Female	Dummy variable equals one if a female entrepreneur founded the startup and zero if a male entrepreneur founds it.
Age $\geq$ 40	Dummy variable that equals one if the entrepreneur is 40 years old or older at creation.
French	Dummy variable that equals one if the entrepreneur is a French citizen and zero otherwise.
Education:	
High school	Dummy variable, which equals one if the entrepreneur's highest degree is a high school diploma and zero otherwise.
Undergraduate	Dummy variable that equals one if the entrepreneur's highest diploma is a bachelor's degree (License) and zero otherwise.
Graduate	Dummy variable that equals one if the entrepreneur has at least a five-year master's degree, including JD, MD, and Ph.D. degrees (Master, Grande école, Doctorat), and zero otherwise.
Elite school	Dummy variable that equals one if the entrepreneur graduated from a Grande Ecole, a top engineering or business school (e.g., Ecole Polytechnique, Centrale, Mines, HEC, ESSEC among others), and zero otherwise.
Experience:	
Industry expert	Dummy variable that equals one if the entrepreneur has at least three years of prior work experience in the sector in which the startup is incorporated and zero otherwise.
Serial	Dummy variable that equals one if the entrepreneur has already founded a startup and zero otherwise.
Previously CEO	Dummy variable that equals one if the entrepreneur was previously the CEO of another firm and zero otherwise.
Previously self-employed	Dummy variable that equals one if the entrepreneur was previously self-employed and zero otherwise.
Previously employee	Dummy variable that equals one if another firm previously employed the entrepreneur and zero otherwise.
Previously unemployed	Dummy variable that equals one if the entrepreneur was unemployed or inactive and zero otherwise.
Previously student	Dummy variable that equals one if the entrepreneur was previously a student and zero otherwise.
Family:	
Married	Dummy variable that equals one if the entrepreneur is married or in a spousal relationship and zero otherwise.
Children	Dummy variable that equals one if the entrepreneur has at least one child at the startup creation date and zero otherwise.
Team:	
Co-founder(s)	Dummy variable that equals one if the entrepreneur has at least one co-founder and zero if she starts on her own.
Founded with spouse	Dummy variable that equals one if the entrepreneur starts with her spouse and zero otherwise.
Founded with family	Dummy variable that equals one if the entrepreneur starts with a sibling, a relative, or a friend and zero otherwise.
Founded with business partners	Dummy variable that equals one if the entrepreneur starts with a business partner and zero otherwise.
Growth preferences:	
Incorporated	Dummy variable that equals one if the startup is incorporated and zero if it is a sole proprietorship.
High-growth oriented	Dummy variable that stems from the question "What is your main objective?" and equals one if the entrepreneur answers "to develop the company" but zero if she answers "mainly to create my own job."
Motivation items stem from the question "What are your three main motivations?":	

Continued on next page

Variable	Description
Independence	Dummy variable that equals one if the entrepreneur ticks the box "desire to be independent" and zero otherwise.
New idea	Dummy variable that equals one if the entrepreneur ticks the box "a new idea for a product, service, or market" and zero otherwise.
Taste	Dummy variable that equals one if the entrepreneur ticks the box "taste for entrepreneurship or new challenges" and zero otherwise.
Opportunity	Dummy variable that equals one if the entrepreneur ticks the box "an opportunity to create a startup" and zero otherwise.
Successful peers	Dummy variable that equals one if the entrepreneur ticks the box "inspired by a successful entrepreneur" and zero otherwise.
Unemployed	Dummy variable that equals one if the entrepreneur ticks the box "because unemployed" and zero otherwise.
Other reasons	Dummy variable that equals one if the entrepreneur ticks the box "other reasons" and zero otherwise.
Innovation:	
Innovative business	Dummy variable that equals one if the entrepreneur is bringing innovation in terms of product, services, marketing, or organization and zero otherwise.
Product innovation	Dummy variable that equals one if the entrepreneur is bringing innovation in terms of product or services and zero otherwise.
Marketing innovation	Dummy variable that equals one if the entrepreneur is bringing innovation in terms of marketing and zero otherwise.
Organization innovation	Dummy variable that equals one if the entrepreneur is bringing innovation in terms of organization and zero otherwise.
Difficulties at creation:	
Difficulty items stem from the question "What are the main difficulties you faced during the startup creation process?":	
None	Dummy variable that equals one if the entrepreneur ticks the box "no specific difficulty" and zero otherwise.
Administrative tasks	Dummy variable that equals one if the entrepreneur ticks the box "handling the administrative tasks" and zero otherwise.
Getting funding	Dummy variable that equals one if the entrepreneur ticks the box "getting funding" and zero otherwise.
Opening a bank account	Dummy variable that equals one if the entrepreneur ticks the box "opening a corporate bank account" and zero otherwise.
Getting a bank overdraft	Dummy variable that equals one if the entrepreneur ticks the box "getting a bank overdraft" and zero otherwise.
Hiring skilled workers	Dummy variable that equals one if the entrepreneur ticks the box "hiring skilled workers" and zero otherwise.
Finding clients	Dummy variable that equals one if the entrepreneur ticks the box "Finding new clients" and zero otherwise.
Finding a commercial space	Dummy variable that equals one if the entrepreneur ticks the box "Finding a commercial space" and zero otherwise.
Pricing products	Dummy variable that equals one if the entrepreneur ticks the box "Pricing products and services" and zero otherwise.
Business model:	
B2B business	Dummy variable that equals one if the new firm is (B2B) business-to-business oriented and zero if it is business-to-customer (B2C) oriented.
Local customers	Dummy variable that equals one if the new firm has mainly local customers and zero otherwise.
Domestic customers	Dummy variable that equals one if the new firm has mainly domestic customers (in France) and zero otherwise.
International customers	Dummy variable that equals one if the new firm has mainly international customers (outside of France) and zero otherwise.
1 or 2 customers	Dummy variable that equals one if the new firm has one or two main clients and zero otherwise.
3 or 10 customers	Dummy variable that equals one if the new firm has three to ten clients and zero otherwise.
Many customers	Dummy variable that equals one if the new firm has more than ten clients and zero otherwise.
Many customers, a few large ones	Dummy variable that equals one if the new firm has more than ten clients with a few big ones, and zero otherwise.

Continued on next page

Variable	Description
Capital and sources of income:	
Starting capital	Categorical variables that equal one if the amount invested at creation falls into one of these categories: <2k, [$2k-4k[, [$4k-8k[, [$8k-16k[, [$16k-40k[, [$40k-80k[, [$80k-160k[or ≥$160k and zero otherwise
Other employment income	Dummy variable that equals one if the entrepreneur has access to other employment income and zero otherwise.
Spouse income	Dummy variable that equals one if the entrepreneur has access to spouse income and zero otherwise.
No other income	Dummy variable equals one if the entrepreneur does not have any other sources of income and zero if she has.
External financing sources	
External financing	Dummy variable that equals one if the startup uses any source of external financing and zero otherwise.
Venture capital	Dummy variable that equals one if the startup uses VC financing and zero otherwise.
External equity	Dummy variable that equals one if the startup uses venture capital or other equity financing and zero otherwise.
Bank corporate debt	Dummy variable that equals one if the startup uses bank debt granted to the startup and zero otherwise.
Bank personal debt	Dummy variable that equals one if the startup uses personal debt for the startup and zero otherwise.
Other loans	Dummy variable that equals one if the startup uses other types of loans for the startup and zero otherwise. Examples of other loans include zero-percent loans and
Microcredit & crowdfunding	Dummy variable that equals one if the startup uses microcredit and/or crowdfunding for the startup and zero otherwise. The crowdfunding information is only available for the 2014 and 2018 cohorts. Microcredits include informal loans from family and friends.
Public grant	Dummy variable that equals one if the startup uses a cash grant coming from various public programs and zero otherwise. Examples of public programs are ACCRE, NACRE, PCE, CIR programs, OSEO innovation grants, and AGEFIPH aid.
Balance sheet and performance variables (Sources: Tax files & Employer payrolls)	
Survival 3 years	Dummy variable that equals one if the startup survives three years after creation and zero otherwise.
Survival 5 years	Dummy variable that equals one if the startup survives five years after creation and zero otherwise.
Employment size at start	Number of employees at the end of the first year. Employment size is also created three years after creation (t+3) and five years after creation (t+5).
Δ sales (0,3)	Variation of firm sales between the first year of operation and year t+3.
Δ sales (0,5)	Variation of firm sales between the first year of operation and year t+5.
Δ employment (0,3)	Variation of firm's Number of employees between the first year of operation and year t+3.
Δ employment (0,5)	Variation of firm's Number of employees between the first year of operation and year t+5.
Log(total assets)	Logarithm of the total assets on the balance sheet.
Tangible/ total assets	Tangible ratio is the sum of tangible assets divided by the balance sheet total assets.
M&A	Dummy variable that equals one if the startup is acquired at some point in its life-cycle and zero otherwise. (Sources: Crunchbase)
IPO	Dummy variable that equals one if the startup becomes public at some point in its life-cycle and zero otherwise. (Sources: Crunchbase and Bureau Van Dijk Zephyr)

Appendix for Online Publication:
Gender Stereotypes and Entrepreneur Financing

Camille Hebert

July 2023

This internet appendix presents additional results to accompany the paper "Gender Stereotypes and Entrepreneur Financing". The contents are as follows:

Appendix IA presents additional analysis to accompany our main empirical results.
Figures IA1 plot the aggregate VC investment by investment type for France, Germany, and UK, Canada, the US, and Israel using Crunchbase.
Figures IA2 represent the aggregate VC investment over time for 27 European Countries.
Figures IA3 represent the aggregate VC investment by investment type for France, Germany, and the UK.
Figures IA4 represent the aggregate VC investment for France.
Figures IA5 plot the number of VC funds in France and their fundraising by type of LPs.
Figures IA6 plot the means of startup creation choices by founders' gender and sector's gender congruence.
Figures IA7 plot the means of startup funding sources by founders' gender and sector's gender congruence.
Figures IA8 scatter plot relationship between the percentage of firms that use VC and the percentage of female-founded firms within the same sector.
Table IA1 lists the top and bottom sectors in terms of female entrepreneurs' representation.
Table IA2 investigates what makes a female entrepreneur, in male and female-domianted sectors, and conditional on being incorporated and externally funded.
Table IA3 compares male and female entrepreneurs' use of external financing within sectors.
Table IA4 investigates the effects of gender stereotypes on additional startup creation choices.
Table IA5 investigates the effects of gender stereotypes on the main startup creation choices conditional on being incorporated and externally funded.

Table IA6 investigates the effects of gender stereotypes on additional startup creation choices conditional on being incorporated and externally funded.

Table IA7 replicates the effects of gender stereotypes on external equity and VC financing of entrepreneurs who are more likely to seek it.

Table IA8 replicates the effects of gender stereotypes on entrepreneurs financing entrepreneurs who do not have children.

Table IA9 replicates the effects of gender stereotypes on entrepreneurs financing entrepreneurs who faced difficulties getting funding.

Table IA10 replicates the effects of gender stereotypes on entrepreneurs' use of external equity by investment type using Crunchbase.

Table IA11 tests whether skills and growth preferences mitigate the effects of gender stereotypes on the use of VC financing.

Table IA12 tests whether entrepreneurs incorporate the new venture conditional on the sector choice.

Figure IA13 plots the results of the Blinder-Oaxaca decomposition of the difference in the use of external equity between male and female entrepreneurs, and the Table reports the coefficients.

Figure IA14 plots the results of the Blinder-Oaxaca decomposition of the difference in the use of external equity between male and female entrepreneurs between male and female-dominated sectors.

Figure IA15 plots the results of the Blinder-Oaxaca decomposition of the difference in the use of external equity and VC between male and female entrepreneurs with children.

Figure IA16 plots the results of the Blinder-Oaxaca decomposition of the difference in the use of VC only between male and female entrepreneurs.

Table IA17 tests whether entrepreneurs substitute VC financing with other financing sources.

Table IA18 studies the relationship between the startup's capital structure and the use of VC.

Table IA19 compares the performance of male and female entrepreneurs that use external equity financing.

Table IA20 compares the performance of male and female entrepreneurs conditional on using different financing sources.

Appendix IB proposes a simple model with investors' beliefs to explain the gender funding gap.

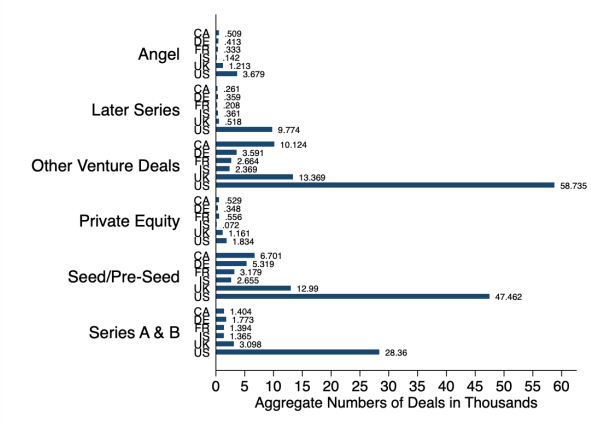
IA Additional Figures and Tables

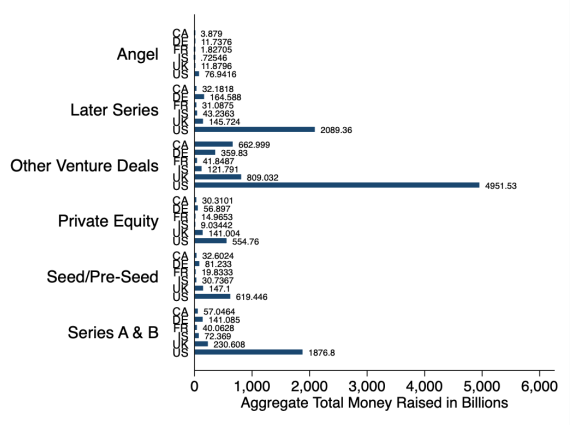
Figure IA1. Crunchbase deals by Country

Source: Crunchbase France *Sample:* VC deals in France from 2010 to 2022. Figures (a) and (b) represent the total number of deals and the aggregate amount by country and investment type. Figures (c) and (d) represent the total number of deals by Investment type over time for Canada (CA), France (FR), Germany (DE), the US, and the UK.

(a) Deals by country

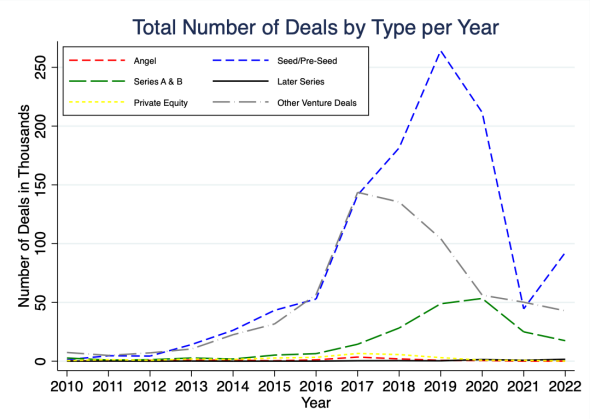
(b) Amounts raised by country





(c) Number of Deals per Year in France

(d) Amounts Raised per Year in France



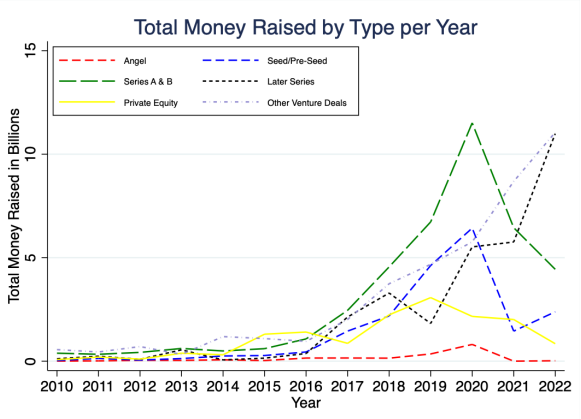


Figure IA2. Aggregate Venture Capital Investment by Country

Source: European Venture Capital Association. *Sample:* VC deals in Europe from 2007 to 2022. The figures represent the aggregate VC investment amount by country.

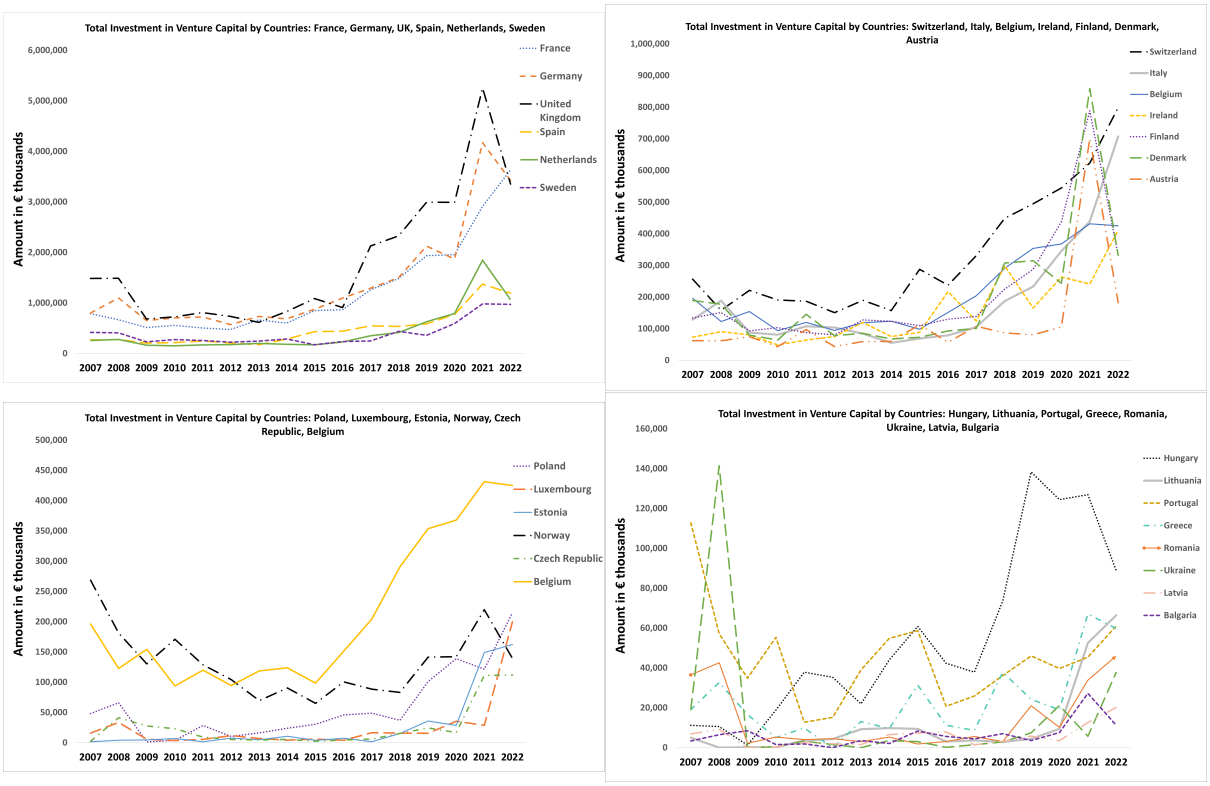


Table IA1. Percentage of Female-founded Start-ups by Sector

Source: SINE survey and firm registry. Panel A reports the top and bottom five 4-digit French SIC sectors by share of within-sector new female-founded start-ups. Sectors with less than 50 start-ups and zero external equity deals are excluded.

	Panel A. Top 10 and bottom 10 at the 4-digit French SIC level				
Rank	Sector (4-digit French SIC)	# Start-ups	% Female	% Incorporated	% Equity deals
1	Hairdressing and other beauty treatment	4372	0.78	0.337	0.018
2	Manufacture of imitation jewellery and related articles	225	0.76	0.156	0.009
3	Other human health activities	5092	0.711	0.064	0.006
4	Translation and interpretation activities	470	0.668	0.166	0.004
5	Child day-care activities	130	0.646	0.946	0.015
6	Physical well-being activities	419	0.644	0.516	0.014
7	Manufacture of made-up textile articles, except apparel	106	0.632	0.358	0.009
8	Manufacture of other textiles n.e.c.	83	0.627	0.301	0.024
9	Retail sale of cosmetic and toilet articles in specialised stores	155	0.619	0.606	0.026
10	Photocopying, document preparation and other specialised office support activities	315	0.616	0.403	0.016
...					
215	Treatment and coating of metals	79	0.063	0.722	0.063
216	Joinery installation	2631	0.063	0.455	0.023
217	Repair of machinery	463	0.063	0.508	0.019
218	Repair of household appliances and home and garden equipment	148	0.061	0.304	0.014
219	Plumbing, heat and air-conditioning installation	2511	0.058	0.491	0.022
220	Machining	265	0.057	0.638	0.023
221	Electrical installation	2786	0.045	0.466	0.022
222	Repair of electrical equipment	50	0.04	0.7	0.04
223	Forging, pressing, stamping and roll-forming of metal; powder metallurgy	83	0.036	0.482	0.024
224	Manufacture of assembled parquet floors	57	0.018	0.386	0.035

Figure IA3. Aggregate Venture Capital Investment by Stage: France, Germany, UK

Source: European Venture Capital Association. *Sample:* VC deals in France, Germany and the UK from 2007 to 2022. The figures represent the aggregate VC investment amount by investment stage: seed, start-up, and late-stage rounds.

Figure IA4. Venture Capital Investment in France

Source: European Venture Capital Association. *Sample:* VC deals in France from 2007 to 2022. The figures represent the total VC investment amount and number of companies that received funding by investment stage over time. The bottom figure plots the total VC investment amount by Industry over time.

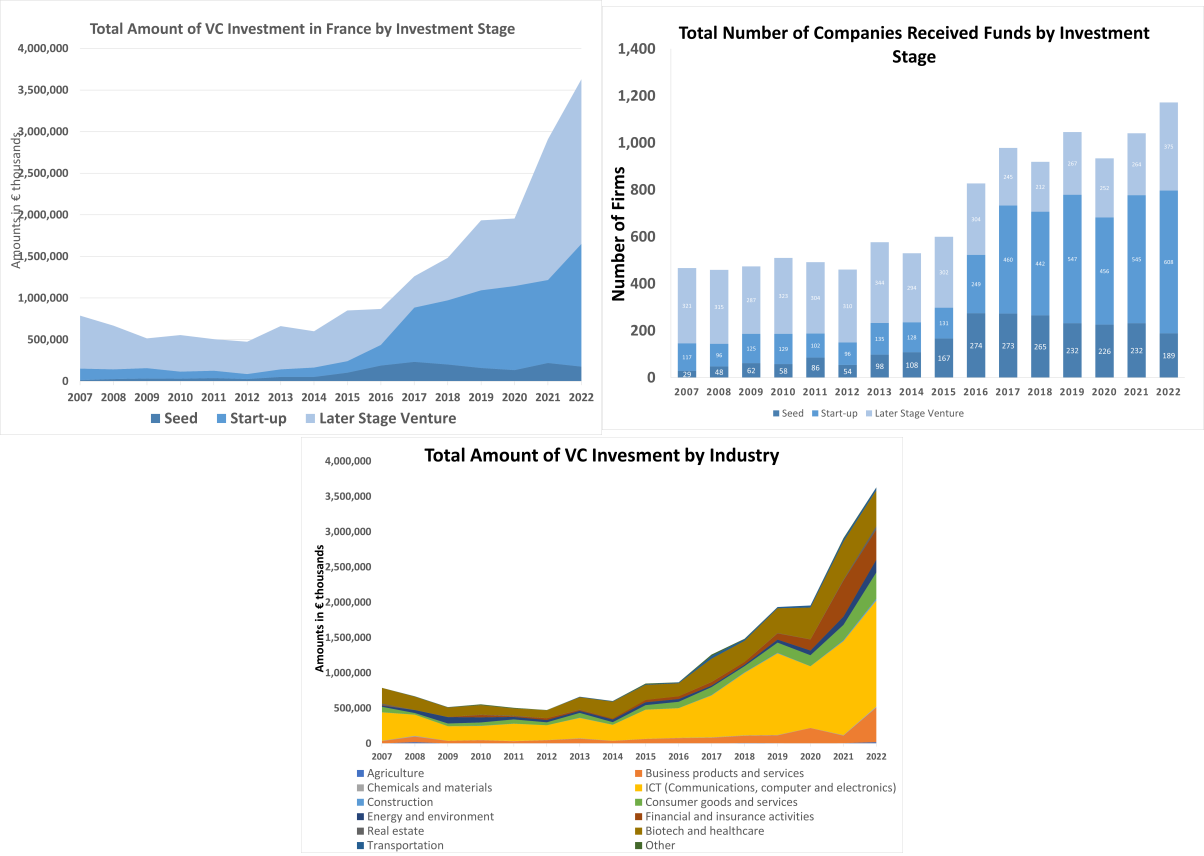


Figure IA5. Venture Capital Funds and LPs in France

Source: European Venture Capital Association. *Sample:* VC firms in France from 2007 to 2022. The left figure represents the number of VC funds by investment stage over time. The right figure plots the total VC fundraising amount by limited partner type over time.

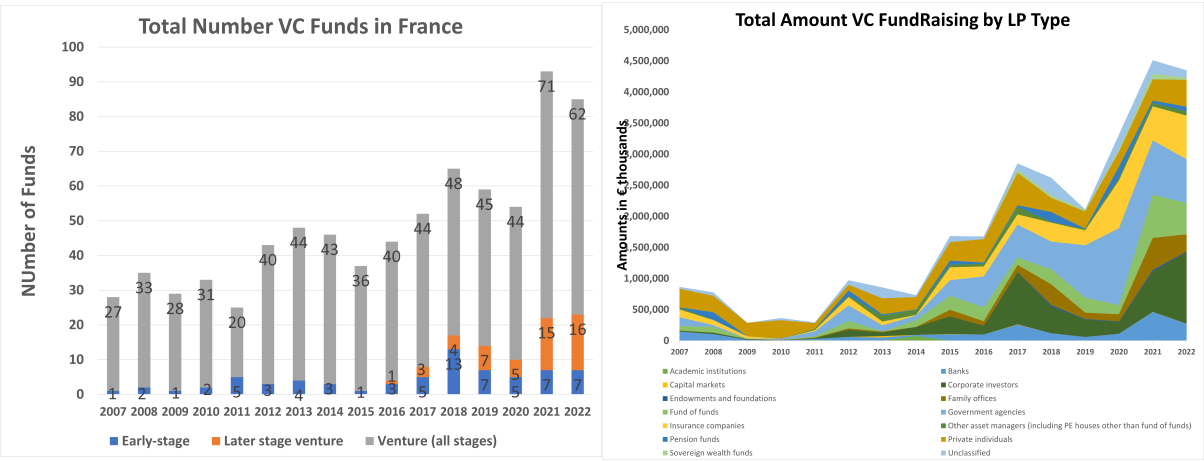
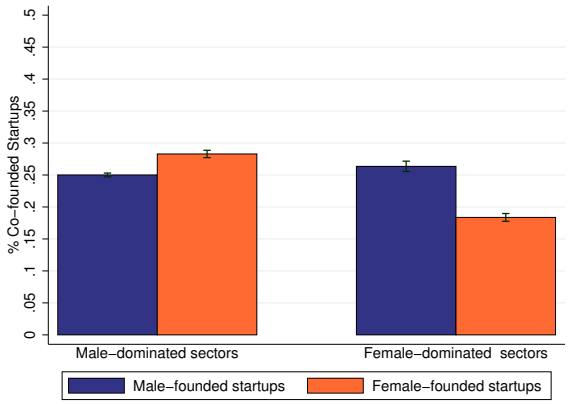


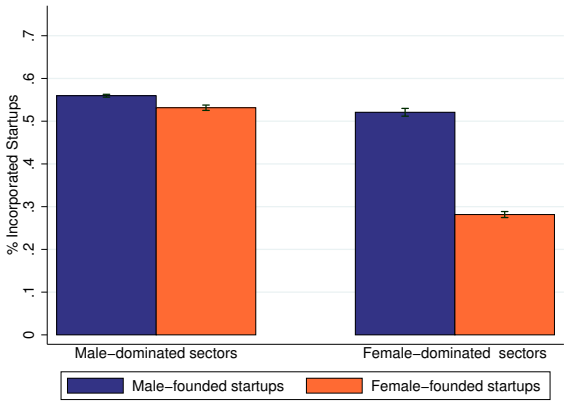
Figure IA6. Gender Stereotypes and Startup Creation Choices

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. The figure plots the unconditional means by founder's gender and gender-dominated sectors of start-ups that are co-founded by a team (figure a), incorporated (figure b), innovative (figure c), hire at least one employee (figure d), have a B2B business model (figure e), and whose the founder is high-growth oriented (figure f). A female-dominated sector includes at least 50% of new female-founded start-ups within a 4-digit French SIC sector.

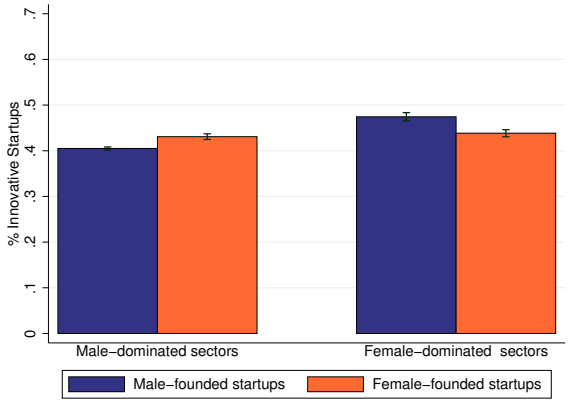
(a) Co-founded startups



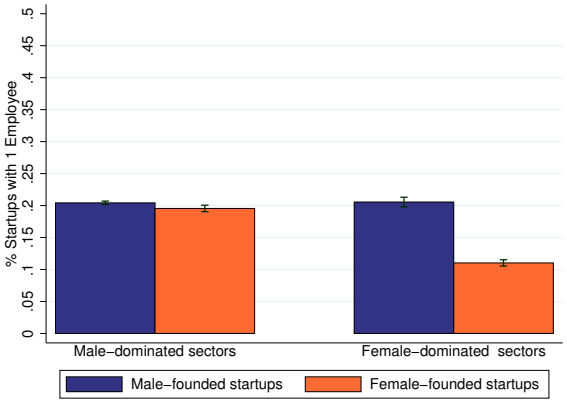
(b) Incorporated startups



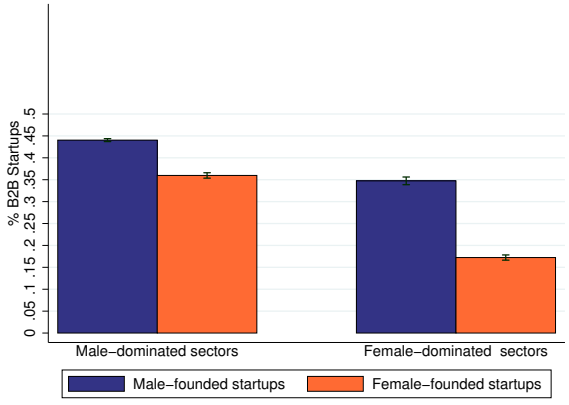
(c) Innovative startups



(d) At least 1 Employee



(e) B2B business



(f) High-growth oriented entrepreneurs

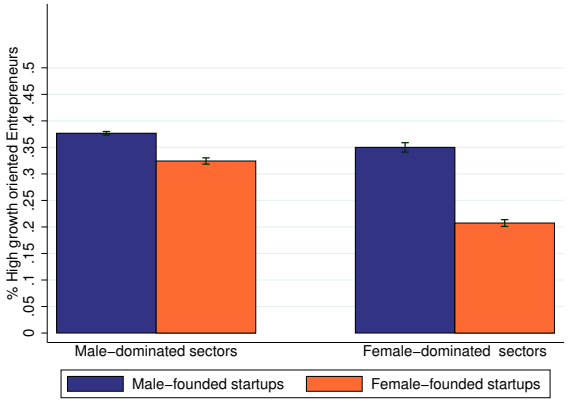
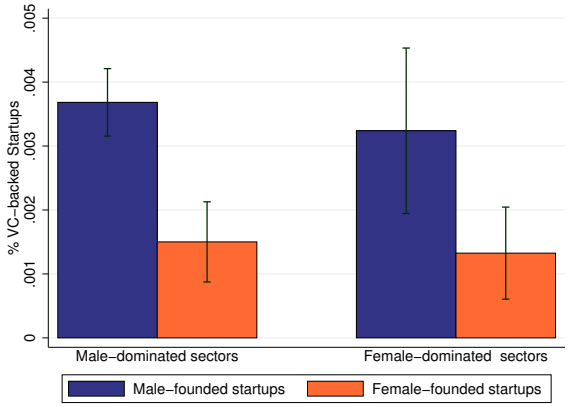


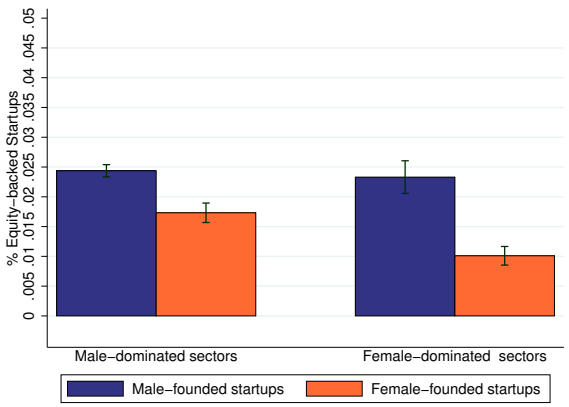
Figure IA7. Gender Stereotypes and Entrepreneur Financing

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. The figure plots the unconditional means by founder's gender and gender-dominated sectors of start-ups that receive VC (figure a), any source of external equity (figure b), bank loans (figure c), public grants (figure d), household debt (figure e), and other loans (figure f). A female-dominated sector includes at least 50% of new female-founded start-ups within a 4-digit French SIC sector.

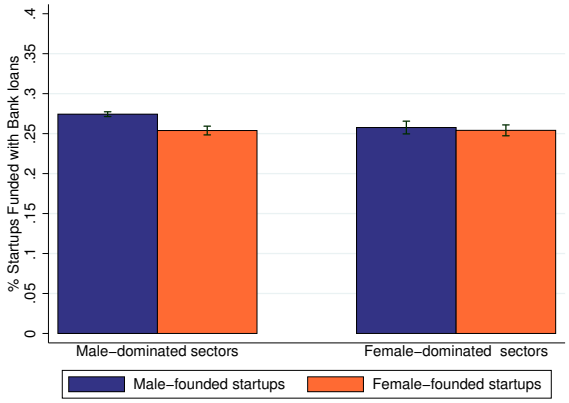
(a) VC



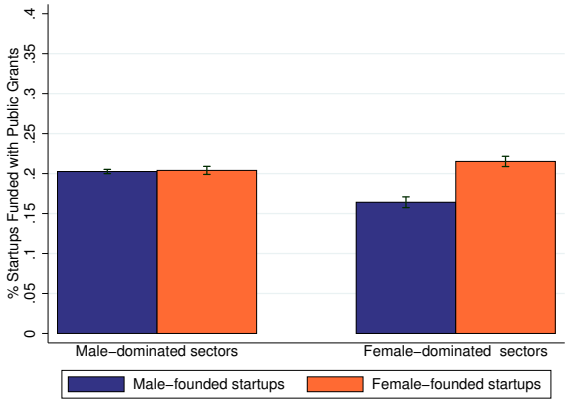
(b) External Equity



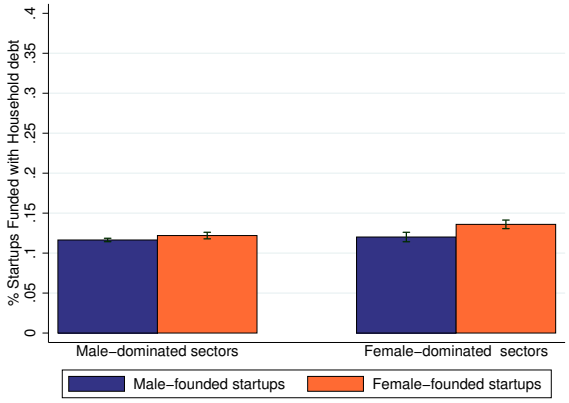
(c) Bank Loans



(d) Public Grants



(e) Household debt



(f) Other Loans

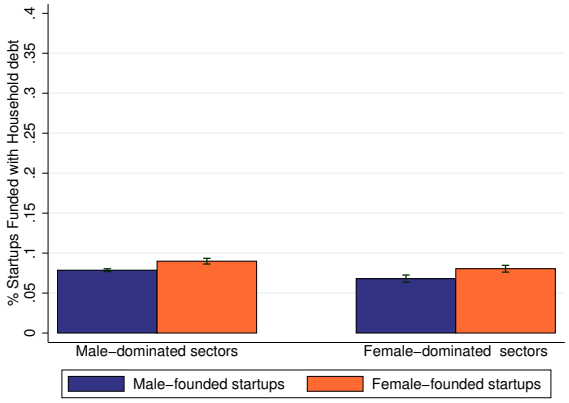
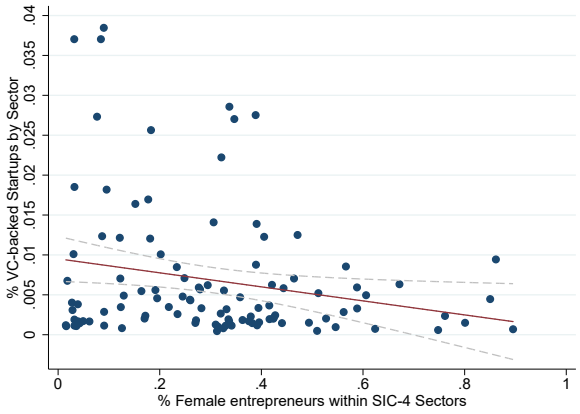


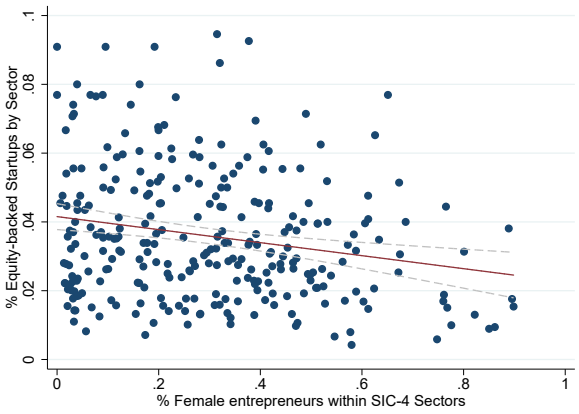
Figure IA8. Entrepreneur Financing and Distribution of Entrepreneur Gender by Sector

Source: SINE survey and firm registry. *Sample:* New firms founded in 2010, 2014, and 2018. These scatter plots represent the relationship between the percentage of firms that use VC (figure a), external equity (figure b), external financing (figure c), or that are incorporated (figure d) within a 4-digit French SIC sector and the percentage of female-founded firms within the same sector.

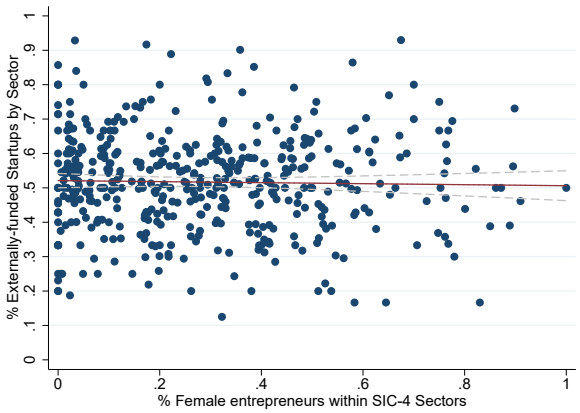
(a) VC



(b) External Equity



(c) External Financing



(d) Incorporated

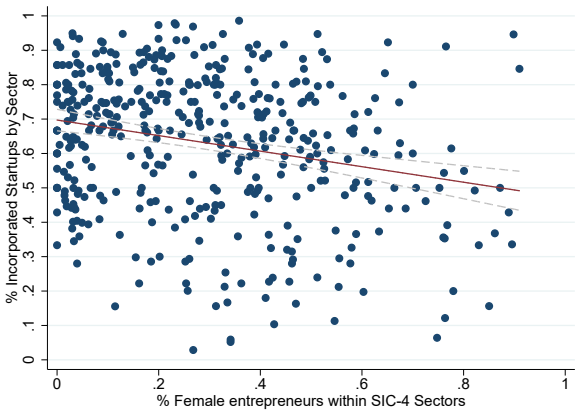


Table IA2. What Makes a Female Entrepreneur?

Source: SINE survey. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table analyzes the correlation between the entrepreneur's gender and other entrepreneurs' characteristics or decisions at different stages of the entrepreneurial pipeline. The dependent variable is the entrepreneur's gender *Female*. Column (1) includes the full sample of entrepreneurs. Columns (2) and (3) focus on entrepreneurs in male-dominated and female-dominated sectors, respectively. Column (4) focuses on the subsample of incorporated startups only. Columns (5) and (6) focus on the subsamples of externally funded and equity-backed firms, respectively. All models include the baseline human capital and startup control variables defined in the variables definition appendix. They include the county and 4-digit French SIC sector × cohort-year fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	1(Female entrepreneur)					
Sample:	All	M-dominated sectors	F-dominated sectors	Incorporated	Externally funded	External equity backed
	(1)	(2)	(3)	(4)	(5)	(6)
Age ≥ 40	0.0011	0.0066	-0.0178	-0.0020	0.0013	-0.0113
	(0.007)	(0.006)	(0.017)	(0.005)	(0.008)	(0.016)
French	0.0239***	0.0109	0.0900***	0.0276***	0.0310***	0.0509**
	(0.009)	(0.008)	(0.020)	(0.007)	(0.010)	(0.024)
Undergraduate	0.0653***	0.0593***	0.0754***	0.0553***	0.0605***	0.0382*
	(0.009)	(0.005)	(0.025)	(0.006)	(0.009)	(0.023)
Graduate	0.0712***	0.0754***	0.0564**	0.0654***	0.0788***	0.0372
	(0.008)	(0.006)	(0.025)	(0.007)	(0.009)	(0.023)
Elite school	-0.1257***	-0.1267***	-0.1245***	-0.1226***	-0.1297***	-0.0547
	(0.010)	(0.011)	(0.022)	(0.009)	(0.011)	(0.033)
Industry expert	-0.0587***	-0.0672***	-0.0165	-0.0702***	-0.0425***	-0.0575**
	(0.009)	(0.008)	(0.014)	(0.009)	(0.007)	(0.022)
Serial entrepreneur	-0.0800***	-0.0775***	-0.0899***	-0.0959***	-0.0790***	-0.1120***
	(0.005)	(0.006)	(0.012)	(0.006)	(0.006)	(0.015)
Co-founder(s)	0.0274***	0.0396***	-0.0299*	0.0287***	0.0179**	0.0158
	(0.006)	(0.006)	(0.017)	(0.006)	(0.007)	(0.016)
Incorporated	-0.0185**	0.0063	-0.1314***		-0.0168**	-0.0317
	(0.009)	(0.007)	(0.015)		(0.008)	(0.021)
Innovative business	0.0071**	0.0056**	0.0160**	0.0053	0.0135***	-0.0194
	(0.003)	(0.003)	(0.008)	(0.004)	(0.004)	(0.017)
B2B business model	-0.0452***	-0.0325***	-0.1137***	-0.0417***	-0.0431***	-0.0303
	(0.008)	(0.007)	(0.014)	(0.007)	(0.008)	(0.021)
Non-local clientele	-0.0491***	-0.0378***	-0.1003***	-0.0426***	-0.0531***	-0.0317*
	(0.006)	(0.005)	(0.013)	(0.006)	(0.006)	(0.018)
High-growth oriented	-0.0318***	-0.0211***	-0.0865***	-0.0316***	-0.0322***	-0.0220
	(0.005)	(0.005)	(0.010)	(0.005)	(0.006)	(0.021)
New Idea	0.0050	0.0065	-0.0021	0.0050	0.0083	0.0092
	(0.004)	(0.005)	(0.010)	(0.004)	(0.006)	(0.017)
Opportunity	0.0214***	0.0205***	0.0154*	0.0231***	0.0170***	0.0342**
	(0.004)	(0.004)	(0.009)	(0.005)	(0.004)	(0.017)
Taste	-0.0126***	-0.0161***	-0.0000	-0.0183***	-0.0037	0.0025
	(0.003)	(0.003)	(0.008)	(0.004)	(0.004)	(0.018)
Successful peer	0.0126***	0.0149***	0.0084	0.0239***	0.0067	0.0099
	(0.004)	(0.004)	(0.013)	(0.006)	(0.004)	(0.027)
Independence	-0.0195***	-0.0227***	-0.0057	-0.0211***	-0.0214***	-0.0063
	(0.004)	(0.004)	(0.007)	(0.004)	(0.004)	(0.015)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.223	0.130	0.195	0.140	0.250	0.289
N	131,284	105,165	26,034	69,576	64,584	2,975
Mean dep. var.	0.2893	0.2176	0.5790	0.2429	0.2906	0.1909

Table IA3. Gender Gap and Entrepreneur Financing

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to analyze the effect of the gender gap on the use of different funding sources. The dependent variables are as follows: *External equity* financing including VC (column 1), *VC* only (column 2), *External financing* of any kind (column 3), use of *Public grants* (column 4), *Bank debt* financing (column 5), use of *Personal bank debt* (column 6), and *Microcredit* (column 7), and use of *Other loans* (column 8). *Female* is a dummy variable equal to one if a woman runs the startup. All specifications include the same baseline controls as Table 5, county and 4-digit SIC sector × cohort-year fixed effects, and country and startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	External equity		All external	Public	Bank loans		Other loans	
	All	VC only	Financing	Grants	Corporate debt	Personal debt	Microcredit	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0054***	-0.0010***	0.0137***	0.0092**	0.0053	0.0053**	0.0039**	0.0140***
	(0.001)	(0.000)	(0.005)	(0.004)	(0.004)	(0.002)	(0.002)	(0.002)
Age ≥ 40	0.0013	0.0001	-0.0372***	-0.0078***	-0.0425***	-0.0042**	-0.0001	-0.0121***
	(0.001)	(0.000)	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)
French	0.0006	0.0004	0.0910***	0.0536***	0.0763***	0.0179***	-0.0068***	0.0047**
	(0.001)	(0.001)	(0.006)	(0.005)	(0.005)	(0.003)	(0.002)	(0.002)
Undergraduate	0.0018	-0.0021***	-0.0005	0.0157***	0.0036	-0.0050*	-0.0005	0.0028
	(0.001)	(0.000)	(0.005)	(0.004)	(0.005)	(0.003)	(0.001)	(0.003)
Graduate	0.0059***	0.0009	-0.0313***	0.0098**	-0.0310***	-0.0144***	-0.0026**	-0.0023
	(0.002)	(0.001)	(0.005)	(0.004)	(0.003)	(0.003)	(0.001)	(0.002)
Elite school	0.0110***	0.0083***	-0.0332***	0.0047	-0.0409***	-0.0193***	0.0026	-0.0030
	(0.004)	(0.002)	(0.007)	(0.004)	(0.006)	(0.004)	(0.002)	(0.004)
Industry expert	0.0014	-0.0011**	0.0185***	-0.0151***	0.0317***	0.0044**	-0.0041***	0.0042**
	(0.001)	(0.000)	(0.004)	(0.003)	(0.003)	(0.002)	(0.001)	(0.002)
Serial entrepreneur	0.0101***	0.0010**	-0.0622***	-0.0718***	-0.0392***	-0.0049***	-0.0024**	-0.0225***
	(0.001)	(0.000)	(0.005)	(0.005)	(0.004)	(0.002)	(0.001)	(0.002)
Co-founder(s)	0.0141***	0.0026***	-0.0235***	-0.0335***	0.0060	-0.0162***	-0.0041***	-0.0083***
	(0.002)	(0.001)	(0.003)	(0.003)	(0.004)	(0.003)	(0.001)	(0.002)
Incorporated	0.0144***	0.0001	-0.0419***	-0.0608***	0.0529***	-0.0599***	-0.0104***	-0.0051***
	(0.001)	(0.000)	(0.004)	(0.004)	(0.006)	(0.005)	(0.001)	(0.002)
High-growth oriented	0.0140***	0.0018***	0.0036	-0.0125***	0.0009	0.0022	0.0031***	0.0065***
	(0.001)	(0.000)	(0.003)	(0.003)	(0.003)	(0.002)	(0.001)	(0.002)
Innovative business	0.0042***	0.0020***	0.0536***	0.0541***	0.0168***	0.0180***	0.0062***	0.0200***
	(0.001)	(0.000)	(0.003)	(0.004)	(0.004)	(0.002)	(0.001)	(0.002)
B2B business model	0.0056***	-0.0008	-0.0277***	-0.0104***	-0.0163***	-0.0130***	-0.0038***	-0.0028
	(0.001)	(0.001)	(0.004)	(0.003)	(0.004)	(0.002)	(0.001)	(0.002)
Non-local clientele	0.0009	0.0010**	-0.0468***	-0.0164***	-0.0407***	-0.0078***	-0.0026**	-0.0083***
	(0.001)	(0.000)	(0.004)	(0.003)	(0.003)	(0.002)	(0.001)	(0.002)
Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.049	0.032	0.266	0.265	0.241	0.080	0.034	0.060
N	131,284	79,201	131,284	131,198	131,284	131,284	79,201	131,284
Mean dep. var.	0.0254	0.0030	0.4933	0.2043	0.2711	0.1205	0.0165	0.0819

Table IA4. Gender Stereotypes and Startup Creation Choices Additional Variables

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to analyze the effect of gender stereotypes on additional startup creation choices. The dependent variables correspond to the composition of the startup's team: *Spouse* that equals to one if the startup is co-founded with the spouse (column 1), *Relatives*, if co-founded with relatives (column 2), *Business partners*, if co-founded with business partners (column 3), to the type of startup's innovation: *Innovative Marketing*, that equals to one if the startup makes innovation in terms of marketing (column 4), *Innovative Organization*, if the startup makes innovation in terms of organization (column 5), and to the number of customers: *1 to 10*, that equals to one if the startup has between 1 to 10 clients (column 6), *Many*, if the startup has many clients (column 7), and *A few big one* if the startup has many clients but a few big ones (column 8). All models include the baseline controls of table 3 and county and 4-digit SIC sector × cohort-year fixed effects, in addition to startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	Started with co-founders			Innovative business		Number of customers		
	Spouse	Relatives	Partners	Marketing	Organization	1 to 10	Many	Few big ones
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0379***	0.0043**	-0.0382***	-0.0054*	-0.0055	0.0037	0.0045	-0.0082***
	(0.005)	(0.002)	(0.004)	(0.003)	(0.004)	(0.004)	(0.004)	(0.003)
Female × F-dominated sector	-0.0383***	-0.0004	0.0360***	-0.0078	-0.0085	-0.0019	-0.0050	0.0069
	(0.008)	(0.004)	(0.009)	(0.007)	(0.007)	(0.008)	(0.009)	(0.006)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.350	0.147	0.451	0.072	0.049	0.306	0.227	0.053
N	131,284	131,284	131,284	110,068	85,331	131,278	131,278	131,278
Mean dep. var.	0.0932	0.0399	0.1202	0.1325	0.1536	0.4103	0.4546	0.1351

Table IA5. Gender Stereotypes and Startup Creation Choices of Incorporated and Externally Funded Startups

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to analyze the effects of gender stereotypes on startup creation choices, conditional on the incorporation status (panel A) and external financing sources: at least one source of external funding (Panel B) and startups that use external equity (Panel C). The dependent variables are defined as follows: *Co-founders* that equals to one if the startup is founded by a team (column 1), *Incorporated* that equals to one if the startup is incorporated as opposed to a sole-proprietorship (column 2), *Has one employee* that equals to one if the startup hires at least one employee by the end of the first year of operation (column 3), *Innovative* business that equals to one if the startup innovates in at least one dimension (column 4), makes a product innovation (column 5), or makes an innovation in terms of production process (column 6), *B2B* equals one if the startup is a Business-to-business firm (column 7), *Non-local clients* that equals one if the startup's customer base is a national or foreign as opposed to local (column 8). All models include the baseline controls of Table 3 and county and 4-digit SIC sector × cohort-year fixed effects, in addition to startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Panel A: Startup Creation Choices of Incorporated Startups

Dependent variable:	Started with Co-founder(s)	Incorporated Startup	At least 1 employee	Innovative business			B2B	Non-local customers
				All innovation	Product	Production		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0604***	0.0118	0.0244**	0.0033	0.0087	-0.0169***	-0.0379***	-0.0490***
	(0.011)	(0.009)	(0.010)	(0.006)	(0.006)	(0.003)	(0.007)	(0.006)
Female × F-dominated sector	-0.0948***	-0.0360**	-0.0585***	0.0114	0.0201	-0.0020	-0.0342***	-0.0231
	(0.015)	(0.016)	(0.017)	(0.014)	(0.015)	(0.007)	(0.013)	(0.015)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.080	0.156	0.190	0.119	0.120	0.061	0.302	0.194
N	69,576	69,532	69,532	69,576	69,576	69,576	69,576	69,576
Mean dep. var.	0.3425	0.1631	0.2976	0.4767	0.3872	0.1123	0.4673	0.4970

Panel B: Startup Creation Choices of Externally-Funded Startups

Dependent variable:	Creation Choices			Business model				
	Started with Co-founder(s)	Incorporated Startup	At least 1 employee	Innovative business			B2B	Non-local customers
				All innovation	Product	Production		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0415***	0.0088	0.0188	0.0200***	0.0222***	-0.0185***	-0.0344***	-0.0574***
	(0.011)	(0.008)	(0.012)	(0.005)	(0.005)	(0.004)	(0.007)	(0.007)
Female × F-dominated sector	-0.0870***	-0.0995***	-0.0668***	0.0014	0.0150	-0.0078	-0.0333***	-0.0262**
	(0.024)	(0.016)	(0.017)	(0.011)	(0.010)	(0.007)	(0.012)	(0.012)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.106	0.358	0.219	0.125	0.140	0.063	0.318	0.215
N	64,584	64,584	64,468	64,584	64,584	64,584	64,584	64,584
Mean dep. var.	0.2614	0.5242	0.2071	0.4739	0.3856	0.1058	0.3384	0.3977

Panel C: Startup Creation Choices of Equity-backed Startups

Dependent variable:	Started with Co-founder(s)	Incorporated Startup	At least 1 employee	Innovative business			B2B	Non-local customers
				All innovation	Product	Production		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0756**	-0.0158	0.0032	-0.0505*	-0.0506*	-0.0434**	-0.0028	-0.0419
	(0.029)	(0.020)	(0.025)	(0.027)	(0.027)	(0.022)	(0.026)	(0.027)
Female × F-dominated sector	-0.2491***	-0.0467	0.0708	0.1207**	0.1736***	-0.0085	-0.1921***	-0.0435
	(0.057)	(0.043)	(0.073)	(0.061)	(0.058)	(0.044)	(0.058)	(0.077)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.242	0.404	0.317	0.311	0.308	0.246	0.406	0.333
N	2,975	2,975	2,972	2,975	2,975	2,975	2,975	2,975
Mean dep. var.	0.4430	0.8205	0.3412	0.5358	0.4481	0.1479	0.4824	0.5109

Table IA6. Gender Stereotypes and Startup Creation Choices of Incorporated and Externally Funded Startups
Additional Variables

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to analyze the effects of gender stereotypes on startup creation choices, conditional on the incorporation status (panel A) and external financing sources: at least one source of external funding (Panel B), and startups that use external equity (Panel C). The dependent variables correspond to the composition of the startup team: *Spouse* that equals to one if the startup is co-founded with the spouse (column 1), *Relatives*, if co-founded with relatives (column 2), *Business partners*, if co-founded with business partners (column 3), to the type of startup's innovation: *Innovative Marketing*, that equals to one if the startup makes innovation in terms of marketing (column 4), *Innovative Organization*, if the startup makes innovation in terms of organization (column 5), and to the number of customers: *1 to 10*, that equals to one if the startup has between 1 to 10 clients (column 6), *Many*, if the startup has many clients (column 7), and *A few big ones* if the startup has many clients but a few big ones (column 8). All models include the baseline controls of table 3 and county and 4-digit SIC sector × cohort-year fixed effects, in addition to startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Panel A: Startup Creation Choices of Incorporated Startups

Dependent variable:	Started with co-founders			Innovative business		Number of customers		
	Spouse	Relatives	Partners	Marketing	Organization	1 to 10	Many	Few big ones
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0639***	0.0089***	-0.0660***	-0.0099***	-0.0074	0.0038	0.0020	-0.0058*
	(0.006)	(0.003)	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)	(0.003)
Female × F-dominated sector	-0.0534***	0.0023	0.0476***	-0.0056	-0.0146	0.0064	-0.0237*	0.0173*
	(0.010)	(0.005)	(0.008)	(0.010)	(0.013)	(0.012)	(0.014)	(0.010)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.268	0.146	0.481	0.078	0.054	0.317	0.233	0.067
N	69,576	69,576	69,576	62,150	45,111	69,576	69,576	69,576
Mean dep. var.	0.1062	0.0587	0.1906	0.1526	0.1790	0.4220	0.4332	0.1447

Panel B: Startup Creation Choices of Externally-Funded Startups

Dependent variable:	Started with co-founders			Innovative business		Number of customers		
	Spouse	Relatives	Partners	Marketing	Organization	1 to 10	Many	Few big ones
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0392***	0.0063***	-0.0400***	-0.0028	-0.0064	0.0092	0.0051	-0.0143***
	(0.005)	(0.002)	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)	(0.004)
Female × F-dominated sector	-0.0424***	-0.0044	0.0414***	-0.0097	-0.0086	-0.0048	-0.0036	0.0084
	(0.007)	(0.004)	(0.008)	(0.010)	(0.010)	(0.010)	(0.011)	(0.008)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.395	0.148	0.427	0.086	0.056	0.312	0.220	0.062
N	64,584	64,584	64,584	52,659	39,497	64,581	64,581	64,581
Mean dep. var.	0.1115	0.0402	0.1194	0.1505	0.1555	0.3343	0.5041	0.1616

Panel C: Startup Creation Choices of Equity-backed Startups

Dependent variable:	Started with co-founders			Innovative business		Number of customers		
	Spouse	Relatives	Partners	Marketing	Organization	1 to 10	Many	Few big ones
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0963***	-0.0026	-0.0783***	-0.0659**	-0.0322	0.0181	-0.0260	0.0079
	(0.020)	(0.014)	(0.021)	(0.025)	(0.035)	(0.028)	(0.025)	(0.023)
Female × F-dominated sector	-0.1744***	0.0385	0.1175***	0.0854	-0.0504	0.0540	-0.0412	-0.0128
	(0.039)	(0.033)	(0.036)	(0.052)	(0.059)	(0.064)	(0.069)	(0.039)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.318	0.243	0.649	0.256	0.216	0.402	0.297	0.229
N	2,975	2,975	2,975	2,636	1,926	2,975	2,975	2,975
Mean dep. var.	0.1012	0.0612	0.3045	0.1923	0.2030	0.4087	0.4289	0.1624

Table IA7. Gender Stereotypes among Entrepreneurs who are more Likely to Seek External Equity

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to analyze the effect of gender stereotypes on the use of External equity (Panel A) and VC financing (Panel B) among entrepreneurs who are more likely to seek external equity and VC financing. The dependent variables are *External equity* (panel A) and *VC* (panel B). The entrepreneur's gender is interacted with *F-dominated sector* is a dummy variable equal to one if the sector includes at least 50% of female-founded startups. The samples are restricted to Serial entrepreneurs (column 1), innovative businesses (column 2), startups founded in teams (column 3), incorporated startups (column 4), entrepreneurs who are high-growth oriented (column 5), entrepreneurs who do not have children (column 6), entrepreneurs who declare that getting financing is one of their main difficulties (column 7), and incorporated startups that do not use any external financing sources (column 8). All models include the same baseline controls as Table 5, county and 4-digit SIC sector × cohort-year fixed effects, and startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Panel A: Entrepreneurs likely to seek external equity

Dependent variable:	1(External equity|X)							
X:	Serial entrepreneur	Innovative start-up	Has co-founder(s)	Incorporated start-up	High-growth oriented	No Children	Difficulty getting funding	Incorporated & No external financing
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0143***	-0.0111***	-0.0108***	-0.0095***	-0.0121***	-0.0053**	-0.0085**	-0.0055**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.004)	(0.003)
Female × F-dominated sector	0.0078	0.0103***	-0.0006	0.0047	0.0019	0.0067*	0.0020	-0.0024
	(0.006)	(0.003)	(0.006)	(0.005)	(0.006)	(0.003)	(0.006)	(0.005)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.089	0.070	0.084	0.054	0.060	0.064	0.078	0.070
N	39,074	56,705	31,921	69,576	45,632	33,721	22,358	28,160
Mean Dep. Var.	0.0381	0.0318	0.0461	0.0395	0.0436	0.0225	0.0356	0.0267

Panel B: Entrepreneurs likely to seek VC

Dependent variable:	1(VC|X)							
X:	Serial entrepreneur	Innovative start-up	Has co-founder(s)	Incorporated start-up	High-growth oriented	No Children	Difficulty getting funding	Incorporated & No external financing
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0019	-0.0020***	-0.0018	-0.0015**	-0.0018	-0.0027***	-0.0037**	-0.0012
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Female × F-dominated sector	0.0018	0.0022	0.0020	0.0006	0.0010	0.0047***	0.0075***	-0.0010
	(0.002)	(0.001)	(0.003)	(0.001)	(0.002)	(0.001)	(0.003)	(0.002)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.073	0.060	0.086	0.040	0.070	0.044	0.091	0.059
N	23,697	36,696	19,993	48,724	26,779	20,372	16,768	28,160
Mean Dep. Var.	0.0046	0.0047	0.0064	0.0041	0.0060	0.0029	0.0062	0.0028

Table IA8. Gender Stereotypes, Startup Creation and Funding Decisions of Entrepreneur who Do Not Have Children

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2014, and 2018 by entrepreneurs who do not have children. The survey sent to cohort 2010 does not include questions about children. This table uses OLS to analyze the effect of gender stereotypes on using different funding sources. The dependent variables are as follows: *External equity* financing including VC (column 1), *VC* only (column 2), *External financing* of any kind (column 3), use of *Public grants* (column 4), *Bank debt* financing (column 5), use of *Personal bank debt* (column 6), and *Microcredit* (column 7), and use of *Other loans* (column 8). *Female* is a dummy variable equal to one if a woman runs the startup. *F-dominated sector* is a dummy variable equal to 1 if the sector includes at least 50% of startups founded by women. All specifications include the same baseline controls as Table 5, county and 4-digit SIC sector × cohort-year fixed effects, and country and startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Panel A: Funding decisions

Dependent variable:	External equity		All external	Public	Bank loans		Other loans	
	All	VC only	Financing	Grants	Corporate debt	Personal debt	Microcredit	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0046*	-0.0027***	0.0124	0.0017	-0.0032	0.0152***	0.0101***	0.0161**
	(0.002)	(0.001)	(0.008)	(0.006)	(0.004)	(0.004)	(0.003)	(0.007)
Female × F-dominated sector	0.0065*	0.0047***	0.0222	0.0109	0.0100	0.0021	-0.0064	0.0081
	(0.003)	(0.001)	(0.016)	(0.012)	(0.007)	(0.008)	(0.005)	(0.013)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.075	0.044	0.359	0.293	0.129	0.095	0.071	0.338
N	33,721	20,372	33,721	33,721	33,721	33,721	20,372	33,721
Mean dep. var.	0.0225	0.0029	0.4265	0.2043	0.1058	0.0809	0.0166	0.2117

Panel B: Startup creation choices

Dependent variable:	Creation Choices			Business model				
	Started with Co-founder(s)	Incorporated Startup	At least 1 employee	Innovative business: All innovation	Innovative business: Product	Innovative business: Production	B2B	Non-local customers
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	0.0471***	-0.0045	0.0152	0.0159**	0.0189***	-0.0135***	-0.0496***	-0.0424***
	(0.009)	(0.009)	(0.011)	(0.007)	(0.007)	(0.004)	(0.008)	(0.008)
Female × F-dominated sector	-0.0662***	-0.0808***	-0.0779***	-0.0161	-0.0093	-0.0060	-0.0033	-0.0401***
	(0.019)	(0.021)	(0.023)	(0.015)	(0.015)	(0.009)	(0.015)	(0.013)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.121	0.397	0.209	0.141	0.130	0.070	0.318	0.216
N	33,721	33,721	33,721	33,721	33,721	33,721	33,721	33,721
Mean dep. var.	0.2182	0.5269	0.1821	0.4390	0.3712	0.1046	0.3876	0.4441

Panel C: Motivations and growth intentions

Dependent variable:	High growth oriented	New idea	Opportunity	Successful peers	Taste	Independence	Unemployed	Other motivations
	(1)	(2)	(3)	(4)	(5)	(6)		
Female	-0.0339***	0.0086	0.0194***	0.0101***	-0.0187**	-0.0426***	0.0267***	-0.0094
	(0.009)	(0.005)	(0.006)	(0.004)	(0.007)	(0.008)	(0.007)	(0.007)
Female × F-dominated sector	-0.0551***	-0.0188	-0.0151	-0.0004	0.0088	0.0081	-0.0004	-0.0088
	(0.016)	(0.014)	(0.013)	(0.008)	(0.018)	(0.017)	(0.012)	(0.023)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	0.155	0.166	0.052	0.062	0.129	0.098	0.081	0.062
R^2	33,721	33,721	33,721	33,721	33,721	33,721	33,721	33,721
N	0.3189	0.1471	0.1622	0.0939	0.3950	0.5964	0.2141	0.3252

Table IA9. Gender Stereotypes and Financing Decisions of Entrepreneurs who Faced Funding Difficulties

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2014, and 2018 by entrepreneurs who report difficulties getting funding during creation. This table uses OLS to analyze the effect of gender stereotypes on using different funding sources. The dependent variables are as follows: *External equity* financing including VC (column 1), *VC* only (column 2), *External financing* of any kind (column 3), use of *Public grants* (column 4), *Bank debt* financing (column 5), use of *Personal bank debt* (column 6), and *Microcredit* (column 7), and use of *Other loans* (column 8). *Female* is a dummy variable equal to one if a woman runs the startup. *F-dominated sector* is a dummy variable equal to 1 if the sector includes at least 50% of startups founded by women. All specifications include the same baseline controls as Table 5, county and 4-digit SIC sector × cohort-year fixed effects, and country and startup capital fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Panel A: Funding decisions

Dependent variable:	External equity		All external	Public	Bank loans		Other loans	
	All	VC only	Financing	Grants	Corporate debt	Personal debt	Microcredit	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0069**	-0.0037**	0.0144	-0.0066	0.0203***	0.0173***	0.0102*	-0.0025
	(0.004)	(0.001)	(0.011)	(0.009)	(0.007)	(0.006)	(0.006)	(0.006)
Female × F-dominated sector	0.0023	0.0075***	0.0309	0.0088	-0.0035	0.0111	0.0024	0.0292*
	(0.006)	(0.003)	(0.022)	(0.019)	(0.013)	(0.013)	(0.010)	(0.017)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.093	0.091	0.262	0.264	0.110	0.086	0.077	0.297
N	22,358	16,768	22,358	22,358	22,358	22,358	16,768	22,358
Mean dep. var.	0.0356	0.0062	0.6247	0.3810	0.1882	0.1458	0.0349	0.2010

Table IA10. Gender Stereotypes and External Equity Financing by Investment Type

Source: Crunchbase France, Firm registry, and Genderize.io. *Sample:* French firms that report a deal in Crunchbase. The table uses OLS to replicate the effects of gender stereotypes on external equity financing using Crunchbase and overcomes the limitations of the SINE survey regarding self-reported deals. The dependent variables are the Log of total equity funding by investment type: all (column 1), angel (column 2), seed (column 3), VC early stage (column 4), late stage (column 5), and grant (column 6). The main independent variable is the dominant gender among startup founders, determined based on founders' first names and the API Genderize.io. Founders' gender is interacted with the sector gender congruence determined by the French firm registry. Exact French SIC codes are recovered based on sectors keyword available in the company's industry description in Crunchbase. I then use the firm registry to determine whether a sector is male or female dominated if 50% of new firms in the sector are female-founded. All models include French SIC-2 Sector × deal-year fixed effects. Clustered standard errors at the deal year level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	Log(Equity Funding) by types					
	All	Angel	Seed	Early stage	Later stage	Grant
	(1)	(2)	(3)	(4)	(5)	(6)
Female-founded	-0.4520***	-0.7674	-0.5819**	-0.4520***	-0.8949**	-3.4252**
	(0.14)	(0.48)	(0.21)	(0.14)	(0.39)	(0.98)
Female-dominated sector (SIC4)	0.0189	-1.0480	0.0531	0.1565	1.1551	-3.6037***
	(0.22)	(0.73)	(0.11)	(0.26)	(0.76)	(0.07)
Female Founder × F-dominated sector	0.6436**	1.4730*	-0.2512	0.6723*	1.6579*	10.2781***
	(0.30)	(0.74)	(0.84)	(0.39)	(0.91)	(0.97)
SIC-2 Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.285	0.656	0.270	0.308	0.573	0.529
N	2426	89	861	1907	220	73

Table IA11. Gender Stereotypes and High-Growth Preferences of VC-backed Entrepreneurs

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. Similar to table 6, this table uses OLS to test whether skills and growth preferences mitigate the effects of gender stereotypes on the use of VC financing. The dependent variable is *VC*, which equals one if the startup uses VC financing. The independent variable *Female* is interacted with several items capturing entrepreneurs' skills and preferences: *Serial entrepreneur* (columns 1 and 2), *Incorporated startup* (columns 3 and 4), *High growth oriented* (columns 5 and 6) and *Innovative* business (columns 7 and 8). The effects of skills and preferences are estimated on the subsample of firms started in male-dominated sectors (even columns) and female-dominated sectors (odd columns), respectively. A 4-digit French SIC female-dominated sectors include at least 50% female-founded startups. All models include the same baseline controls as Table 5, county and 4-digit SIC sector × cohort-year fixed effects, and startup capital fixed effects. Clustered standard errors at the 4-digit SIC sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	1(VC)							
Sectors:	Male-dominated	Female-dominated	Male-dominated	Female-dominated	Male-dominated	Female-dominated	Male-dominated	Female-dominated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0009	0.0009	-0.0010***	0.0014*	-0.0010***	0.0008	0.0001	0.0007
	(0.001)	(0.002)	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
Female × Serial entrepreneur	-0.0016	-0.0127**						
	(0.001)	(0.005)						
Female × Incorporated			-0.0005	-0.0029*				
			(0.001)	(0.002)				
Female × High-growth					-0.0009	-0.0029		
					(0.001)	(0.002)		
Female × Innovative							-0.0028***	-0.0015
							(0.001)	(0.002)
Serial entrepreneur	0.0014**	0.0163***	0.0011**	0.0002	0.0011**	0.0002	0.0011**	0.0002
	(0.001)	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Incorporated	0.0000	0.0168***	0.0002	0.0023*	0.0001	0.0008	0.0000	0.0007
	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)
High-growth oriented	0.0019***	0.0126***	0.0019***	0.0018	0.0020***	0.0032*	0.0018***	0.0018
	(0.001)	(0.003)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Innovative business	0.0023***	-0.0020	0.0023***	0.0007	0.0023***	0.0008	0.0030***	0.0016
	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.032	0.054	0.032	0.034	0.032	0.034	0.032	0.034
N	62,705	26,034	62,705	16,496	62,705	16,496	62,705	16,496
Mean dep. var.	0.0032	0.0184	0.0032	0.0021	0.0032	0.0021	0.0032	0.0021

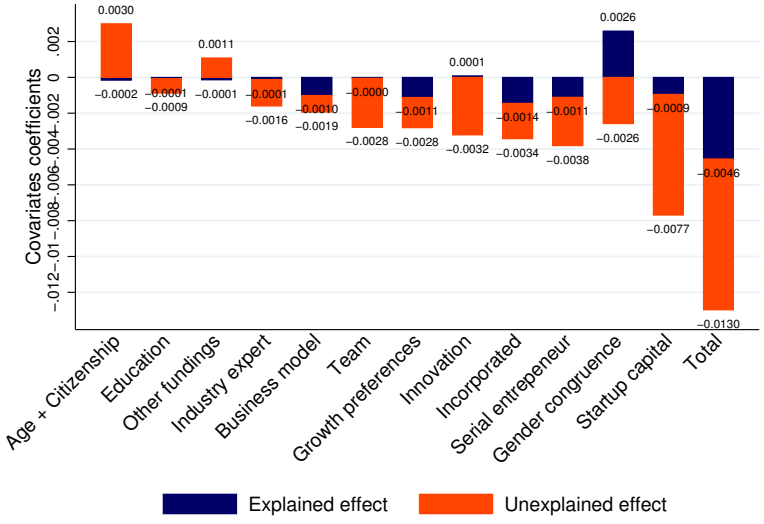
Table IA12. Selection into High-Growth Entrepreneurial Strategies and Incorporation Status

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. This table uses OLS to test whether entrepreneurs incorporate the new venture conditional on the sector choice. The dependent variable is a dummy variable that takes the value one if the startup is incorporated and zero if it is a sole proprietorship. The main independent variable is *Female*, interacted with entrepreneurs' characteristics including *Elite school* (column 1), *Serial entrepreneur* (column 2), *High-growth oriented* (column 3), *Co-founders* (column 4), *Innovative startup* (column 5), having *Children* (columns 6 to 7), and benefiting from *Spouse income* (column 8). The effects of having children are estimated on subsamples of entrepreneurs' age: younger than 40 years old (column 6) and 40 years old and older (column 7). All models include the same baseline controls as Table 5, county and 4-digit SIC sector × cohort-year fixed effects, and startup capital fixed effects. Clustered standard errors at the 4-digit SIC sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable	1(Incorporated startup)							
Sample:						<40 y/o	≥40 y/o	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female × Elite school	0.0322**							
	(0.016)							
Female × Serial entrepreneur		-0.0226*						
		(0.012)						
Female × High-growth			0.0203**					
			(0.010)					
Female × Co-founder(s)				0.0282				
				(0.021)				
Female × Innovative					-0.0012			
					(0.006)			
Female × Children						0.0145	-0.0235**	
						(0.010)	(0.010)	
Children						0.0092	0.0379***	
						(0.006)	(0.006)	
Female × Spouse income								-0.0275***
								(0.008)
Other income spouse								0.0003
								(0.005)
Female	-0.0252***	-0.0182*	-0.0306***	-0.0313***	-0.0235**	-0.0315***	-0.0242***	-0.0168
	(0.009)	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)	(0.009)	(0.011)
Elite school	0.0251***	0.0310***	0.0312***	0.0310***	0.0309***	0.0442***	0.0344***	0.0320***
	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)	(0.009)	(0.013)	(0.009)
Serial entrepreneur	0.0219***	0.0274***	0.0221***	0.0221***	0.0219***	0.0304***	-0.0084	0.0395***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)	(0.006)	(0.005)
Co-founder(s)	0.1920***	0.1918***	0.1919***	0.1840***	0.1919***	0.2016***	0.1576***	0.1910***
	(0.009)	(0.009)	(0.009)	(0.007)	(0.009)	(0.011)	(0.008)	(0.011)
High-growth oriented	0.1414***	0.1413***	0.1362***	0.1414***	0.1414***	0.1336***	0.1493***	0.1529***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.008)	(0.007)	(0.007)
Innovative business	0.0114***	0.0115***	0.0115***	0.0116***	0.0118***	0.0159**	0.0072*	0.0136***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.006)	(0.004)	(0.004)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.344	0.345	0.345	0.345	0.344	0.378	0.359	0.379
N	131,284	131,284	131,284	131,284	131,284	39,821	36,003	73,500
Mean dep. var.	0.5308	0.5308	0.5308	0.5308	0.5308	0.5286	0.5771	0.5491

Table IA13. Oaxaca-Blinder Decomposition of the Entrepreneurs' Use of External Equity

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. The figure plots the results of the Blinder-Oaxaca decomposition of the difference in the use of external equity between male and female entrepreneurs. Coefficients are reported in the table below. Mean differences are decomposed between two components: the "explained effect" (columns (1), (3), (5), and (7)) and the "unexplained effect" (columns (2), (4), (6) and (8)). They are estimated using separate OLS regressions for male and female-founded firms. The explained effects correspond to the impact of gender differences in the explanatory variables evaluated using the male equation coefficients. The unexplained effects correspond to the average female residuals from the male equation. The table, columns (1-2), reports the coefficients of the Blinder-Oaxaca decomposition associated with the figure above. It corresponds to the baseline model without fixed effects. Columns (3-4) and (5-6) report the coefficients of the Blinder-Oaxaca decomposition estimated on the subsamples of startups created in Male-dominated sectors and Female-dominated sectors. They are associated with Appendix Figures IA14. Columns (7-8) report the coefficients of the Blinder-Oaxaca decomposition of the baseline model estimated in 2006, 2014, and 2018 cohorts, which contain the family information variables. It is associated with Appendix Figure IA15. The models include the following groups of variables: Age and citizenship include Age≥40 and French. Education includes Undergraduate, Graduate, and Elite school. Industry expert, Serial entrepreneur, the incorporation status are also included. Team composition includes Co-founded, Spouse, Relatives, and Business partners. Growth preferences include High growth-oriented and detailed ex-ante motivations. Business model includes B2B, Number of customers, and Non-local customers. Startup capital includes the categories of startup capital. Other funding includes alternative financing sources. Gender congruence includes the F-dominated sector and its interaction with Female entrepreneur. Family includes Children and Married.



Dependent variable:	1(External equity)							
Sample:	All Cohorts & Sectors		M-dominated sectors		F-dominated sectors		Cohorts 2006, 2014 & 2018	
Mean Female	0.0174***		0.0201***		0.0130***		0.0160***	
Mean Male	0.0303***		0.0307***		0.0278***		0.0280***	
Difference	-0.0130***		-0.0105***		-0.0148***		-0.0119***	
Explained	-0.0046***		-0.0021***		-0.0118***		-0.0058***	
Unexplained	-0.0084***		-0.0084***		-0.0029		-0.0062***	
% unexplained	65%		80%		19%		52%	
	Explained effects (1)	Unexplained effects (2)	Explained effects (3)	Unexplained effects (4)	Explained effects (5)	Unexplained effects (6)	Explained effects (7)	Unexplained effects (8)
Age and citizenship	-0.0002***	0.0030***	-0.0001***	0.0000***	-0.0000	0.0212**	-0.0001	0.0012
Education	-0.0001**	-0.0008***	0.0003***	-0.0020***	-0.0017***	0.0048	0.0006*	-0.0028
Industry expert	-0.0001***	-0.0015***	-0.0002***	-0.0015***	-0.0001	-0.0021	-0.0003*	-0.0011
Serial entrepreneur	-0.0011***	-0.0027***	-0.0010***	-0.0026***	-0.0010***	-0.0042***	-0.0010***	-0.0008
Team composition	-0.0000	-0.0027***	0.0005***	-0.0028***	-0.0005*	-0.0027*	-0.0001*	-0.0027***
Growth preferences	0.0001***	-0.0032***	0.0002***	-0.0035***	0.0001	0.0011	0.0002***	-0.0045***
Innovative	-0.0011***	-0.0017***	0.0000	0.0002***	-0.0024***	-0.0058	-0.0013***	-0.0003
Business model	-0.0010***	-0.0009***	-0.0006***	-0.0016***	-0.0012	0.0040	-0.0010***	-0.0055*
Startup capital	-0.0009***	-0.0067***	-0.0004**	-0.0068***	-0.0018***	-0.0075***	-0.0010***	-0.0051***
Other fundings	-0.0001***	0.0011***	-0.0001**	0.0006***	0.0001	-0.0001	-0.0000	0.0018
Gender congruence	0.0026***	-0.0026***					0.0016	-0.0016
Family							-0.0001	-0.0018

Table IA14. Oaxaca-Blinder Decomposition of the Entrepreneurs' Use of External Equity in Male and Female-dominated Sectors

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. The figure plots the results of the Blinder-Oaxaca decomposition of the difference in the use of external equity between male and female entrepreneurs by sector. Coefficients are reported in the Appendix Table IA13. The Oaxaca-Blinder decomposition decomposes the mean difference in the use of external equity between male and female-founded startups between two components: the "explained effect" (columns (3) and (5)) and the "unexplained effect" (columns (4) and (6)). They are estimated using separate OLS regressions for male and female entrepreneurs. The explained effects correspond to the impact of gender differences in the explanatory variables evaluated using the male equation coefficients. The unexplained effects correspond to the average female residuals from the male equation. The model includes the following variables: Age and citizenship include Age≥40 and French. Education includes Undergraduate, Graduate, and Elite school. Industry expert, Serial entrepreneur, the incorporation status are also included. Team composition includes Co-founded, Spouse, Relatives, and Business partners. Growth preferences include High growth-oriented and detailed ex-ante motivations. Business model includes B2B, Number of customers, and Non-local customers. Startup capital includes the categories of startup capital. Other funding includes alternative financing sources. Gender congruence includes the F-dominated sector and its interaction with Female entrepreneur.

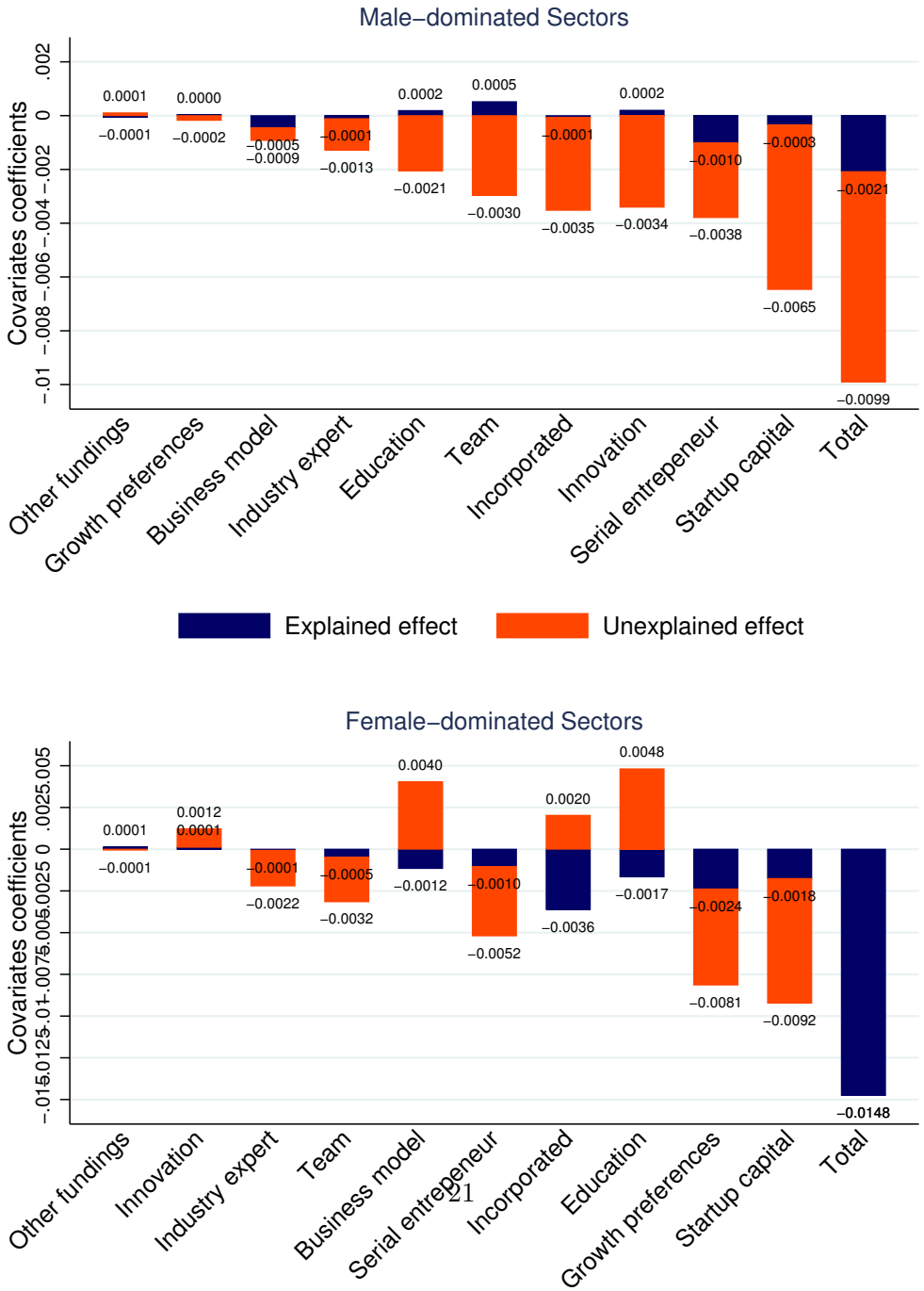


Table IA15. Oaxaca-Blinder Decomposition of the Entrepreneurs' Use of External Equity
Robustness with Family Variables

Source: SINE survey and firm registry. *Sample:* New firms founded in 2006, 2014, and 2018. The Variable Children is available only in the 2006, 2014, and 2018 cohorts. The figure plots the results of the Blinder-Oaxaca decomposition of the difference in the use of external equity and VC financing between male and female entrepreneurs. Coefficients of the external equity model are reported in the table IA13, columns (7) and (8). Mean differences are decomposed between the "explained effect" and the "unexplained effect" . They are estimated using separate OLS regressions for male and female entrepreneurs. The explained effects correspond to the impact of gender differences in the explanatory variables evaluated using the male equation coefficients. The unexplained effects correspond to the average female residuals from the male equation. The model includes the following groups of variables: Age and citizenship include Age≥40 and French. Education includes Undergraduate, Graduate, and Elite school. Industry expert, Serial entrepreneur, the incorporation status are also included. Team composition includes Co-founded, Spouse, Relatives, and Business partners. Growth preferences include High growth-oriented and detailed ex-ante motivations. Business model includes B2B, Number of customers, and Non-local customers. Startup capital includes the categories of startup capital. Other funding includes alternative financing sources. Gender congruence includes the F-dominated sector and its interaction with Female entrepreneur. Family includes Children and Married.

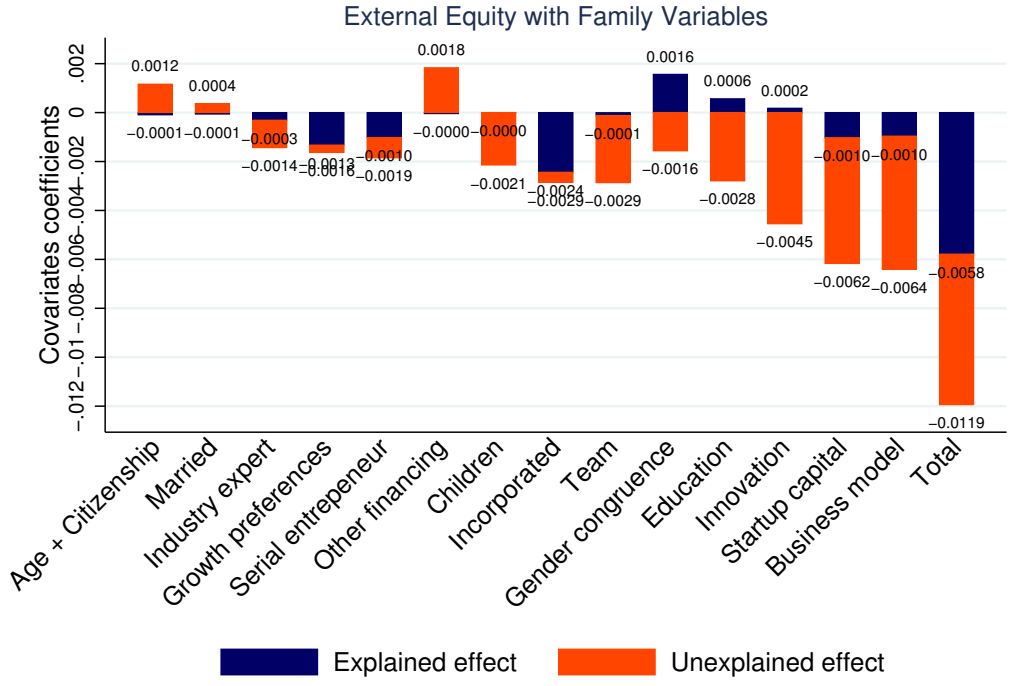


Table IA16. Oaxaca-Blinder Decomposition of the Entrepreneurs' Use of VC

Source: SINE survey and firm registry. *Sample:* New firms founded in 2002, 2006, 2010, 2014, and 2018. The figure plots the results of the Blinder-Oaxaca decomposition of the difference in the use of VC between male and female entrepreneurs. Mean differences are decomposed between the "explained effect" and the "unexplained effect." They are estimated using separate OLS regressions for male and female entrepreneurs. The explained effects correspond to the impact of gender differences in the explanatory variables evaluated using the male equation coefficients. The unexplained effects correspond to the average female residuals from the male equation. The model includes the following groups of variables: Age and citizenship include Age≥40 and French. Education includes Undergraduate, Graduate, and Elite school. Industry expert, Serial entrepreneur, the incorporation status are also included. Team composition includes Co-founded, Spouse, Relatives, and Business partners. Growth preferences include High growth-oriented and detailed ex-ante motivations. Business model includes B2B, Number of customers, and Non-local customers. Startup capital includes the categories of startup capital. Other funding includes alternative financing sources. Gender congruence includes the F-dominated sector and its interaction with Female entrepreneur.

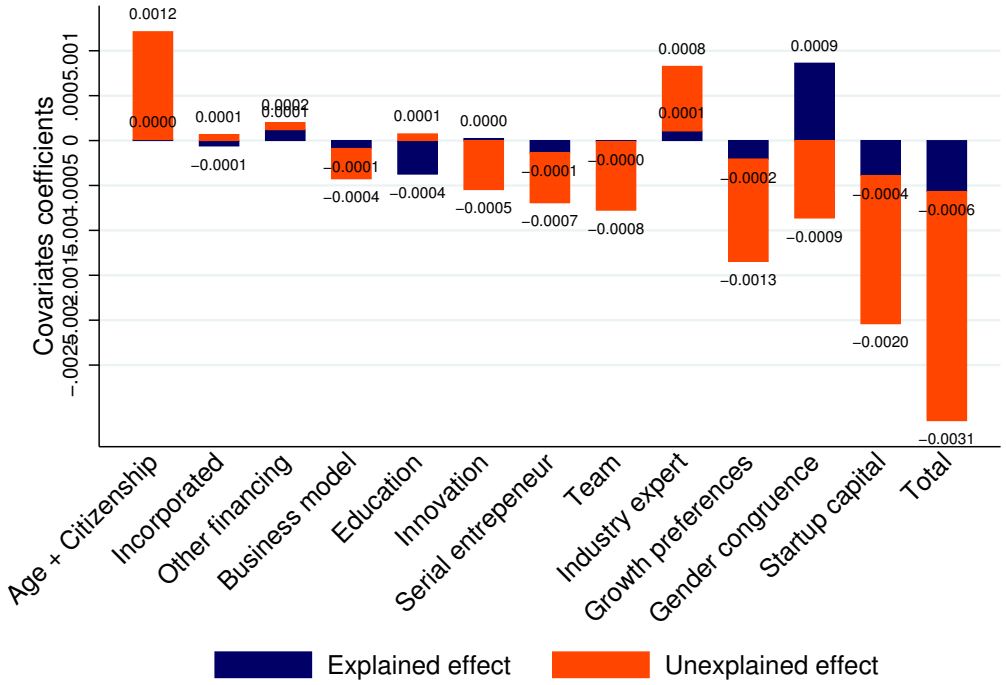


Table IA17. Do Entrepreneurs Substitute VC with Other Financing Sources?

Source: SINE survey and firm registry. *Sample:* New firms founded in 2010, 2014, and 2018. This table uses OLS to study whether entrepreneurs substitute VC financing with other financing sources. The dependent variable is a dummy variable equal to one if the startup uses VC. The independent variable *Female* is interacted with alternative funding sources: *Bank loans* (columns 1 and 2), *Personal loans* (columns 3 and 4), *Other loans* (columns 5 and 6) and *Public grants* business (columns 7 and 8). The complementarity and substitution effects between funding sources are estimated on the subsamples of firms started in male-dominated sectors (even columns) and female-dominated sectors (odd columns). A 4-digit French SIC female-dominated sectors include at least 50% female-founded startups. All models include the same baseline controls as Table 5, county and 4-digit SIC sector × cohort-year fixed effects, and startup capital fixed effects. Clustered standard errors at the 4-digit SIC sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable	1(VC)							
Sectors:	Male-dominated (1)	Female-dominated (2)	Male-dominated (3)	Female-dominated (4)	Male-dominated (5)	Female-dominated (6)	Male-dominated (7)	Female-dominated (8)
Bank loan	-0.0015**	-0.0025						
	(0.001)	(0.002)						
Female × Bank loans	-0.0010	0.0019						
	(0.001)	(0.002)						
Personal loan			0.0002	-0.0033*				
			(0.001)	(0.002)				
Female × Personal loans			-0.0017	0.0050*				
			(0.002)	(0.003)				
Other loans					0.0046***	0.0045		
					(0.002)	(0.004)		
Female × Other loans					-0.0023	-0.0032		
					(0.002)	(0.005)		
Public grant							0.0099***	0.0091
							(0.003)	(0.007)
Female × Public grants							-0.0044	-0.0038
							(0.003)	(0.007)
Female	-0.0012**	-0.0005	-0.0013***	-0.0005	-0.0013***	0.0001	-0.0011***	0.0001
	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.032	0.034	0.032	0.034	0.033	0.034	0.034	0.035
N	62,705	16,496	62,705	16,496	62,705	16,496	62,705	16,496
Mean dep. var.	0.0032	0.0021	0.0032	0.0021	0.0032	0.0021	0.0032	0.0021

Table IA18. How much Do Entrepreneurs Substitute VC with Other Funding Sources?

Source: SINE survey, firm registry, and tax files. *Sample:* New firms founded in 2010. This table uses OLS to study the relationship between the startup's capital structure and the use of VC. The dependent variables are the reported percentage of personal resources (columns 1 and 2), the reported percentage of bank loans (columns 3 and 4), and the percentage of other funding (columns 5 and 6). The main independent variables are the entrepreneur's gender, *Female*, and interacted with the use of *VC*. The complementarity and substitution effects of alternative funding sources are estimated on the subsamples of firms started in male-dominated sectors (even columns) and female-dominated sectors (odd columns). A 4-digit French SIC female-dominated sectors include at least 50% female-founded startups. All models include the same baseline controls as Table 5. All models include county and 4-digit SIC sector × cohort-year fixed effects and startup capital fixed effects. Clustered standard errors at the 4-digit SIC sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Dependent variable:	% Inside equity		% Bank loans		% Other financing	
Sectors:	Male-dominated (1)	Female-dominated (2)	Male-dominated (3)	Female-dominated (4)	Male-dominated (5)	Female-dominated (6)
Female	-0.4313	-5.0036***	0.6163	3.2372**	-0.1849	1.7664***
	(0.56)	(1.51)	(0.63)	(1.47)	(0.31)	(0.56)
VC	-14.8195***	-17.2059	-14.7410***	-17.6784**	29.5605***	34.8842**
	(3.69)	(13.29)	(2.75)	(8.68)	(3.54)	(13.56)
Female × VC	26.5138***	-10.8327	-4.8409	38.2471***	-21.6729***	-27.4144*
	(9.92)	(16.80)	(6.47)	(10.35)	(6.10)	(15.84)
Age ≥ 40	3.6950***	2.2265	-3.9941***	-3.5014***	0.2990	1.2749*
	(0.73)	(1.36)	(0.69)	(1.18)	(0.24)	(0.65)
French	-7.3124***	-10.7347***	6.8311***	10.0851***	0.4813	0.6496
	(0.88)	(3.08)	(0.71)	(2.83)	(0.50)	(1.22)
Undergraduate	0.9102	1.1304	-0.8459	-0.3117	-0.0643	-0.8187
	(0.68)	(1.83)	(0.66)	(1.64)	(0.39)	(0.70)
Graduate	4.8277***	3.4193**	-4.5078***	-3.4707***	-0.3198	0.0514
	(0.68)	(1.37)	(0.63)	(1.09)	(0.30)	(0.83)
Elite school	2.0797	-0.5385	-3.8152***	-1.0469	1.7355***	1.5854
	(1.27)	(2.15)	(1.03)	(1.76)	(0.66)	(1.29)
Industry expert	-2.0616***	-1.3893	2.3522***	1.9423	-0.2905	-0.5530
	(0.58)	(1.75)	(0.56)	(1.63)	(0.25)	(0.49)
Serial entrepreneur	4.7962***	4.6708***	-3.1321***	-1.3561	-1.6641***	-3.3146***
	(0.57)	(1.22)	(0.48)	(0.98)	(0.27)	(0.71)
Co-founder(s)	1.2346***	3.3643**	-0.4424	-1.6500	-0.7922***	-1.7143***
	(0.44)	(1.30)	(0.43)	(1.25)	(0.27)	(0.64)
Innovative business	-1.9158***	-2.4423*	0.3914	2.0575*	1.5244***	0.3848
	(0.53)	(1.30)	(0.44)	(1.19)	(0.24)	(0.73)
High-growth oriented	0.9477*	-2.6345**	-1.4535***	1.0017	0.5057**	1.6328**
	(0.51)	(1.10)	(0.51)	(1.14)	(0.22)	(0.75)
Incorporated	1.5624**	3.6924***	0.6611	-1.1663	-2.2235***	-2.5261***
	(0.67)	(1.38)	(0.62)	(0.98)	(0.34)	(0.92)
B2B business model	1.4988***	2.8348	-1.6204***	-1.4376	0.1216	-1.3972
	(0.56)	(1.71)	(0.52)	(1.42)	(0.28)	(0.94)
Non-local clientele	3.7280***	3.3711***	-3.0822***	-3.3967***	-0.6458**	0.0256
	(0.51)	(1.25)	(0.52)	(1.16)	(0.27)	(0.82)
Tangible/total assetst=0	-7.1812***	-0.7971	7.1941***	-0.0275	-0.0129	0.8246
	(1.12)	(3.52)	(1.14)	(3.42)	(0.57)	(1.47)
Log(total assets)t=0	0.0342	-0.4185	-0.1591	-0.0943	0.1249	0.5128**
	(0.20)	(0.43)	(0.18)	(0.40)	(0.08)	(0.20)
Sector × Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.192	0.194	0.194	0.205	0.037	0.056
N	26,928	4,019	26,928	4,019	26,928	4,019
Mean Dep. Var.	62.399	58.864	30.225	33.083	7.375	8.053
Cohorts						

Table IA19. External Equity Financing and Entrepreneur Performance

Source: SINE survey, firm registry, and tax files. *Sample:* New firms founded in 2010, 2014, and 2018. This table uses OLS to analyze the performance of female-founded versus male-founded startups depending on their external equity funding status and in male-dominated sectors (Panel A) and in female-dominated sectors (Panel B), respectively. The dependent variables are the likelihood to survive after 3 years, after 5 years, the sales growth between year 0 to year 3, and between year 0 to year 5, and the employment growth between year 0 to year 3, and between year 0 to year 5. The main independent variables are the entrepreneur's gender, *Female*, and interacted with *External Equity*. All models include the baseline control variables and county and 4-digit French SIC sector × cohort-year fixed effects. Clustered standard errors at the sector level are reported in parentheses. *, **, and *** indicate significantly different from zero at the 10, 5, and 1% levels, respectively.

Panel A: Performance in Male-dominated sectors

Dependent variable	1(Survival)		Δ sales		Δ employment		Exits	
	≥3	≥5	(0,3)	(0,5)	(0,3)	(0,5)	M&A	IPO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0229***	-0.0180***	-0.0301***	-0.0522***	-0.0506***	-0.0864***	-0.0001	-0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.03)	(0.00)	(0.00)
External equity	-0.0111*	-0.0007	0.0600*	0.1036**	0.0747**	0.0820	0.0011	0.0007
	(0.01)	(0.01)	(0.03)	(0.04)	(0.03)	(0.05)	(0.00)	(0.00)
Female × External equity	0.0149	0.0056	-0.0674	-0.1816	-0.1740**	-0.2220	-0.0004	-0.0007
	(0.02)	(0.02)	(0.09)	(0.13)	(0.07)	(0.14)	(0.00)	(0.00)
Age ≥ 40	0.0055*	0.0079***	-0.0508***	-0.1150***	-0.0360***	-0.0909***	0.0002	0.0001**
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)	(0.00)	(0.00)
French	0.0321***	0.0394***	-0.0022	-0.0030	0.0500***	0.0990***	0.0002	0.0000
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.03)	(0.00)	(0.00)
Undergraduate	-0.0016	-0.0020	0.0440***	0.0485***	0.0342**	0.0865***	0.0001	-0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.02)	(0.03)	(0.00)	(0.00)
Graduate	0.0097**	0.0126**	0.0291**	0.0288	0.0109	-0.0127	0.0003	-0.0001
	(0.00)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.00)	(0.00)
Elite school	-0.0102*	-0.0008	-0.0240	-0.0709	0.0423	0.0224	0.0016***	0.0001
	(0.01)	(0.01)	(0.02)	(0.04)	(0.03)	(0.05)	(0.00)	(0.00)
Industry expert	0.0318***	0.0319***	0.0048	0.0003	-0.0171	-0.0348*	-0.0001	-0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)	(0.00)	(0.00)
Serial entrepreneur	-0.0042	-0.0206***	-0.0445***	-0.0665***	-0.0299***	-0.0376**	0.0002	0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)	(0.00)	(0.00)
Co-founder(s)	0.0038	0.0020	0.0214**	-0.0082	0.0048	-0.0400**	0.0003	0.0001
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)	(0.00)	(0.00)
Incorporated	0.1384***	0.1128***	0.0925***	0.2647***	-0.0083	-0.0138	0.0005***	-0.0000
	(0.01)	(0.01)	(0.02)	(0.03)	(0.02)	(0.03)	(0.00)	(0.00)
High-growth oriented	-0.0068**	-0.0093**	0.0696***	0.0600***	0.0318**	0.0487***	0.0003*	0.0000
	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.02)	(0.00)	(0.00)
Innovative business	-0.0047	-0.0027	0.0078	0.0298*	0.0161	0.0029	0.0003*	0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)	(0.00)	(0.00)
B2B business model	-0.0056	-0.0131**	0.0106	0.0010	0.0147	0.0034	0.0002	-0.0000
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.00)	(0.00)
Non-local clientele	-0.0032	-0.0065	-0.0070	-0.0096	-0.0217*	0.0003	0.0001	-0.0000
	(0.00)	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)	(0.00)	(0.00)
Sector FE × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.281	0.354	0.074	0.108	0.096	0.119	0.037	0.041
N	105,165	105,165	53,456	29,480	13,313	6,724	105,165	105,165
Mean dep. var.	0.6618	0.3856	0.5532	0.5317	0.1829	0.3614	0.0005	0.0000

Panel B: Performance in Female-dominated sectors

Dependent variable	1(Survival)		Δ sales		Δ employment		Exits	
	≥3	≥5	(0,3)	(0,5)	(0,3)	(0,5)	M&A	IPO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	-0.0003		-0.0050	-0.0246	-0.0178	-0.0031	-0.0000	
	(0.01)		(0.01)	(0.02)	(0.02)	(0.04)	(0.00)	
External equity	-0.0423	-0.0265	-0.0390	-0.1009	-0.0969	-0.1611	-0.0010**	
	(0.03)	(0.02)	(0.10)	(0.15)	(0.07)	(0.13)	(0.00)	
Female × External equity	0.0286	0.0271	0.1005	0.0069	0.0275	-0.0426	0.0005	
	(0.04)	(0.04)	(0.13)	(0.20)	(0.09)	(0.18)	(0.00)	
Sector FE × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
R^2	0.381	0.464	0.081	0.134	0.211	0.257	0.017	
N	26,034	26,034	13,675	7,165	2,030	1,033	26,034	
Mean dep. var.	0.6436	0.3587	0.5366	0.5615	0.1347	0.2267	0.0003	

Table IA20. Performance Conditional on Financing Sources

Panel A: Survival probability

Dependent variable:	1(Survival 3 years)			1(Survival 5 years)		
Sample:	All	Externally funded	Equity backed	All	Externally funded	Equity backed
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.0258***	-0.0228***	-0.0071	-0.0211***	-0.0204***	-0.0002
	(0.005)	(0.005)	(0.022)	(0.005)	(0.006)	(0.024)
Female × F-dominated sector	0.0310***	0.0295***	0.0908	0.0193**	0.0115	0.0170
	(0.008)	(0.010)	(0.057)	(0.008)	(0.011)	(0.054)
Sector × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Startup capital FE	0.069	0.081	0.203	0.321	0.266	0.444
R^2	116,214	59,487	2,588	116,214	59,487	2,588
N	0.7432	0.7544	0.7709	0.4298	0.4893	0.4490

Panel B: Top performers

Dependent variable:	Δ sales$_{t_0,t+3}$			Δ employment$_{t_0,t+3}$		
Sample:	All	Externally funded	Equity backed	All	Externally funded	Equity backed
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.1306**	-0.2635***	-1.1472***	-0.0796***	-0.1313***	-0.6038***
	(0.059)	(0.071)	(0.365)	(0.021)	(0.023)	(0.082)
Female × F-dominated sector	0.0153	0.1686	0.4423	0.1025**	0.1333***	1.0475***
	(0.097)	(0.147)	(1.298)	(0.047)	(0.050)	(0.311)
Sector × Yyear FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.065	0.091	0.310	0.098	0.133	0.337
N	71,528	35,666	1,582	19,374	10,168	638
Mean dep. var.	1.8534	1.8799	2.7379	0.1946	0.1991	0.2471

Panel C: Top performers

Dependent variable:	1(Top 1% sales$_{t+3}$)			1(Top 1% employment$_{t+3}$)		
Sample:	All	Externally funded	Equity backed	All	Externally funded	Equity backed
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.0093**	-0.0117**	-0.0244	0.0036	0.0067**	0.0163
	(0.004)	(0.005)	(0.031)	(0.002)	(0.003)	(0.029)
Female × F-dominated sector	-0.0216*	-0.0279**	0.0324	-0.0175***	-0.0252***	-0.0279
	(0.012)	(0.014)	(0.077)	(0.004)	(0.005)	(0.050)
SIC-5 Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.102	0.117	0.258	0.055	0.073	0.305
N	68,005	34,077	1,561	52,878	28,462	1,212
Mean dep. var.	0.0828	0.0735	0.1249	0.0257	0.0259	0.0710

Panel D: Successful exits

Dependent variable:	1(Acquired)			1(IPO)		
Sample:	All	Externally funded	Equity backed	All	Externally funded	Equity backed
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.0001	-0.0001	0.0002	-0.0001	-0.0001	-0.0004
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Female × F-dominated sector	0.0001	0.0002	0.0020	0.0001	0.0001	-0.0004
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
SIC-5 Sector × Cohort-year FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.034	0.058	0.107	0.041	0.116	0.208
N	131,275	64,587	2,970	116,189	59,488	2,590
Mean dep. var.	0.0005	0.0005	0.0017	0.0000	0.0001	0.0004

IB Theories to Explain the Gender Funding Gap

In this section, I consider a simple model that derives empirical predictions to identify the underlying factors driving the observed gender funding gap. The model builds on Bohren, Imas and Rosenberg (2019) and compares different explanations for discrimination, including stereotyping (Bordalo et al., 2016; Bohren et al., 2020). The framework consists of an investor who learns about an entrepreneur's ability from her gender and sector of activity and then uses this information to decide whether to back her with equity.

IB.1 Set-up

Entrepreneurs. Consider an entrepreneur i of gender $g \in \{M, F\}$ who starts a business in sector k. The entrepreneur has an unobservable ability for starting a business in sector k, $a_{ik} \sim \mathcal{N}(\mu_{gk}, \frac{1}{\tau_{a_{ik}}})$, with mean μ_{gk} that is gender and sector specific and an individual precision that can vary by sector, $\tau_{a_{ik}} > 0$.

Investors. Each period, a set of investors evaluates the entrepreneurs' performance. I assume that there is one investor or a homogeneous set of investors in sector k. The investor only observes a noisy signal about the entrepreneur's ability in sector k: $s_i = a_{ik} + \varepsilon_i$, where a_{ik} is the unobservable ability of entrepreneur i in sector k, and $\varepsilon_i \sim \mathcal{N}(0, \frac{1}{\tau_{\varepsilon i}})$ is an idiosyncratic ability shock with precision $\tau_{\varepsilon i} > 1$. The signal of an entrepreneur's ability is normally distributed, $s_i \sim \mathcal{N}(\hat{\mu}_{gk}, \frac{1}{\tau_s})$, where $\tau_s = \frac{\tau_a \tau_\epsilon}{\tau_a + \tau_\varepsilon}$.

The investor makes his evaluation ν_i about entrepreneur i based on his subjective prior beliefs about the average ability of a gender in a sector $\hat{\mu}_{gk}$ and/or preferences about gender S_{gk}. The investor maximizes his expected payoff $-(\nu - (s - S))^2$ from reporting evaluation ν of an entrepreneur of gender g performing in industry k:

$$\nu_i = E[a_i - S_{gk} | s_i, \hat{\mu}_{gk}] = \hat{\mu}_{gk} - S_{gk}$$

If the evaluation is positive, in other words, if the signal is sufficiently large, such that $s_i > S_{gk}$, the investor funds the entrepreneur.[1] Then, the investor uses this information to update his beliefs regarding the abilities of entrepreneurs of gender g in sector k.

Gender gap. The gender gap $G(k)$ is the difference between male and female entrepreneurs' evaluations in sector k and can be written as follows:

$$G(k) \equiv \nu(M, k) - \nu(F, k) = \hat{\mu}_{Mk} - \hat{\mu}_{Fk} - S_{Mk} + S_{Fk} \tag{1}$$

There is a gender funding gap against female entrepreneurs in sector k if $G(k) > 0$. A gender gap against male entrepreneurs in sector k is also possible if $G(k) < 0$. The gender gap against female entrepreneurs can be driven by two different sources of discrimination. First, male entrepreneurs may have to meet lower standards than female entrepreneurs, such that $S_{Mk} < S_{Fk}$ (taste-based discrimination). Second, investor's prior beliefs about the average ability of male entrepreneurs in k are higher than prior beliefs about the average ability of female entrepreneurs, such that $\hat{\mu}_{Mk} > \hat{\mu}_{Fk}$ (belief-based discrimination).

IB.2 Case 1: Rational beliefs about gender

I first consider the case where male and female entrepreneurs are held to the same standard, such that $S_{Fk} = S_{Mk} = S_k^*$, and investors have unbiased beliefs about abilities by gender, such that $\hat{\mu}_{gk} = \mu_{gk}$. Thus, the funding condition in sector k is: $\mu_{gk} > S_k^*$.

[1] For simplicity, I assume that the investor funds every entrepreneur who exceeds the threshold. Note that the threshold S_{gk} is exogenously determined. For instance it corresponds to the gender norm in the industry.

However, this funding condition is not inconsistent with observing a gender funding gap. If the investor aims to maximize profit and has unbiased beliefs about gender, a potential reason for observing a gender funding gap is statistical discrimination.

Proposition 1 (Statistical discrimination)**.** *If investors beliefs about gender are unbiased, $\hat{\mu}_{gk} = \mu_{gk}$, and if entrepreneurs are held to the same standard, such that $S_{Fk} = S_{Mk} = S_k^*$, then entrepreneur average abilities by gender group are not different conditional on being selected such that $E[a_i|s_i > S_k^*, F] = E[a_i|s_i > S_k^*, M]$.*

Under statistical discrimination, entrepreneurs are selected according to the true average abilities of their gender group, such that no systematic mistake is made against a specific gender group. This does not imply that funding mistakes cannot exist at the individual level. Nevertheless, mistakes are not systematically directed toward the same gender and are expected to cancel out when aggregated. Besides, this finding does not necessarily imply that female entrepreneurs have lower abilities than male entrepreneurs in every sector. For instance, female entrepreneurs may be less able in sector k and more able than male entrepreneurs in sector $-k$.

An alternative potential reason for observing a gender funding gap against female entrepreneurs under these conditions is that female entrepreneurs may appear riskier than that of male entrepreneurs. In other words, the precision with which their ability is evaluated in sector k may be lower relative to that of male entrepreneurs, such that $E[\frac{1}{\tau_{a_{ik}}}|F,k] < E[\frac{1}{\tau_{a_{ik}}}|M,k] \iff E[\tau_{a_{ik}}|F,k] > E[\tau_{a_{ik}}|M,k]$. In this case, female entrepreneurs may be less likely to be funded not because they have a lower average ability but because their ability is more difficult to evaluate. One rational for this argument is that investors may have less history for female entrepreneurs.

IB.3 Case 2: Preferences and miscalibrated beliefs

Investor biases could also drive the observed gender funding gap. An investor is biased toward a gender if she favors this gender either through preferences, which we refer as taste-based discrimination, or through biased prior beliefs about average abilities, which we refer to as discrimination with miscalibrated beliefs, of which stereotyping is one possible form (Bohren, Imas and Rosenberg, 2019; Bohren et al., 2020).

Taste-based discrimination Taste-based discrimination against female entrepreneurs corresponds to the case in which male entrepreneurs are held to a lower standard than female entrepreneurs, such that $S_{Mk} < S_{Fk}$. In this case, a female entrepreneur raises capital if $s_i > S_{Fk}$, whereas a male entrepreneur j raises capital $s_j > S_{Mk}$. A female entrepreneur needs to produce a stronger signal (or a more precise signal) than male entrepreneurs to raise capital. As a consequence, the true average abilities of selected female entrepreneurs is higher than those of selected male entrepreneurs.

Proposition 2 (Taste-Based discrimination)**.** *If investors hold male entrepreneurs to a lower standard than female advisers if $S_{Mk} < S_{Fk}$, then female entrepreneurs' average abilities in sector k are higher than male entrepreneurs' average abilities conditional on being selected, such that $E[a_i|s_i > S_{Fk}, F] > E[a_i|s_i > S_{Mk}, M]$.*

Discrimination with miscalibrated beliefs Under this benchmark, male and female entrepreneurs are held to the same standard and the investor selects entrepreneurs with respect to prior beliefs. However, under this benchmark, prior beliefs do not coincide with the true average ability by gender group. To be funded, both male and female entrepreneurs need to produce a signal above the standard. Even if an investor has miscalibrated prior beliefs, a male and a female entrepreneur who generate the same signal receive identical evaluations, and ultimately reach the same funding outcomes. However, if, for

example, the investor underestimates the ability of female entrepreneurs, producing this signal is easier for a male entrepreneur than for a female entrepreneur. As a consequence, we can expect the true average abilities of female entrepreneurs who manage to be selected to be higher than those of male entrepreneurs.

Proposition 3 (Discrimination with Miscalibrated Beliefs)**.** *If investors have miscalibrated beliefs about gender, such that $\hat{\mu}_{gk} \neq \mu_{gk}$, for example, prior beliefs about female entrepreneurs' average ability in sector k are underestimated $\hat{\mu}_{Fk} > \mu_{Fk}$, and for example, prior beliefs about male entrepreneurs' average ability in sector k are correctly assessed $\hat{\mu}_{Mk} = \mu_{Mk}$; then, female entrepreneurs' true average ability is higher than that of male entrepreneurs conditional on being selected, such that $E[a_i|s_i > S_k^*, F] > E[a_i|s_i > S_k^*, M]$.*

Within sector, taste-based discrimination and miscalibrated beliefs yield the same predictions. Therefore, it is not possible to identify the source of discrimination within a single sector. Only a richer cross-section of sectors can.

IB.4 Context-dependent stereotypes

One possible microfoundation for investors who have miscalibrated beliefs is related to context-dependent stereotypes. Under this benchmark, the investor overestimates the average ability of the dominant group and underestimates the average ability of the minority group (Bordalo et al., 2016).

An investor has stereotypical beliefs about the abilities of entrepreneurs of gender g in sector k, such that $\hat{\mu}_{gk} = \mu_{gk}^{\theta}$,with θ the gender representativeness of the sector defined by the likelihood ratio $\frac{\pi_{g,k}}{\pi_{g,-k}}$ as in Gennaioli and Shleifer (2010); $\pi_{g,k}$ and $\pi_{g,-k}$ are the frequencies of entrepreneurs with gender g in sectors k and $-k$, respectively; and the function μ^{θ} is a symmetric function centered on the representativeness of a gender to a sector; it increases in its own representativeness and decreases in the representativeness of the other gender.

Under this formulation, stereotypical beliefs about average abilities are modeled as an exaggeration of true gender ability distributions. If gender g is objectively more likely, then investors map the distribution of types to the distribution of abilities by type. Thus, context-dependent stereotypes imply that the investor overestimates the abilities of entrepreneurs in gender-congruent sectors, and underestimates the abilities of entrepreneurs in gender-incongruent sectors. As sectors may have a different dominant gender, stereotypical beliefs may be distorted in favor of one gender or the other. Indeed, it is possible that the investor overestimates the abilities of female entrepreneurs in female-dominated sectors and underestimates their abilities in male-dominated sectors. Similarly, the abilities of male entrepreneurs in a female-dominated sectors are underestimated, whereas they are overestimated in a male dominated sector. Thus, all else being equal, we should observe entrepreneurs to raise more capital in gender-congruent sectors and less in gender-incongruent sectors.

Proposition 4 (Discrimination with stereotypes)**.** *If investors have stereotypical beliefs about gender, such that $\hat{\mu}_{gk} = \mu_{gk}^{\theta}$, and if male is the dominant gender of sector k_M and female is the dominant gender of sector k_F, then:*

$$E[a_i|s_i > S_{k_F}^*, M, k_F] > E[a_i|s_i > S_{k_M}^*, M, k_M]$$

with $\mu_{Mk_M}^{\theta} > \mu_{Mk_M}$ and $\mu_{Mk_F}^{\theta} < \mu_{Mk_F}$, since $\theta \equiv \frac{\pi_{M,k_M}}{\pi_{M,k_F}} > 1$.
and

$$E[a_i|s_i > S_{k_M}^*, F, k_M] > E[a_i|s_i > S_{k_F}^*, F, k_M]$$

with $\mu_{Fk_F}^{\theta} > \mu_{Fk_F}$ and $\mu_{Fk_M}^{\theta} < \mu_{Fk_M}$, since $\theta \equiv \frac{\pi_{Fk_F}}{\pi_{Fk_F}} > 1$.

Proposition 4 predicts that conditional on being selected, the minority group outperforms in gender-incongruent sectors. Thus, female entrepreneurs in male-dominated sectors should outperform female

entrepreneurs in female-dominated sectors. Similarly, male entrepreneurs in female-dominated sectors should outperform male entrepreneurs in male-dominated sectors. Predictions within sector can also be generated if we define representativeness as the relative likelihood ratio of a gender relative to the other within a sector.[2]

References

Bohren, J Aislinn, Alex Imas, and Michael Rosenberg. 2019. "The dynamics of discrimination: Theory and evidence." *American Economic Review*, 109(10): 3395–3436.

Bohren, J Aislinn, Kareem Haggag, Alex Imas, and Devin G Pope. 2020. "Inaccurate statistical discrimination." *Working Paper*.

Bordalo, Pedro, Katherine Coffman, Nicola Gennaioli, and Andrei Shleifer. 2016. "Stereotypes." *Quarterly Journal of Economics*, 131(4): 1753–1794.

Gennaioli, Nicola, and Andrei Shleifer. 2010. "What comes to mind." *Quarterly Journal of Economics*, 125(4): 1399–1433.

[2]If we define representativeness as the relative likelihood ratio of a gender relative to the other within a sector k, such that $\frac{\pi_{Mk}}{\pi_{Fk}}$, we can also generate the following predictions about distorted gender abilities within a sector: if male is the dominant gender of sector k_M and female is the dominant gender of sector k_F, such that $\frac{\pi_{Mk_M}}{\pi_{Fk_M}} > 1$ and $\frac{\pi_{Mk_F}}{\pi_{Fk_F}} < 1$, then we obtain:
$E[a_i|s_i > S^*_{k_M}, F, k_M] > E[a_i|s_i > S^*_{k_M}, M, k_M]$ in sector k_M, with $\mu^{\theta}_{Mk_M} > \mu_{Mk_M}$ and $\mu^{\theta}_{Fk_M} < \mu_{Fk_M}$,
and $E[a_i|s_i > S^*_{k_F}, F, k_F] < E[a_i|s_i > S^*_{k_F}, M, k_F]$ in sector k_F, with $\mu^{\theta}_{Fk_F} > \mu_{Fk_F}$ and $\mu^{\theta}_{Mk_F} < \mu_{Mk_F}$.