

GENDER GAP IN BUSINESS ANGEL FINANCING

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Abstract

We study the relevance of the gender of contracting parties involved in equity early-stage financing using transaction-level data on Business Angel (BA) investments around the world between 2018 and 2020. In particular, we analyze whether the gender of BA investor has an impact on the size of the financial transaction and whether female-owned businesses are disadvantaged with respect to male-owned businesses. Then, we offer insights into possible channels and underlying mechanisms that could drive BAs' behaviors. According to our findings, female-owned businesses receive less equity financing than their male counterparts. This effect is independent from the information available to BAs on the target and persists even when unobservable individual factors are taken into consideration. This disadvantage seems to be linked to male Business Angels' taste prejudice, independently from the information available to the investor.

JEL classification: G21; G24; G32; J16; G41; M13 **Keywords**: Gender-based discrimination. Female-owned enterprises

Keywords: Gender-based discrimination, Female-owned enterprises, Access to finance, start-up; SME financing, Business Angel

1. Introduction

Despite recent improvements in female entrepreneurs' participation into the creation of new ventures, female-owned businesses remain significantly under-represented in the economy at the global level, receiving less than 3% of the informal equity funds (Ewens et al., 2020; Pitchbook, 2020), particularly with regards to high-growth ventures (Brush et al. 2004; Robb et al., 2014; Scott and Shu, 2017). Prior studies have investigated the potential obstacles that female entrepreneurs face while starting a business in high-growth fields (Carter et al., 2003; Brush et al., 2018, 2019, among others). One major possible explanation could be the lack of funding in the early stages of a business, which can hamper the creation of new businesses and be critical to their survival and growth (Brush et al., 2004). Furthermore, due to agency conflicts and asymmetric information, access to debt (Stiglitz and Weiss, 1981) and external equity (Akerlof, 1970) financing for high-growth entrepreneurial ventures can be difficult. To overcome these difficulties and provide funding to nascent entrepreneurial ventures, informal financial investors - such as Business Angels (BAs) have grown in importance, becoming the primary providers of early-stage equity funds for start-up companies (Mason and Harrison 2000; Brush et al., 2018; Bessiere et al., 2020, among others). In other words, BAs may bridge the so-called 'funding gap' between the demand and supply of earlystage equity capital, thus encouraging and influencing both the performance and survival of new entrepreneurial ventures (Boden and Nucci, 2000; Davila et al. 2003; Engel and Keilbach, 2007; Peneder, 2010; Bertoni et al., 2011; Miloud et al., 2012; Capizzi, 2015; Bonini and Capizzi, 2019; Bonini et al., 2019; Ughetto et al., 2021).

Gender analysis in the relationship between BA investors and target companies has attracted increasing interest in the alternative finance literature. At the same time, the topic was primarily addressed at the target company level, i.e., empirical analyses at determining whether investors discriminate against female-owned businesses. Less attention has been paid to the gender of investors which is more easily traceable, unlike those of other financial operators. The attitude, temperament, and behavior of investors, particularly Business Angels, have a significant impact on the origination of equity investments. While investors may have 'hard' information about target firms, most of this knowledge is implicit, non-fully-codifiable, and can be properly recognized only by individuals who are familiar with the sector and economic environment in which investors operate. The quality of investments and their future expected profitability are highly dependent in this framework on the unobservable effort expended by BA investors in gathering and evaluating both soft and hard knowledge information on potential target firms and their entrepreneurs.

The relational side is critical in BAs' activity, which means that he or she makes decisions based on interpersonal contacts with several entrepreneurs, which are frequently based on cognitive

ability rather than formal hard data. Indeed, investors' assessments of entrepreneurs' ability and credibility are influenced by intuitional, psychological, behavioral, and cultural factors that supplement (or even contradict in some cases) data from financial reports (Buttner and Rosen, 1988; McNamara and Bromiley, 1997; Lipshitz and Shulimovitz, 2007; Harrison and Mason, 2007).

Moreover, some of the factors influencing investor's behavior have been shown to be gender driven. Women, for example, are more risk-averse and less self-confident than men, according to a common finding in the economic and psychological literature (Byrnes et al. 1999; Croson and Gneezy 2009).¹ Furthermore, men and women appear to react differently to the gender of the other party involved in the transaction (Eckel and Grossman 2001; Ben-Ner et al. 2004; Dufwenberg and Muren 2006; Amatucci and Sohl, 2004; Becker-Blease and Sohl, 2011). As a result, male and female investors may use different criteria when making investment decisions.

In the wake of these considerations, some recent works have focused on the gender of the Business Angels by asking whether perceptions of entrepreneurs' credibility and profitability significantly differ between male and female investors. On the supply side, investment policies towards target companies of Business Angels appear to differ only marginally based on investor's gender (Harrison and Mason, 2007). On the demand side, female-owned businesses seem to be more easily excluded from BA funding, in favor of male-owned firms which are typically more favorably viewed (Edelman et al., 2018). Moreover, when female-owned firms receive funds, they are smaller in amount and exchanged for a greater share of equity (Poczter and Shapsis, 2018).

In this work, we analyze the relevance of gender by looking at both sides of the BA transaction. We use a unique dataset that includes information on Business Angel investors, target companies and entrepreneur characteristics all over the world between 2018 and 2020. First, we investigate the demand side by determining whether female-owned businesses share the same probability with male-owned enterprises of receiving Business Angel investments of similar average amounts. Second, we examine the supply side by determining whether, on average, female Business Angels invest similarly to their male counterparts. Third, we look at the intersection between the genders of BA investors and investees to test for the presence of any potential heterogenous behaviors in terms of average invested amounts by male (female) Business Angels towards female-(male-) owned target companies. Lastly, we explore heterogenous effects based on several companies' characteristics to gain insights into the mechanisms and channels that may be causing male Business Angels to act differently from their female counterparts, as well as the importance of gender pairing. In par-

¹ This more risk-averse approach of female entrepreneurs and managers might also show beneficial effects, as emerging from recent studies suggesting that higher gender diversity in the composition of banks' boards reduces the probability of costly misconduct episodes (Arnaboldi et al., 2021) and improves their performances (Arnaboldi, 2019; Arnaboldi et al., 2020).

ticular, we test whether the lower average funds invested by male BAs on female-owned companies are driven by: (i) scarce information; (ii) male BAs beliefs on female's entrepreneurial skills and capabilities of competitively producing and selling goods and services on the market; (iii) their investment attitude in terms of risk management, (iv) also in an uncertain context as the Covid pandemic; (v) the proximity between investor and investee that might facilitate the exchange and acquisition of information and equity transactions.

Using a set of *Probit* estimations, we find that on average female entrepreneurs receive smaller investments than male entrepreneurs, while this difference is not significant when looking at the investors' side. When examining the supply side, we do not find systematically different behaviors in the investment strategy of female and male BAs. However, looking at all genders' combinations between BA investors and target companies, female-owned companies have lower probability of raising a larger investment from male investors compared to their male-owned companies. Such a bias does not emerge when looking at investments completed by female BA investors towards male-owned entrepreneurs, thus corroborating the view that the amount of funds received by female entrepreneurs depends on the gender of the BA investor. To offer insights into some of the mechanisms possibly driving this result, we explore heterogenous effects underlying the average estimates. We show that male bias towards female-owned firms does not seem to reduce when uncertainty in the decision-making decreases, thus making us lean towards confirming the taste-based discrimination theory.

The remainder of the paper is organized as follows. Section 2 presents the data and variables underlying the analysis, while Section 3 presents the empirical strategy. Section 4 includes the main findings, whose underlying mechanisms are explored in Section 5. Lastly, we draw conclusions in Section 6.

2. Data and variables

To explore the investment decision process of Business Angels and the possible funding gap in early-stage financing of female-owned companies, we adopt a dataset that includes detailed information at the BA's transaction level. We use all BAs funding deals that took place between January 2018 and July 2020 by country at the worldwide level² available on Zephyr, a Bureau van Dijk database. This database provides information on the characteristics of BA deals (e.g., the invested amount, transaction date, and the deal description and rationale), the BA investors (e.g., the name, the gender, and the country of origin of the investor), the BA-backed companies (e.g., name, place of origin, industry), and their owners (including their gender).

² Zephyr provides BAs transactions for 70 countries in this time frame.

We focus on one outcome variable, e.g., the invested amount. In particular, we build an indicator variable *LargeBA* that measures whether the firm raises larger-than-the-median amount of BA financing. In analytical terms, we first compute the median value of all BAs transactions in our time-frame period and then build this indicator so that it takes the value of one if the firm *i* raises larger amount of the BA financing than the median at time *t*, and zero otherwise. In this way, we proxy the relevance of BA investments, by categorizing them in larger and smaller BA investments, to measure whether the likelihood of receiving larger amount of financing is the same for male or female entrepreneurs, all else equal.

In our exercise, we capture gender from both the demand and supply sides. First, we consider the gender of the owner of the target company raising the BA financing. Therefore, we construct a dummy variable, *GenderTarget*, that accounts for the gender of the BA-backed entrepreneur. *GenderTarget* takes the value of one if the firm is owned by a female entrepreneur, and zero if by a male. In our sample, approximately 6% of the firms are female-owned. Second, we look at the gender of the Business Angel investor. In particular, we construct an indicator variable, *GenderBA*, that equals to one if the Business Angel is a female investor, and zero if he is a male. On average, nearly 6% of BA transactions of our sample are financed by female BA investors.

To account for any possible unobserved heterogeneity across firms, we consider a set of control variables that could have an impact on both the probability for a firm to raise a larger BA investment and the likelihood for it to be owned by a female entrepreneur. In particular, we include the variable *Assets* to control for firm's size. The expected impact of *Assets* is to facilitate firms' access to finance by lowering the likelihood of experiencing credit tightness. In the analysis, we take a logarithmic transformation of the variables. Then, we include the variable maturity (Age) defined as the number of years of incorporation of the observed firms. Also in this case, we take a logarithmic transformation of the variable. To account for potential shocks occurring in different timings and shared by all firms of the sample, we also include year fixed effects, *_*, Moreover, to consider cross-sectional heterogeneity across BA markets, we also add a set of country, *______*, and sector, *_______*, fixed effects.³

3. Empirical strategy

We first want to investigate whether the probability of raising a larger-than-the-median Business Angel investment changes depending on the gender of Business Angel investors and target company owners. In other words, we study whether the gender of the investor influences the

³ Descriptive statistics are provided in Table A.1 of the Appendix.

size of the BA transaction and whether female-owned businesses face discrimination in the Business Angel market.

More precisely, we first estimate two models: (i) a *Probit* model for the likelihood of the BA financing with larger amounts target companies owned by female versus male entrepreneurs, and (ii) a *Probit* model for the likelihood of the target company being financed with larger amounts by female versus male Business Angel investors. Specifically, we estimate the following specification:

$$Pr(LargeBA)_{i,t} = \alpha + \beta \ GenderTarget_{i,t} + \gamma \ Controls_{i,t} + \phi_t + \phi_c + \phi_s + \epsilon_{i,t}$$
(1)

In Equation (1), Pr(LargeBA) is an indicator variable that is equal to one if firm *i* raises larger-thanthe-median BA finance at time *t*, and zero otherwise. *GenderTarget* is a dummy variable that equals one when the firm is owned by a female entrepreneur, and zero otherwise. To account for any possible unobserved heterogeneity across firms, we include a set of control variables that could have an impact on both the firm probability to raise a larger BA investment and the likelihood for it to be owned by a female entrepreneur. In particular, the vector *Controls* includes two variables related to the size (*Assets*) and maturity (*Age*) of the observed firms. To account for potential shocks occurring in different timings and shared by all firms of the sample, in some of the specifications we also include year fixed effects, *r* Moreover, to consider cross-sectional heterogeneity across BA markets, we also add a set of country, *r* and sector, *r* fixed effects. Lastly, *r* is the error term.

In Equation (1), the coefficient , together with the related marginal effect, is the focus of our interest, since it measures our estimate of the effect of the gender of target companies' owner on the probability of raising a larger-than-the-median BA investment.

While we are interested in understanding how differently target companies are BA-backed based on the gender of the entrepreneur, our investigation also considers the investor side. In particular, we want to test whether Business Angel investors show heterogeneous behaviors in terms of invested amounts depending on their own gender. Accordingly, we estimate another following specification of the *Probit* model:

$$Pr(LargeBA)_{i,t} = \alpha + \beta \ GenderBA_{i,t} + \gamma \ Controls_{i,t} + \phi_t + \phi_c + \phi_s + \epsilon_{i,t}$$
(2)

This model is equivalent to that of Equation (1), with the notable exception of the main dependent variable, *GenderBA*, which is an indicator that equals to one when the Business Angel is a female investor, and zero otherwise. In Equation (2), the coefficient represents the effect of the gender of BA investors on the probability of raising a larger-than-the-median BA investment.

In order to capture any potential presence of a gender bias in the context of a BA investment, we also consider a specification of the model which compares the probability of obtaining a larger-than-the-median BA investment based on the genders of both the Business Angel and the entrepreneur. Specifically, we interact the *GenderBA* and *GenderTarget* indicators in order to identify the motives that may drive Business Angels of different genders to behave differently towards female versus male entrepreneurs. As a result, we estimate the model

 $Pr(LargeBA)_{i,t} = \alpha + \beta \ GenderBA_{i,t} \times GenderTarget_{i,t} + \gamma \ Controls_{i,t} + \phi_t + \phi_c + \phi_s + \epsilon_{i,t}$ (3)

Looking at the gender-pairing between investors and investees allows us to understand whether the behaviors of investors are driven by a sort of affinity or solidarity towards entrepreneurs of the same gender or, differently, whether they are affected by gender biases. This estimate also allows us to understand: (i) whether gender bias – if present – manifests both from male investors to female entrepreneurs, and from female investors to male entrepreneurs, or not; (ii) if men and women behave differently in their BA relationships with the other gender.

4. Results

4.1 Gender bias on Target Companies

Table 1 includes the coefficient estimates (Panel A) and the associated marginal effects (Panel B) of Equation (1). Column (1) reports the benchmark specification that includes only the gender of the target variable, while in the specifications in columns (2)-(4) we progressively add different sets of fixed effects. Specifically, country fixed effects control for time-invariant unobservable correlated with financing that are specific to the country, year fixed effects control for common time-varying shocks that might affect the probability of raising BA investments, and sector fixed effects allow us to take into account time-invariant unobservable correlated with financing that are specific.

We find that the coefficient for the *GenderTarget* indicator is negative and highly statistically significant across the specifications of the model. The magnitude of the associated marginal effects is relatively stable across all specifications without controls, with the coefficients ranging between - 18 and -21%. These findings seem to suggest that being owned by a female entrepreneur reduces

the probability of getting a larger-than-the-median BA investment by around 20%. Our findings are consistent with the empirical research, which shows that female-led companies have a lower chance of obtaining external finance than male-led ventures (Guzman et al., 2019). Lastly, in the most extensive specification - column (5) - we also include our set of control variables. Specifically, we include the log of total assets to control for size and the log of firm age to control for the tenure of the venture. The sample size decreases by roughly two thirds, as these indicators are not available for all companies. Turning to the variables of interest, while the marginal effects are still negative, they are no more statistically significant due to the reduced sample size. Overall, these results corroborate the view that a gender bias may affect BA investments, and that this bias conducts to lower invested amounts towards female-owned companies. This result is consistent with previous findings suggesting that women business founders achieve to raise lower levels of financial capital compared to their male counterparts in their early business growth phase (Alsos et al., 2016).

[INSERT TABLE 1 HERE]

4.2 Gender bias on BA investors

As next step, we look at the investor side of the story. Specifically, Table 2 reports the coefficient estimates (Panel A) and the associated marginal effects (Panel B) of Equation (2). We replicate the same extensions to the baseline model in the context of this estimation. We find that the coefficient of *GenderBA* is not statistically significant throughout all the specifications of the models (columns (1)-(5)). These results may suggest that there are not systematic differences in the investment behaviors of Business Angel investors of different genders with respect to the size of their investments.

Read together with the previous ones, this finding tells us that, while on average femaleowned businesses raise smaller amounts of Business Angel investments than male-owned ones, male and female investors do not seem to have systematically different behaviors. Hence, this result potentially opens three possible interpretative scenarios. First, female entrepreneurs receive lower average funds, regardless of the gender of the investor. In this case, we could hypothesize that lower funds are due to lower demand for funds by the firms themselves and that, therefore, the bias lies in the demand – and not in the supply – side of investment. Second, female entrepreneurs receive lower average funds from female BA investors. In this case, we could conclude that there is an internalized gender bias, namely, that female investors have a form of 'prejudice' towards successful female entrepreneurs, as well as a subordination to the idea of the entrepreneur as a male category (Gupta et al., 2009), which manifested in smaller investments. Third, female entrepreneurs on average receive less funds from male BA investor only. In this latter case, we could conclude that either a real bias towards the other gender, or a form of 'cultural affinity' leading entrepreneurs to finance more similar companies emerges.

[INSERT TABLE 2 HERE]

4.3 Bias towards Female Entrepreneurs

As final step of the analysis, we look at all the combinations of genders between BA investors and target companies. In particular, we report in Table 3 the coefficients (Panel A) and the marginal effects (Panel B) estimated from Equation (3). We find that the coefficients associated to the interaction between male investors (*Male BA*) and female entrepreneurs (*Female Target*) is negative and statistically significant, throughout all the different specifications of the model. The magnitude of the associated marginal effects is very stable across all specifications (including the ones with controls), with the coefficients ranging between -21% and -22%. These results suggest that female-owned companies have a 20% lower probability of raising a larger-than-the-median BA investments from male investors compared to male-owned companies. Interestingly, a similar bias does not emerge when looking at investments completed by female BA investors towards male-owned entrepreneurs, thus suggesting that the gender bias does not seem to be generically linked to a different attitude towards the other gender, rather is limited to the case of male investors. Moreover, we also find no significant differences between male and female investors towards target companies owned by entrepreneurs of the same gender.

Overall, our findings corroborate the view that the amount of funds received by female entrepreneurs depends from the gender of the BA investor. More specifically, female-owned firms do not raise lower average funds from female BA investors, thus rejecting the 'prejudice' hypothesis among female investors and entrepreneurs. Rather, female entrepreneurs receive lower average funds only when the BA investor is a male, thus suggesting that male investors seem to act according to a 'taste discrimination⁴, based on the preferences of the Business Angels called to decide on the equity financing towards female entrepreneurs (Bellucci et al., 2010). Lastly, the 'cultural affinity' hypothesis does not seem to hold for both genders, given that it could be

⁴ Taste-based discrimination was defined by Becker (1957) as follows: an economic player who dislikes, or prefers not to be associated with, individuals of a given race, gender, ethnicity, religion, status, or some other personal characteristic. Statistical discrimination, on the other hand, was described by Arrow (1972) and Phelps (1972) as discriminatory behaviour that can be rational, rather than result from prejudice.

confirmed only for BA transactions between males, while female BA entrepreneurs do not seem to change their investment strategy (i.e. the amount of their investments) based on the gender of the entrepreneur of the target company.

[INSERT TABLE 3 HERE]

5. Mechanisms and channels

We now examine heterogenous effects based on several firm's characteristics to offer some insights into possible mechanisms that may drive BAs investors to behave differently from their female counterparts.

Smaller-than-the-median investments made by male Business Angels to female-owned enterprises could indicate that female borrowers are less entrepreneurially skilled, worth of investments or reliable, on average, than their male counterparts. At the same time, a similar result would be also consistent with investor's discrimination. Male BAs' discrimination could be imputable to radically distinct mechanisms attributable to their beliefs or preferences. In case of beliefs, discrimination would be due to insufficient information on the quality of female enterprises (statistical discrimination), while in the latter it would be due to the behavioral taste of the BAs investors called to finance the transaction (taste discrimination).

To investigate possible rationales that may drive male BAs to invest differently from their female counterparts, we generate several interaction terms to identify whether the lower average funds that female entrepreneurs receive from male BA investors are driven by the lack of sufficient information on the quality of female-owned enterprises. Specifically, we interact both the gender of the BAs investors and BA-backed entrepreneurs with a set of indicators able to capture different degrees of information about the invested firms that might be assessed by the BA investor at the time of the transaction. In particular, we explore five relevant channels: experience and turnover of the target company, syndication of the BA transaction with other financial operators, geographical proximity between investor and investee, and the response to an exogenous shock as the Covid-19 pandemic.⁵ Therefore, we augment Equation (3) with the triple interaction indicator, *Gender BA* × *GenderTarget* × *Channels*, as follows:

 $^{^{5}}$ While we conduct these estimations separately, we note that – in principle – these channels might not be mutually exclusive.

$\begin{aligned} \Pr(LargeBA)_{i,t} &= \alpha + \beta \; GenderBA_{i,t} \times GenderTarget_{i,t} \; + \delta \; GenderBA_{i,t} \times GenderTarget_{i,t} \times \\ Channels_{i,t} &+ \gamma \; Controls_{i,t} + \phi_t + \phi_c + \phi_s + \epsilon_{i,t} \end{aligned}$

where *Channels*_{*i*,*t*} represents, alternatively, the five indicators underlying the channels, i.e. Experience, Turnover, Syndication, Geographical proximity, and Covid-19 pandemic shock. The estimated coefficient β should be interpreted as per Equation (3), while the coefficient δ of the triple interaction term reflects, alternatively, the effects for (i) more established and (ii) active-in-sales BA-backed companies, (iii) that operate in syndication with other investors (iv) or geographically farther to the target company, (v) during the Covid-19 pandemic. Results of these analyses are reported in Table (4).

5.1 Experience of the target company

First, to identify whether the lower average funds invested by male BAs are driven by scarce information on female enterprises, we interact the gender indicators - of both investors and target firms - with the experience of the target company. We proxy the experience with an indicator, Age, built as the difference between the year of the BA transaction and the foundation year of the company. Specifically, following Equation (4), we build four combinations, one for each gender pairing between BA investors and invested entrepreneurs with their age, i.e.: Male (Female) $BA \times Male$ (Female) Target \times Age. By conditioning the effect of the investors' behaviors of gender pairing on the age of the firm, we can assess the importance of men's (women) attitude in shaping equity investments. New entrepreneurial activities become more established over the course of the time as more public and private information about them is obtainable through several quantitative and qualitative sources (e.g., financial information, investors, rounds of financing, managers, officers, employees, products, intangibles, ratings, news, websites), and the uncertainty about their creditworthiness and riskiness should decrease. If the insufficient information on female enterprises is the motivation to invest lower average funds by male BAs, we should observe that for the older and more 'established' entrepreneurs the impact of the gender of the investor is attenuated. As a result, the importance of the experience of the company should be emphasized for financed entrepreneurs who are relatively new and 'unestablished', and diminished or less relevant for the more 'established' BAbacked companies. When looking at the gender pairing of investors and investees, we can test if a specific level of information about both male and female entrepreneurs drives male investor's behaviors or if it is driven by other factors.

Results of this analysis are reported in Column (1) of Table 4. We find that the coefficient of Age (Panel A) estimated from Equation (4) is not statistically different from zero. Hence, while an increase of the level of experience of firms (derived from the age) reduces the information bias on average, we do not find any statistically significant differences between male and female entrepreneurs. However, we also notice that the coefficients associated to the triple interaction between male investors (*Male BA*) and female entrepreneurs (*Female Target*) with *Age* is negative and statistically significant for the category *Male BA* vs. *Female Target*. These results suggest that female-owned companies have a 19.8% lower probability of raising a larger-than-the-median BA investments when the financing is made by a male BA investor. Interestingly, a similar bias does not emerge when looking at investments completed by a male BA towards male-target companies, or when considering female BA investors towards male(female)- entrepreneurs. This result suggests that the gender bias, toward female target entrepreneurs, does not seem to be driven by insufficient information on the hand of the male investor, rather than by its financing behavior, thus providing further evidence on the taste nature of the bias.

5.2. Turnover of the target company

An additional way to identify whether the lower average funds invested by male BAs are driven by their beliefs on female's entrepreneurial skills and capabilities is to look at the abilities of firms to generate increasing turnover, *Sales*, by competitively producing and selling their goods and services on the market. Smaller-than-the-median investments completed by male Business Angels to female-owned businesses may imply that female owners are less entrepreneurially skilled than their male counterparts, making them less able to compete on markets and sell their products or services. If this is the motivation, we should observe an attenuated impact for both male and female entrepreneurs with substantial levels of sales reported in their financial statements. To test whether the levels of revenues generated by the female enterprises is the motivation of investing lower average funds by male BAs, we build a triple interaction's variable between genders of both investors and target firms with the turnover of the latter. Specifically, we build four combinations, one for each gender pairing between BAs investors and invested entrepreneurs with their sale, as follow: *Male (Female) BA* × *Male (Female) Target* × *Sales.* Looking at the gender pairing between BA investors and BA-backed entrepreneurs, we test whether increasing level of sales of the target entrepreneurs are the drivers of male investors' behaviors or if it is driven by other factors.

Results of this analysis are reported in Column (2) of Table (4). We find that the coefficient of *Sales* (Panel A), estimated from Equation (4) is positive and statistically significant. This means that the probability of receiving a larger-than-the-median BA investment is higher for target firms

when their sales are substantial. However, the negative coefficient of the linear combination (Panel B) shows that, despite attenuated, the bias between male and female entrepreneurs persists. This result suggests that, on average, female-owned companies have a 4.6% lower probability of raising a larger-than-the-median BA investments when invested by male BAs. This result is consistent with previous studies indicating that women start their businesses with significantly lower levels of financial capital than men and that they continue to raise significantly lower amounts of incremental equity also in the following years, even for a variety of firm and owner characteristics including firm sales (e.g, Coleman & Robb, 2009, among others). Based on this exercise, investment bias does not emerge when looking at investments completed by male BAs towards male-owned companies or when considering female BA investors towards male(female)-owned entrepreneurs. These results suggest that the gender bias does not seem to be driven by the commercial activity generated by the target (female entrepreneur), rather than by the behaviors of male investors.

5.3 Syndication

Operating in syndication, membership or co-investment are schemes frequently used by venture investors to mitigate risks and monitoring more effectively investments (Aernoudt, 2005; Manigart et al., 2006, Bonini et al., 2016; Block et al., 2020). A syndicate is formed when numerous private equity investors, i.e.., venture capitalists, corporate venture capitalist or business angels, invest collaboratively in a pool of promising equity investments.

Syndication allows equity investors to spread their investment risks across a broader pool of promising companies rather than investing higher sums in a fewer number (Hochberg, Ljungqvist, & Lu, 2007; Gu & Lu, 2014; Keil, Maula, & Wilson, 2010). According to agency and moral hazard models (Holmstrom, 1979; Holmstrom and Tirole, 1997), for more informationally opaque firms - those with limited public information - adequate evaluations and monitoring activities by informed investors are required before less informed and knowledgeable investors become involved with the company.

Syndication investment amongst individual entrepreneurs is a strategy to decrease risk in this theoretical framework (Manigart et al., 2006).). Hence, we investigate whether BAs grant larger amounts of equity financing to target firms within a syndication agreement involving other financial operators. We expect a larger amount of BAs' equity investment toward entrepreneurs who invest in syndication due to the signaling effect of co-investment, which should minimize investment uncertainty and riskiness. Specifically, we build four combinations, one for each gender pairing between BA's investors and invested entrepreneurs with indicator signaling syndicate investment, as follow: *Male (Female)* $BA \times Male$ (*Female)* $Target \times Syndicates$. When both male and female entrepreneurs syndicate, there should be no gender bias in terms of BAs' investment behaviors.

Results of this analysis are reported in column (3) of Table (4). We find that the coefficient of *Syndication* (Panel A) is positive and statistically significant. This means that the probability of receiving larger amounts of equity investment is greater in case of syndicated transactions, independently by the gender of the invested firm. Despite a positive average effect, the negative coefficient of the linear combination indicates that for female entrepreneurs the probability of receiving larger-than-the-median amount managed by BA investors is lower of about 20% when syndicated, respect to their male counterparts. This result suggests the persistence of a gender gap between male and female entrepreneurs not driven by the information available to the investor. Hence, we cannot exclude that bias could be driven by factors ascribable to taste behaviors of male investors.

5.4. Geographical proximity between BA investors and BA-backed companies

An additional way to identify whether the lower average equity capital invested on female entrepreneurial activities by male BAs is primarily driven by information is to look at their geographical patterns. Although empirical evidence shows that the overall share of investment activity of Business Angels tends to be local (Sohl, 2003) - given that the proximity between BA investors and BA-backed companies might facilitate the acquisition of private information on the potential transaction and reduce the post-investment's monitoring costs due to agency risks (Mason, 2007; Mason and Harrison, 1995) - in some countries long-distance equity BAs investments are substantial (Cowling et al., 2021). Other than distance, the geographic closeness also incorporates several organizational, relational, social, and cultural dimensions (Boschma, 2005) that may facilitate the exchange and acquisition of information and, consequently, also equity transactions.

To test whether the geographical distance of the pattern of investments between investors and investees lower equity investments to female-owned enterprises made by male Business Angels, we build a triple interaction's variable between genders of both investors and target firms with the geographic location of the investor and investee. Specifically, we build an indicator, *Different Countries*, that takes the value of one when the BA investor and the BA-backed company are located in different countries. Looking at the gender pairing between BAs investors and target companies, we test whether absent or relaxed organizational, relational, social, and cultural ties act as drivers of investors' behaviors.

Results are shown in column (4) of Table (4). We find that the coefficient of *Different Countries* (Panel A) estimated from Equation (4) is negative and statistically significant. This means that, on average, the equity investment reduces for both male and female entrepreneurs when the BAs investors and the investees are in different countries. However, the negative coefficient of the linear combination (Panel B) shows that the probability of equity financing is lower for Female entrepreneurs (20.9%) when invested by a male BAs investor respect to their male counterparts. Results suggest a persisting gender bias not imputable to the geographical distance, rather than by the behaviors of male investors.

5.5 Decisions under the uncertainty of pandemic times

The availability of entrepreneurial sources of capital for start-ups and SMEs is harmed by the uncertainty caused by crises. The relational nature of equity investments could make entrepreneurial finance much more vulnerable to the Covid-19 issue. The onset of the Covid-19 pandemic in early 2020 caused an unprecedent contraction of economic activities and generated a severe recession with a broad reallocation of real and financial resources across sectors and firms (Barrero et al., 2020). The uncertainty generated by the trajectory of the pandemic and the substantial changes in the profitability and growth prospects of firms lead to a more cautious investment approach and a reduction in available capital for many sectors of the economy (Alfaro et al., 2020; Baker et al., 2020a, 2020b). At the same time, investment opportunities in several industries emerged by signaling the potential reallocation of resources within several financial markets (Hassan et al., 2020; Ramelli and Wagner, 2020, Bellucci et al., 2022). Other studies found that early-stage seed investments had dropped the most, implying that young start-ups have been the hardest hit by the crisis (Brown and Rocha, 2020).

In this context, we examine whether the uncertainty generated by the spread of the pandemic has affected the BA market by reducing equity investments to target firms. If the greater uncertainty is the motivation, we should observe a reduction in equity investments for both male and female entrepreneurs, potentially leading to the compensation of the bias from male BA to femaleowned target companies emerged so far. To test this, we generate a triple interaction variable between genders of both investors and entrepreneurs of the target firms, with the starting time of pandemic as a proxy for the greater uncertainty in the financial markets. Specifically, we build an indicator, *Pandemic*, which takes the value of one whether the BA transaction happened during the pandemic period, and 0 otherwise. Then, we obtain four combinations, one for each gender pairing between BA investors and invested entrepreneurs with the pandemic year, as follow: *Male (Female)* $BA \times Male$ (*Female) Target* × *Pandemic*. Looking at the gender pairing between BA investors and BAbacked entrepreneurs, we test whether increasing level of uncertainty due to pandemic makes male BA investors more prone to invest in female-owned target companies rather than male-owned ones. Results of this analysis are reported in column (5) of Table (4). We find that the coefficient of the triple interaction *Male BA* \times *Female Target* \times *Pandemic* - that accounts for the differential behavior of male investors towards female entrepreneurs in more uncertain times with respect to the pre-pandemic phase - is not significant. This finding suggests that the gender bias of male BAs towards female-owned target companies emerges irrespectively the level of perceived uncertainty in the market, thus further confirming the taste-discrimination hypothesis.

6. Conclusions

In this work, we have studied the importance of the gender of contracting parties involved in equity early-stage financing. Leveraging on a unique dataset that includes information on Business Angel investors, target companies and entrepreneur characteristics all over the world between 2018 and 2020, we have explored the relevance of possible gender gap by looking at both sides of the BA transaction.

Using a set of *Probit* estimations, we find that on average female entrepreneurs receive smaller investments than their male counterparts, while this difference is not significant when looking at the investors' side. Receiving a larger-than-the-average BA investment for female-owned companies is approximately 20% less likely than male-owned ones when financed by male Business Angels. Examining the supply side by determining whether female Business Angels invest similarly to their male counterparts, we find that male and female investors do not show systematically different behaviors. By analyzing all combinations of genders between BA investors and target companies, we find that female-owned companies have a 20% lower probability of raising a larger BA investment from male investors compared to their male counterparts. Such a bias does not emerge when looking at investments completed by female BA investors towards male-owned entrepreneurs, suggesting that the gender bias does not seem to be generically linked to a different attitude towards the other gender, rather is limited to male investors. Moreover, we find no significant differences in the investment attitude of male and female investors towards target companies owned by entrepreneurs of the same gender.

Overall, our findings corroborate the view that the amount of funds received by female entrepreneurs depends on the gender of the BA investor. More specifically, female-owned firms do not raise lower average funds from female BA investors, thus rejecting the 'prejudice' hypothesis among female investors and entrepreneurs. Conversely, female entrepreneurs receive lower funds only when the BA investor is a male, suggesting that male investors seem to act according to a 'taste discrimination' towards female entrepreneurs independently from information available to the BA investor. The 'cultural affinity' toward the same gender does not hold for both male and female BAs. To offer insights into some of the mechanisms possibly driving this result, we explore heterogenous effects underlying the average estimates. We show that the male bias towards female-owned firms does not seem to decline when uncertainty in the decision-making decreases, thus making us lean towards confirming the taste-based discrimination theory.

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Tables

| Panel A - Probit Estimation | | | | | | | |
|-----------------------------|----------------|--------------|---|--------------|---------|--|--|
| Dep. Variable | (1) | (2) | (3) | (4) | (5) | | |
| | Large $BA = 1$ | Large BA = 1 | robit Estimation 2) (3) (4) $BA = 1$ Large $BA = 1$ Large $BA = 1$ Large $Colspan=0.662^{***}$ 6^{***} -0.724^{***} -0.662^{***} -0.662^{***} 236) (0.233) (0.259) (0) 56 756 756 88 Yes Yes 100 Yes Yes 100 No Yes 100 No Yes | Large BA = 1 | | | |
| GenderTarget | -0.578*** | -0.716*** | -0.724*** | -0.662*** | -0.453 | | |
| | (0.215) | (0.236) | (0.233) | (0.259) | (0.446) | | |
| Observations | 756 | 756 | 756 | 756 | 254 | | |
| Country | No | Yes | Yes | Yes | Yes | | |
| Year | No | No | Yes | Yes | Yes | | |
| Sector | No | No | No | Yes | Yes | | |
| Controls | No | No | No | No | Yes | | |

| Table 1 - Gender a | inalysis o | on Target | Companies |
|--------------------|------------|-----------|-----------|
|--------------------|------------|-----------|-----------|

| Panel B - Marginal Effects | | | | | | | |
|----------------------------|--------------|--------------|--------------|--------------|--------------|--|--|
| Dep. Variable | (1) | (2) | (3) | (4) | (5) | | |
| | Large BA = 1 | | |
| GenderTarget | -0.191*** | -0.206*** | -0.207*** | -0.195*** | -0.100 | | |
| | (0.059) | (0.057) | (0.056) | (0.063) | (0.092) | | |
| Observations | 756 | 756 | 756 | 756 | 254 | | |
| Country | No | Yes | Yes | Yes | Yes | | |
| Year | No | No | Yes | Yes | Yes | | |
| Sector | No | No | No | Yes | Yes | | |
| Controls | No | No | No | No | Yes | | |

Notes: The table reports regression results of the *Probit* estimation of Equation (1) in Panel A and associated marginal effects in Panel B. The dependent variable is *LargeBA*, an indicator variable that takes the value of 1 if the firm receives a larger-than-the-median Business Angel investment and 0 otherwise. *GenderTarget* is an indicator variable that takes the value of 1 if the firm is owned by a female entrepreneur, and 0 otherwise. The vector *Controls* includes two indicators related to the size (Assets) and the experience (Age). To control for shocks common to all firms in different periods of the sample we add year fixed effects. To take account of differences in the BA markets, we also include a set of country and sector fixed effects, while we also introduce their product to control for specific characteristics of sectors across countries. The table reports coefficient estimates (resp. marginal effects) followed by robust standard errors, clustered at the deal level, in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

| Panel A - Probit Estimation | | | | | | | |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--|--|
| Dep. Variable | (1) | (2) | (3) | (4) | (5) | | |
| | Large BA = 1 | | |
| GenderBA | -0.165 | -0.070 | -0.068 | -0.220 | -0.130 | | |
| | (0.210) | (0.237) | (0.238) | (0.259) | (0.461) | | |
| Observations | 756 | 756 | 756 | 756 | 254 | | |
| Country | No | Yes | Yes | Yes | Yes | | |
| Year | No | No | Yes | Yes | Yes | | |
| Sector | No | No | No | Yes | Yes | | |
| Controls | No | No | No | No | Yes | | |

Table 2 - Gender analysis on BA investors

| Panel B - Marginal Effects | | | | | | | |
|----------------------------|----------------|--------------|--------------|--------------|--------------|--|--|
| Dep. Variable | (1) | (2) | (3) | (4) | (5) | | |
| | Large $BA = 1$ | Large BA = 1 | | |
| GenderBA | -0.060 | -0.023 | -0.022 | -0.066 | -0.030 | | |
| | (0.074) | (0.076) | (0.076) | (0.076) | (0.105) | | |
| Observations | 756 | 756 | 756 | 756 | 254 | | |
| Country | No | Yes | Yes | Yes | Yes | | |
| Year | No | No | Yes | Yes | Yes | | |
| Sector | No | No | No | Yes | Yes | | |
| Controls | No | No | No | No | Yes | | |

Notes: The table reports regression results of the *Probit* estimation of Equation (1) in Panel A and associated marginal effects in Panel B. The dependent variable is *LargeBA*, an indicator variable that takes the value of 1 if the firm receives a larger-than-the-median Business Angel investment and 0 otherwise. *GenderBA* is an indicator variable that takes the value of 1 if the Business Angel is a female investor, and 0 otherwise. The vector *Controls* includes two indicators related to the size (Assets) and the experience (Age). To control for shocks common to all firms in different periods of the sample we add year fixed effects. To take account of differences in the BA markets, we also include a set of country and sector fixed effects, while we also introduce their product to control for specific characteristics of sectors across countries. The table reports coefficient estimates (resp. marginal effects) followed by robust standard errors, clustered at the deal level, in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

| Panel A - Probit Estimation | | | | | | | | |
|-----------------------------|--------------|------------------|--------------|--------------|--------------|--|--|--|
| Dep. Variable | (1) | (2) | (3) | (4) | (5) | | | |
| | Large BA = 1 | Large BA = 1 | Large BA = 1 | Large BA = 1 | Large BA = 1 | | | |
| MaleBA - FemaleTarget | -0.643** | -0.757*** | -0.773*** | -0.807** | -1.078** | | | |
| | (0.256) | (0.273) | (0.270) | (0.301) | (0.496) | | | |
| FemaleBA - MaleTarget | -0.094 | 0.101 | 0.103 | -0.241 | -0.422 | | | |
| | (0.245) | (0.265) | (0.270) | (0.286) | (0.512) | | | |
| FemaleBA - FemaleTarget | -0.431 | -0.615 | -0.608 | -0.350 | 0.530 | | | |
| | (0.388) | (0.450) | (0.444) | (0.501) | (0.696) | | | |
| Observations | 756 | 756 | 756 | 756 | 254 | | | |
| Country | No | Yes | Yes | Yes | Yes | | | |
| Year | No | No | Yes | Yes | Yes | | | |
| Sector | No | No | No | Yes | Yes | | | |
| Controls | No | No | No | No | Yes | | | |
| | | | | | | | | |
| | Par | nel B - Marginal | Effects | | | | | |
| Dep. Variable | (1) | (2) | (3) | (4) | (5) | | | |
| | Large BA = 1 | Large BA = 1 | Large BA = 1 | Large BA = 1 | Large BA = 1 | | | |
| MaleBA - FemaleTarget | -0.209*** | -0.215*** | -0.217*** | -0.220*** | -0.206*** | | | |
| | (0.066) | (0.063) | (0.062) | (0.067) | (0.073) | | | |
| FemaleBA - MaleTarget | -0.035 | 0.034 | 0.034 | -0.073 | -0.009 | | | |
| | (0.090) | (0.088) | (0.090) | (0.084) | (0.107) | | | |
| FemaleBA - FemaleTarget | -0.149 | -0.181 | -0.178 | -0.105 | 0.132 | | | |
| | (0.118) | (0.113) | (0.112) | (0.141) | (0.174) | | | |
| Observations | 756 | 756 | 756 | 756 | 254 | | | |
| Country | No | Yes | Yes | Yes | Yes | | | |
| Year | No | No | Yes | Yes | Yes | | | |
| Sector | No | No | No | Yes | Yes | | | |
| Controls | No | No | No | No | Yes | | | |

Table 3 - BA gender analysis

Notes: The table reports regression results of the *Probit* estimation of Equation (1) in Panel A and associated marginal effects in Panel B. The dependent variable is *LargeBA*, an indicator variable that takes the value of 1 if the firm receives a larger-than-the-median Business Angel investment and 0 otherwise. *GenderBA* × *GenderTarget* is the interaction between the indicators *GenderBa* (1 if the Business Angel is a female investor, and 0 otherwise) and *GenderTarget* (1 if the Target Company is owned by female entrepreneur, and 0 otherwise). The vector *Controls* includes two indicators related to the size (Assets) and the experience (Age). To control for shocks common to all firms in different periods of the sample we add year fixed effects. To take account of differences in the BA markets, we also include a set of country and sector fixed effects, while we also introduce their product to control for specific characteristics of sectors across countries. The table reports coefficient estimates (resp. marginal effects) followed by robust standard errors, clustered at the deal level, in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

| Panel A - Probit Estimation | | | | | | | | |
|-------------------------------------|----------------|----------------------|----------------|----------------|--------------|--|--|--|
| Dep. Variable | (1) | (2) | (3) | (4) | (5) | | | |
| | Large BA = 1 | Large $BA = 1$ | Large $BA = 1$ | Large $BA = 1$ | Large BA = 1 | | | |
| MaleBA - FemaleTarget | -1.307** | -1.169* | -0.677** | -0.828** | -0.959** | | | |
| | (0.600) | (0.716) | (0.310) | (0.358) | (0.418) | | | |
| FemaleBA - MaleTarget | -0.575 | 0.499 | -0.418 | -0.485 | -0.128 | | | |
| | (0.499) | (0.525) | (0.304) | (0.315) | (0.351) | | | |
| FemaleBA - FemaleTarget | -0,428 | -0.174 | -0.368 | -0.807 | -0.924 | | | |
| | (0.826) | (0.751) | (0.433) | (0.488) | (0.558) | | | |
| Age | 0.032 | | | | | | | |
| | (0.028) | | | | | | | |
| MaleBa – Female I arget x Age | 0.145 | | | | | | | |
| | (0.130) | | | | | | | |
| FemaleBa – Male I arget x Age | 0.134 | | | | | | | |
| | (0.151) | | | | | | | |
| FemaleBa – Female I arget x Age | 0.108 | | | | | | | |
| C - L - | (0.239) | 0.000 | | | | | | |
| Sales | | 0.000 | | | | | | |
| Malpa Fried Trinet Cala | | (0.000) | | | | | | |
| MaleBa – Female I arget × Sales | | 0.045** | | | | | | |
| Envil De Malt mater Cale | | (0.020) | | | | | | |
| 1 emaleba – Iviale i argei x Sales | | -0.001 | | | | | | |
| Founda Founda Tomaton Salas | | (0.000) | | | | | | |
| 1 emaleba – 1 emale 1 argei x Sales | | -0.001 | | | | | | |
| CI/C comdication | | (0.018) | 0 666*** | | | | | |
| CV C synautation | | | (0.178) | | | | | |
| MaleBa FemaleTarnet v CVC | | | 0.381 | | | | | |
| Numbu – 1 eman 1 urger X CV C | | | (0.712) | | | | | |
| FomaloBa MaloTarnot v CVC | | | (0.712) | | | | | |
| 1 timutebu – Iviate i urget X CV C | | | (0.950) | | | | | |
| FemaleBa – FemaleTaroet × CVC | | | 0.000 | | | | | |
| 1 cmakiba 1 cmaki 1 argor X CV C | | | (0.000) | | | | | |
| Different Countries | | | (0.000) | -0.317** | | | | |
| | | | | (0.130) | | | | |
| MaleBa – FemaleTarget × Dif Cou | | | | 0.136 | | | | |
| | | | | (0.578) | | | | |
| FemaleBa – MaleTarget × Dif Cou | | | | 0.969* | | | | |
| | | | | (0.552) | | | | |
| FemaleBa – FemaleTarget × Dif Cou | | | | 0.598 | | | | |
| 0) | | | | (0.813) | | | | |
| Pandemic | | | | | 0.014 | | | |
| | | | | | (0.118) | | | |
| MaleBa – FemaleTarget × Pandemic | | | | | 0.659 | | | |
| 0 | | | | | (0.555) | | | |
| FemaleBa – MaleTarget × Pandemic | | | | | 0.158 | | | |
| - | | | | | (0.537) | | | |
| FemaleBa – FemaleTarget × Pandemic | | | | | 0.850 | | | |
| | | | | | (0.902) | | | |
| Observations | 534 | 222 | 690 | 690 | 690 | | | |
| Country | Yes | Yes | Yes | Yes | Yes | | | |
| Year | Yes | Yes | Yes | Yes | Yes | | | |
| Sector | Yes | Yes | Yes | Yes | Yes | | | |
| Controls | Yes | Yes | Yes | Yes | Yes | | | |
| | | | | | | | | |
| |] | Panel B - Marginal I | Effects | | | | | |
| Dep. Variable | (1) | (2) | (3) | (4) | (5) | | | |
| | Large $BA = 1$ | Large $BA = 1$ | Large $BA = 1$ | Large $BA = 1$ | Large BA = 1 | | | |
| MaleBA - FemaleTarget | -0.198*** | -0.123* | -0.201*** | -0.209*** | -0.299 | | | |
| | (0.061) | (0.076) | (0.065) | (0.066) | (0.372) | | | |
| FemaleBA - MaleTarget | -0.034 | 0,115 | -0.077 | -0.035 | -0.030 | | | |
| | (0.083) | (0.141) | (0.074) | (0.090) | (0.410) | | | |
| FemaleBA - FemaleTarget | -0.018 | -0.166 | 0.000 | -0.149 | -0.073 | | | |
| | (0.134) | (0.126) | (0.000) | (0.118) | (0.705) | | | |
| Observations | 534 | 222 | 690 | 690 | 690 | | | |

Table 4 – Mechanisms and Channels

Notes: The table reports regression results of the Probit estimation of Equation (1) in Panel A and associated marginal effects in Panel B. The dependent variable is LargeBA, an indicator variable that takes the value of 1 if the firm receives a larger-than-the-median Business Angel investment and 0 otherwise. GenderBA x GenderTarget is the interaction between the indicators GenderBa (1 if the Business Angel is a female investor, and 0 otherwise) and GenderTarget (1 if the

Yes

Country

Year

Sector

Controls

Target Company is owned by female entrepreneur, and 0 otherwise). The vector *Controls* includes two indicators related to the size (Assets) and the experience (Age). Age is excluded from the estimations of Column (1) to avoid collinearity of terms. To control for shocks common to all firms in different periods of the sample we add year fixed effects. To take account of differences in the BA markets, we also include a set of country and sector fixed effects, while we also introduce their product to control for specific characteristics of sectors across countries. Year fixed effects are excluded from the estimations of Column (5) to avoid collinearity of terms. *Sales* is a continuous indicator accounting for the log of target company turnover. *CVC Syndication* is a dummy variable which is equal to one if the Country of the investor and target company is different, and 0 otherwise. *Pandemic* is a dummy variable which is equal to one if the country of the investor and target company is different, and 0 otherwise. *Pandemic* is a dummy variable which is equal to one if the country of the investor and target company is different, and 0 otherwise. *Pandemic* is a dummy variable which is equal to one for all deals concluded in 2020, and 0 otherwise. The table reports coefficient estimates (resp. marginal effects) followed by robust standard errors, clustered at the deal level, in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Appendix

Table A.1 – Descriptive statistics

| Indicator | Obs | Mean | Median | Std Dev | Min | Max |
|-----------------------------|-----|-------|--------|---------|-------|--------|
| BA investments volumes (ln) | 756 | 7.33 | 7.237 | 1.464 | 0.525 | 12.952 |
| LargeBA | 756 | 0.366 | 0 | 0.482 | 0 | 1 |
| GenderBA | 756 | 0.056 | 0 | 0.229 | 0 | 1 |
| GenderTarget | 756 | 0.063 | 0 | 0.244 | 0 | 1 |
| GenderBA x GenderTarget | 756 | 0.175 | 0 | 0.570 | 0 | 3 |
| Assets (ln) | 327 | 6.49 | 6.69 | 1.746 | 0.014 | 11.059 |
| Age (ln) | 572 | 1.323 | 1.386 | 0.590 | 0 | 3.219 |
| Sales (ln) | 258 | 5.610 | 5.716 | 1.906 | 0 | 12.791 |