Does Corporate Political Activity (Really) Reduce Borrower Discouragement?

The Paradox of Women-Led Firms

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Abstract

This study examines the relationships among corporate political activity, gender, and borrower discouragement in credit markets, focusing on women-led firms worldwide. Data from 22,822 firms across 50 countries challenges the conventional belief that political activities invariably facilitate credit access. We show that women-led firms with political activities exhibit a higher rate of discouragement. We demonstrate that this outcome is not attributable to improved access to alternative financing but rather to the perception that obtaining credit is more challenging due to discrimination against women in the credit market, a result of the "know-how" gained through political activities. Our results remain robust across various robustness checks, including IV regression and matching analysis.

JEL Codes: G21, J71, K38.

Keywords: banking, gender, political connection, borrower discouragement.

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1. Introduction

The struggle for equal credit access casts a long shadow on women-led firms, marking a concern extensively documented in research. Studies, including that of Aterido et al. (2013), highlight systemic barriers that disproportionately affect female entrepreneurs. These challenges are compounded by factors such as societal biases and restrictive cultural norms. Alesina et al. (2013) identify the gender gap as a significant contributor in credit access. The ramifications of these obstacles extend beyond financial limitations and represent a significant encumbrance to the potential for growth and innovation in industries in which women-led enterprises can make substantial contributions. Furthermore, Muravyev et al. (2009) emphasize the far-reaching economic impact of this issue, highlighting how the underrepresentation of women in the credit market not only limits women-led firms' access to economic opportunities but also curtails overall economic growth and diversification, underscoring the urgent need for targeted interventions to bridge this gap.

This discrepancy can be dissected from two distinct vantage points: the demand side, which focuses on the behaviors and policies of banks and financial institutions, and the supply side, which considers the attitudes of entrepreneurs towards banks. On the demand side, empirical evidence suggests a potential bias in the banking sector against female entrepreneurs. For instance, a seminal study by Alesina et al. (2013) demonstrates how institutional prejudices and stereotypes influence lending decisions, highlighting the challenges faced by women due to higher perceived risks by financial institutions, which may not be grounded in factual risk assessment and may be tainted by gender-based biases.

Conversely, the supply side sheds light on entrepreneurs' behavior, particularly the tendency of women-led firms to be more discouraged than their male counterparts when seeking financial support (Presbitero et al. 2014). This represents one of the key challenges for firms today and is unjustifiable, as more than 40% of discouraged borrowers should be able to obtain a loan (Ferrando and Mulier 2022). This phenomenon stems from a fear of rejection by financial institutions, which is often influenced by perceived or real gender biases in the lending process. Women are more likely to be discouraged due to the unique challenges they face in the credit market, including gender stereotypes and discriminatory lending practices, which may deter them from applying for loans (Coleman and Robb 2009). Moreover, studies have shown that female entrepreneurs are more risk-averse than their male counterparts and may anticipate higher rejection rates, leading to self-censorship when seeking financial support (Muravyev et

al. 2009). These factors collectively contribute to a lower loan application rate and, consequently, reduced access to credit for women-led enterprises.

This prompts the consideration of potential moderating factors that can alleviate the discouragement faced by women-led firms when accessing credit. The role of political activities has emerged as a significant factor with the potential to mitigate these challenges (Qi and Nguyen 2021). The strategic use of such connections to access formal financial resources, including bank loans and equity markets, can be instrumental for female entrepreneurs. As established by Liu et al. (2013), political activities can offer significant advantages, not limited to financial access but encompassing preferential regulatory oversight and policy-making influences. This dynamic is crucial in the context of women-led firms, which face systemic barriers, institutional biases, and cultural norms that often discourage them from seeking financial support.

This study seeks to understand the link between borrower discouragement and corporate political activities (CPAs) through a gender lens. In particular, we seek to complement the results of Qi and Nguyen (2021) by demonstrating their dependence on the gender of the chief executive officer (CEO) and the environment in which the firm operates. In their study, Qi and Nguyen (2021) demonstrate that CPAs reduce the discouragement of individuals by providing them with access to privileged information about the credit application process, which is known as the "know-how" theory. Using a database of 22,822 firm-year observations across 50 countries worldwide, we show that CPAs only reduce discouragement for men. For women-led firms, the story is more complicated, as politically active women are more discouraged than others. This result is mainly true for small- and medium-sized firms (SMEs), The intuition of this result is while the "know-how" effect enables women to understand the credit application process, it also makes them more aware of the discrimination they will face when they apply for credit. Anticipating this discrimination, women tend to be more discouraged when they have CPA.

To demonstrate this mechanism, we perform a series of complementary analyses, showing that women-led firms with political connections do not turn to alternative financing sources but instead rely more heavily on internal resources, confirming that their CPAs do not give them better access to alternative funding, which could explain their banking discouragement. We also show that politically active women perceive access to credit as being more difficult for them, which explains their greater discouragement. Moreover, their discouragement is solely

based on rational reasons similar to the consequences of credit market discrimination against women, e.g., a perception that the interest rates offered are too high and that maturity is too low. Our results also depend on the environment in which women operate. In countries with robust antidiscrimination laws and more egalitarian social or cultural norms or where there is low perceived discrimination, CPAs tend to have a less discouraging effect on women. However, in environments where discrimination is institutionalized—either through weak legal frameworks or discriminatory social and cultural norms or where the number of discriminatory acts is important—women with CPA are more discouraged. These results confirm that women have a heightened perception of the discrimination they could face on the credit market due to CPAs and that this leads to an anticipation of rejection or too high an interest rate on their part, increasing their discouragement.

This study makes two pivotal contributions to the existing body of research on credit access, political activities, and gender disparities. First, this paper contributes to the literature on the influence of political activities, highlighting that their benefits are not uniformly distributed but rather significantly influenced by gender. By investigating the "know-how" argument to understand credit access disparities, we build on the study by Qi and Nguyen (2021), considering how the "know-how" mechanism is affected by gender and the environment in which the firm operates.

Second, this study's exploration of the socio-legal context as a moderator of the discouragement faced by women-led firms marks a significant stride in this field of finance. It emphasizes that the "know-how" acquired through political activities is not just about understanding the credit market's functional aspects but also involves a strategic navigation through the broader socio-legal environment. Specifically, this study demonstrates that in settings with subpar legal protections for women and high gender inequality, "know-how" arguments amplify the discouragement of women-led firms, accentuating the need for comprehensive reforms going beyond financial policies to encompass legal and cultural changes and foster gender parity in credit access.

The subsequent sections of this paper are organized as follows: Section 2 presents a literature review and background to the research question, and Section 3 discusses the variables and methodology used. Section 4 summarizes the results, and Section 5 presents analyses explaining the mechanism behind our results. Section 6 demonstrates the robustness of the results. Lastly, Section 7 includes a discussion and our conclusions.

2. Literature review

2.1. Corporate political activity and discouragement

Corporate political connections and activities are important throughout the world and have a significant impact from an economic point of view (Faccio 2006). Numerous studies have demonstrated the full range of benefits and costs inherent in these activities, including more attractive taxation (Adhikari et al. 2006), greater access to finance via state banks (Claessens et al. 2008), better rates (Li et al. 2008), and reduced banking discouragement (Qi and Nguyen 2021).

In examining CPAs and their impact, the existing literature has predominantly explored two key channels: "know-who" and "know-how" (Ang and Jia 2014). The "know-who" channel consists of networking with good people and having political influence over decisionmakers. For example, Khwaja and Mian (2005) reveal instances in which politically connected firms in Pakistan exert pressure on lenders, providing them with better access to credit. Duchin and Sosyura (2012) find that politically connected firms receive preferential regulatory treatment, but this results in underperformance compared to unconnected firms. For Boubakri et al. (2013), political activities enable firms to engage in more risk-taking activities since they are protected from bankruptcy.

The "know-how" channel of political activities refers to the deep, operational understanding that firms gain about the mechanics and nuances of the financial and regulatory landscape through their ties with government entities (Michelson 2006). This goes beyond networking and "know-who"; it is about having an insider's perspective on how policies are made, how decisions are influenced, and how the system operates. In the field of banking, firms with "know-how" learn how to navigate the complex application process to obtain a loan by gaining insider knowledge about the criteria used by banks to assess creditworthiness and manage financial documentation effectively. This understanding allows these firms to strategically position themselves in the credit market and obtain more credit (Ling et al. 2016) at a better interest rate and maturity (Li et al. 2008). It especially helps smaller firms, those with weaker credit ratings (Sufi 2009), and those in emerging countries (Fan et al. 2007). Moreover, this operational expertise reduces information asymmetry, enabling firms to better position themselves in the credit market. This anticipation of potential credit application facilitates their

ability to apply for credit, thereby reducing banking discouragement, i.e., the reluctance to apply for credit despite needing it (Qi and Nguyen 2021).

2.2. Gender discrimination in the credit market

Female entrepreneurs often encounter challenges accessing formal loans from banks to fund their businesses, and they typically hold less capital in the early stages of their ventures (Asiedu et al. 2013). Blanchard et al. (2008) show that female entrepreneurs face unique challenges in obtaining loans due to discrimination embedded in financial institutions, which hinders their access to capital and growth opportunities.

Becker's (1957) framework on taste-based and statistical discrimination provides a theoretical foundation for understanding how these biases are manifested. In the context of credit markets, taste-based discrimination occurs when lenders, driven by personal or societal biases, favor male borrowers over female borrowers, even when the latter have equivalent qualifications and performance metrics. This results in unequal treatment, including stricter loan conditions, higher interest rates, and outright rejection for female entrepreneurs. In contrast, statistical discrimination arises when lenders rely on generalized assumptions about women-led firms, such as perceptions of higher risk or lower profitability, to justify discriminatory practices. These biases are often institutionalized, shaping the lending policies and risk assessments of financial institutions (Alesina et al. 2013).

From an empirical perspective, Muravyev et al. (2009) strengthen this by providing evidence from a global dataset, showing that women-owned businesses face greater difficulty in securing loans than male-owned businesses and that the gap is particularly pronounced in countries with less developed financial markets. Presbitero et al. (2014) examine gender gaps in access to finance by analyzing how different definitions of female ownership and management impact the credit constraints of firms. Their study finds that when female ownership and management are defined more precisely, businesses with greater female involvement are more likely to experience credit rationing. Some studies also suggest that female entrepreneurs face discrimination from institutional frameworks, such as a lack of legal protection that prevents them from obtaining a loan (Demirgüç-Kunt et al. 2013). Agier and Szafarz (2013) show that rationing may not be total but is sometimes partial, as women obtain less financing compared to what they require than men.

Even when they do manage to obtain it, women's credit conditions are generally unfavorable. For example, Coleman (2000) finds that female business owners obtain loans at higher rates of interest than male owners. Alesina et al. (2013) highlight that this difference persists even after controlling for risk factors, such as the length of the borrower's credit history and the sector of operation. They show that even if female-owned businesses have a lower bankruptcy rate and slightly better credit histories than male-owned businesses, they still face a higher interest rate. Beck et al. (2018) complement this finding by showing that not only is the interest rate higher, but the maturity is lower. Bellucci et al. (2010) add that when female owners do not pay more than men, they have a higher probability (about 5.2%) of providing collateral.

Carter et al. (2007) contradicts this by highlighting similarities between men and women in loan application procedures and challenging the discrimination hypothesis. The authors show that although female entrepreneurs often perceive discrimination in lending practices, there is minimal systemic gender bias in terms of the loan assessment criteria.

This potential or perceived discrimination, whether in the environment in general or in credit conditions, may lead women not to apply for credit, anticipating potential rejection or unfavorable credit conditions (Naegels et al. 2021). This process is called discouragement. Borrower discouragement occurs when entrepreneurs with viable projects hesitate or decide against applying for loans due to the anticipation of rejection (Kon and Storey 2003). This phenomenon of self-censorship leads to underinvestment, skewing the perception of credit constraints in the market (Jappelli 1990). Freel et al. (2012) highlights that the prevalence of discouraged borrowers exceeds the number of applicants who receive outright loan rejections.

2.3. Female-owned firms' discouragement and political activities

In the context of access to credit, women face systemic barriers—whether legal or cultural—that result in a lower likelihood of obtaining credit or of obtaining it under unfavorable terms. Consequently, this leads to an increase in discouragement through anticipation (Naegels et al. 2021).

CPAs play an important role through the "know-how" mechanism, which suggests that they provide firms with a greater understanding of the financial and regulatory environment, enabling them to navigate complex loan procedures and strategically adapt to systemic constraints (Michelson 2006). Thus, CPAs have the potential to reduce discouragement (Qi and Nguyen 2021).

In theory, CPAs can help women reduce their discouragement and gain better access to credit. However, this perspective overlooks the broader context in which women operate. Unfortunately, as previously mentioned, women-led firms face systemic discrimination when navigating the credit market. Thus, for politically connected women-led firms, the "know-how" gained through CPAs amplifies their awareness of these systemic biases. Unlike their unconnected counterparts, these firms possess the tools to identify patterns of discrimination, such as the preference for male-led firms and the reliance on flawed risk metrics, leading to a low probability of obtaining credit or unfavorable credit conditions. This heightened awareness leads to strategic reluctance, in which female entrepreneurs opt not to apply for credit, not due to a lack of capability but as a rational response to anticipated rejection or unfavorable terms. This aligns with Becker's argument that discrimination imposes indirect costs on excluded groups, influencing their behavior and economic participation. The strategic reluctance of women with CPA can be attributed to their awareness of opportunity costs. Recognizing that the loan application process demands significant time and effort, these entrepreneurs may opt to direct their resources toward other activities rather than navigate a biased system. This choice reflects a deliberate trade-off; instead of risking rejection and its psychological toll, they may focus on alternative funding sources or internal financing, particularly in environments where systemic biases are more evident. This leads to the following hypothesis:

Hypothesis: Female-CEO firms with CPA tend to be more discouraged than those without these connections.

3. Data and methodology

3.1. Data

Our study employs firm-level data from Enterprise Surveys (ESs) conducted by the World Bank. This comprehensive dataset, spanning from 2010 to 2020 and covering 22,822 firm-year observations in 50 countries, provides insights into the business environment, as reported by owners and CEOs. ESs address a broad spectrum of topics, such as access to financing, corruption, and labor. Notably, we utilize this dataset to explore the steps involved in credit access, including firms that needed but refrained from seeking credit (i.e., discouraged firms) and those that applied but faced denial or rationing. The data, although cross-sectional in nature, incorporate a temporal dimension, offering a rich ground for analysis.

To gauge the legal environment's impact on women's economic participation, we turn to the Women, Business and the Law (*WBL*) Index provided by the World Bank. This resource provides an annual snapshot of laws and regulations affecting women's economic opportunities across 190 countries, spanning from 1970. It evaluates various life stages of a woman's career, from commencement to retirement, using indicators such as mobility, workplace rights, and access to assets.

Moreover, we rely on the Gender Inequality Index (*GII*) developed by the United Nations Development Programme to assess the prevalence of adverse cultural environments. This tool is based on three critical dimensions: reproductive health, empowerment, and economic status. Specifically, the *GII* evaluates metrics such as maternal mortality ratios and adolescent birth rates to understand reproductive health. It measures empowerment through the proportion of parliamentary seats occupied by women and attainment of secondary and higher education by gender. It gauges women's participation in the workforce as an indicator of economic status.

To capture the cultural dimension related to women, we recalculate the *Gender Cultural Norms Index* described by Burns et al. (2022) based on the World Values Survey. This survey includes numerous questions on the values of respondents around the world. The higher the index, the more cultural norms favor women.

3.2. Econometric specifications

We employ a probit model to test our hypotheses. Our first hypothesis focuses on the effect of CPA on female-led firms' discouragement. The associated equation is as follows:

$$Discouraged_{i,t} = \alpha + \beta * (CEO\ Female_{i,t} * CPA_{i,t}) + Controls_{i,j,t} + \epsilon_{i,j,t}$$

where subscript *i* refers to the firm, *j* to the country where the firm operates, and *t* to year; ϵ is an idiosyncratic error term. We mitigate potential omitted variable biases by including sector, year, and country dummies in our probit model, which is in line with established econometric practices. This controls for unobserved sectorial heterogeneity, captures temporal trends, and accounts for between country differences (Wooldridge 2010).

3.3. Variables

3.3.1. Dependent variable

To construct the *Discouraged* variable, we rely on question K.16, which inquires whether the firm applied for credit in the previous fiscal year, as sourced from the World Bank's ES data.

We logically consider the firms that answer "No" to this question, but this is not sufficient. Discouragement arises when a firm refrains from seeking credit, despite a genuine need for it. To capture this phenomenon comprehensively, we incorporate question K.17 into our analysis (see Appendix B). To define a discouraged borrower, we draw from the criteria provided by Chakravarty and Xiang (2013) and Qi and Nguyen (2021). A firm is considered discouraged if it required credit but opted not to apply for various reasons, including (1) perceiving the application procedures as excessively complex, (2) encountering unfavorable interest rates, (3) facing high collateral requirements, (4) deeming the loan size and maturity inadequate (indicating anticipated rationing), or (5) holding the belief that their application would likely be denied. Businesses that responded with "no need" or "don't know" are not classified as discouraged and are therefore excluded from the primary dataset. Consequently, the *Discouraged* variable is assigned a value of 1 when the firm abstains from applying for a loan for reasons other than those mentioned above, and 0 otherwise (Chakravarty and Xiang 2013). A full description of all variables is provided in Appendix A.[1]

Table 1 displays some descriptive statistics about our sample. Of our sample, 38.2% is considered discouraged, which is consistent with existing studies from across the world on this subject (Bertrand and Perrin 2022; Qi and Nguyen 2021).

{Insert Table 1 here}

3.3.2. Corporate political activities and female CEOs

To assess the CPA of a firm, we employ question J6a, which queries whether the establishment has secured or attempted to secure a government contract in the past year. Firms responding affirmatively to this question are identified as having government connections. This categorization is based on tangible and realized interactions with government entities, signifying that these firms engage in frequent interactions and maintain close relationships with government bodies. Moreover, their exposure to government procedures and involvement in

[1] More details about the questions used in the ES are provided in Appendix B.

the policymaking process further solidify their status as entities with substantial government connections. As explained by Qi and Nguyen (2021), this measure accounts for the often-unobservable indirect networks formed through family, relatives, and acquaintances, which constitute a significant portion of an SME's connections to the government. Table 1 shows that approximately 20% of our sample have a political connection.

To create the interaction term important to our study, we also create a dummy variable, *CEO Female*, which is equal to 1 when the CEO is a woman.

3.3.3. Control variables

In agreement with prior research, we incorporate several control variables into our analysis. CEO experience (*Manager Experience*) is included, given that firms led by more experienced CEOs are more likely to obtain loans. To account for firm-specific factors related to risk and creditworthiness, we introduce a set of variables. The logarithmic values of firm size and age (*Log(Size)* and *Log(Age)*, respectively), as reported by Cole and Sokolyk (2016), are included because they are associated with the likelihood of obtaining credit and, consequently, discouragement. Additionally, we consider variables such as ownership structure (*Sole Ownership*) and legal status (*Limited Corp*), which is in line with the research by Asiedu et al. (2013). Some studies on women's behavior have shown that marital status and the number of children they have affects their financial decisions (Lyons and Fisher 2006; Teachman and Paasch 1994; Zagorsky 2005). Unfortunately, the database contains no personal information about CEOs, other than gender. In an attempt to capture this parameter, we supplement our control variables with the average household divorce rate (*Divorce Rate*) in the country and the average *Number of Children* in the country.

To control for the impact of perceptions on the decision to develop CPAs and access to credit, we incorporate two dummy variables that indicate whether a firm perceives political stability or corruption as the main obstacle in their business (*Politic Main Obstacle* and *Corruption Main Obstacle*, respectively). Furthermore, we introduce the variable *F.S. Certified*, a dummy variable that takes the value of 1 when the firm has a certified financial statement. Certified financial statements represent a form of hard information that has significance in bank–borrower relationships, as noted by Berger and Udell (2006).

The variable *Saving Account* serves as a proxy for the firm's familiarity with formal financial services and is in line with the approach of Presbitero et al. (2014). To account for firm

internationalization, we include dummy variables for *Export*, which identifies firms engaged in direct and indirect exports, and *Foreign Ownership*, indicating whether the owner is located abroad. Additionally, the percentage of research and development investment (*R&D*) is included as an indicator of riskiness.

Three macroeconomic variables, the rate of inflation (*Inflation*), *Legal Efficiency,* capturing the strength of the legal rights in the country, and the ratio of domestic banking credit to gross domestic product (*Financial Development*), are considered. These variables mitigate potential omitted variable bias related to the local economic environment, as they influence both the availability of credit and the legislative landscape governing credit access (Asiedu et al. 2013). A full description of all variables is provided in Appendix A.

4. Political connection, women, and discouragement

4.1. Main results

Table 2 displays the results of our empirical investigation of the relationships among CPA, gender, and borrower discouragement. We first present our results with *Sector*, *Year*, and *Country* dummies in column (1). We perform the same estimation by adding country-level clusters in column (2). Finally, we add dummies *Country* × *Year* and *Sector* × *Year* in columns (3) and (4), respectively, to further control for potential omitted variable bias.

{Insert Table 2 here}

Interestingly, we find a significant positive relationship between *CEO Female* × *CPA* and *Discouraged* in all four columns. This suggests that women-led firms with CPA are more likely to experience discouragement when seeking credit than those without such connections or compared to their male counterparts, which is in line with our hypothesis. Although CPAs are generally perceived as beneficial for access to credit (Qi and Nguyen 2021), as they offer insights and strategic advantages for navigating the business landscape, our findings suggest that they can also increase discouragement for women. Our hypothesis is that, in the specific case of women, CPA results in a heightened awareness of the systemic biases and operational intricacies within the credit market for women-led firms. Consequently, this informed perspective can result in a more cautious approach to seeking financial support, reflecting a nuanced understanding that although CPA provides access and information, they also expose the hurdles embedded in the financial system, particularly for female entrepreneurs.

Our control variables align with the existing literature. Firms characterized by higher informational opacity—those that are smaller, have sole ownership, lack certified financial statements, or are structured as limited corporations—demonstrate a heightened propensity for discouragement (Chakravarty and Xiang 2013). This trend reflects their anticipation of encountering financial impediments, which subsequently increases the likelihood of self-restraint in seeking credit. Furthermore, we observe that firms helmed by less-seasoned owners exhibit a higher degree of credit reticence, possibly stemming from a deficiency in self-assurance (Coleman and Robb 2009). In contrast to our expectations, engagement in research and development inversely affects the likelihood of discouragement. Although high R&D typically correlates with increased opacity and risk, factors that conventionally dampen credit-seeking behaviors, R&D-intensive firms demonstrate an amplified necessity for external financing, potentially offsetting the discouraging effects of risk and opacity. Additionally, the presence of trade credit seems to bolster discouragement among firms, suggesting that access to alternate financing routes reduces the propensity to seek conventional loans (Petersen and Rajan 1994). By examining the factors influencing the probability of obtaining credit, our findings underscore the significance of firm size, CEO experience, and transparency (evidenced by *F.S. Certified* financial statements) in the decision-making process of lending institutions (Berger and Udell 2006).

Turning to our country level variables, the *Divorce Rate* variable is positive and significant. A higher divorce rate means more separated couples and more single people, potentially with children, resulting in an unclear financial situation, which can be frightening and therefore increase discouragement. In contrast, the *Number of Children* variable is negative and significant, which can be explained by the fact that a more children can lead to a greater need for funding. The positive and statistically significant coefficient of the *Inflation* variable suggests that higher inflation leads to greater discouragement among firms seeking credit. This relationship is consistent with the economic theory that higher inflation can introduce uncertainty and reduce the real value of collateral, making borrowing more expensive or less attractive for firms. Finally, the positive coefficient of the *Financial Development* variable in most model specifications align with the notion that although financial development can increase access to credit, it may also raise the standards and requirements for borrowing, potentially increasing discouragement among firms that perceive these requirements as too stringent or beyond their current capabilities.

4.2. Further analysis

4.2.1. Impact of the Firm Size

The impact of the CEO may vary between small and large firms. As highlighted by Quigley et al. (2022), the CEO effect is particularly noteworthy due to the distinct differences in the organizational structures and dynamics of small and large businesses. A critical distinction between these two types of business lies in the level of monitoring and oversight they experience. Smaller businesses, with greater flexibility, may be more susceptible to the influence of the CEO, especially compared to larger companies constrained by large corporate boards. Therefore, the personal traits and demographic characteristics of the CEO, such as gender, may have a more significant effect on decision-making in smaller firms. Thus, we explore how CPA shapes discouragement among female borrowers across firms of different sizes.

We conduct a refined analysis by stratifying the sample based on firm size. Although international consensus on firm size classification is lacking, the ES categorizes firms into three groups: small (fewer than 5 employees), medium-sized (5–99 employees), and large (more than 100 employees).

{Insert Table 3 here}

The results of our estimations are presented in Table 3, specifically in columns (1)–(3). We observe a positive and significant effect of *CEO Female* × *CPA* on *Discouraged*, particularly for small- and medium-sized firms, whereas the coefficient for large firms is insignificant. This suggests that smaller firms led by women are more likely to experience discouragement if they engage in CPA. This effect, however, is not observable in larger firms, providing additional evidence of the existence of the CEO effect.

4.2.2. Impact of the Perceived Obstacle

Consistent with the research conducted by Qi and Nguyen (2021), our study investigates the influence of women with CPA in the context of perceived corruption. The underlying rationale is twofold: individuals who perceive corruption as a prevalent issue may either be tempted to leverage this corruption by developing relationships with the government to their advantage, or they may endeavor to combat corruption by adopting CPA and using the private information they obtain.

In contrast to Qi and Nguyen (2021), who primarily consider the perception of general corruption at the country level, we focus on individual perceptions of corruption as a substantial obstacle to business development. Although country-level corruption reflects general trends and institutional corruption, it overlooks how business owners experience and internalize corruption in their environment, given their individual strategies. Individual perceptions reflect the unique ways in which business owners, particularly women, interact with corrupt practices in their daily operations. To achieve this, we rely on question M1.A from the ES, which inquires, "Can you tell me which of the elements of the business environment included in the list, if any, currently represents the biggest obstacle faced by this establishment?" Specifically, we focus on respondents who designated "4. Corruption" as their foremost obstacle.

Additionally, we examine a second category of individuals—those who identified political instability as the primary obstacle. Drawing from the findings of Ashraf and Shen (2019), who demonstrate that political instability elevates the cost of credit and thereby diminishes access to it, businesses may be inclined to mitigate the impact of political instability by adopting CPA.

{Insert Table 3 here}

We present the results for all other categories of respondents to provide a basis for comparison. Columns (4)–(6) in Table 3 present the outcomes for individuals who indicated "Corruption", "Political Instability", or "Other" as their main obstacle. Notably, although the *CEO Female* × *CPA* interaction consistently yields positive results for the "Other" category, it does not attain statistical significance for the "Corruption" or "Political Instability" categories. One potential explanation for this observation is that CEOs in these categories may view CPA as a means of reducing corruption or political instability, resulting in less discouragement.

4.2.3. Impact of the Income Level

One might also wonder whether our results vary depending on the income level of the country in which the firm is located. Indeed, a country's income level may be linked to its judicial procedures or its level of discrimination. To test this, we run our main analysis by dividing our sample by the country's income level (Low, Medium, or High).

{Insert Table 3 here}

Columns (7)–(9) in Table 3 present the results of these analyses. We observe that the interaction variable, *CEO Female × CPA,* is positive and significant across all income groups, indicating that our results hold true globally.

5. Understanding mechanisms

As shown previously, women involved in CPA are more likely to be discouraged, while men are less likely to be discouraged. We presume that women, via their CPA, perceive the potential discrimination against them in the credit market and are, therefore, more discouraged. Although it is not possible to test this mechanism directly, as we have no variable to measure the perception of discrimination, the aim of this section is to use different analyses to test the robustness of this presumption.

5.1. Debt structure for women with CPA

First, a potential alternative explanation is that women with CPA are more discouraged because their political connections provide access to more significant alternative financing through their networks. To investigate this, we analyzed the debt structure of firms led by women with CPA compared to those led by others, both men and women without CPAs. Table 4 presents a mean comparison test of the debt structure for companies run by women with CPA versus those without.

{Insert Table 4 here}

Firms led by women with CPA have significantly less debt than others, which aligns with our earlier findings. However, this reduction in bank debt is not offset by external alternative financing sources. Instead, it is compensated for by an increase in internal financing. This suggests that these companies do not have access to alternative external financing and instead rely more heavily on internal funds, which supports our initial hypothesis: Women with CPA are discouraged from applying for funding because they believe they will not receive it, rather than because they have alternative financing options.

5.2. Mediating the effect of perception

The World Bank ES questionnaire includes a question on the perception of the level of obstacle that access to credit represents for the business. Although it does not directly measure the difficulty of accessing credit, this question gives us an initial idea of the difficulty perceived by

the CEO in accessing credit. Thus, this variable provides us with an indirect measure of the relationship between CPA and discouragement. We estimate the extent to which this perception mediates the effect of CPA through the use of structural equation modeling (SEM) and the computation of the associated mediating effects. Mediation analysis "considers an intermediate variable, called the mediator, that helps explain how or why an independent variable influences an outcome […] It is often of great interest to identify and study the mechanisms by which an intervention achieves its effect" (Gunzler et al. 2013, p 390).

{Insert Table 5 here}

Table 5 presents the results of the SEM analysis, distinguishing between the total effect, broken down into a direct effect of *CEO Female* × *CPA* on discouragement, and an indirect effect, based on the perception of the obstacle. The indirect effect is positive and significant, representing 33.3% of the total effect. This confirms that a woman with CPA perceives access to credit as a greater obstacle and is ultimately more discouraged, which is in line with our initial hypothesis.

5.3. Rational vs. emotional discouragement

Discouragement can be split into two categories: rational discouragement, in which the individual does not apply for credit for factual reasons such as the complexity of the procedures or the unfavorable expected credit conditions (including a too high interest rate and short maturity); and emotional discouragement, in which the decision is based on a fear of rejection and, therefore, psychological anticipation (Bertrand and Perrin 2022). If our hypothesis is true, women should acquire a better perception of the discrimination they face on the credit market through their CPA. As explained previously, these discriminations are mainly based on higher interest rates, shorter maturities, and higher collateral requirements, among others. Therefore, we should observe that the main reasons for discouragement for these women are related rational discouragement and not psychological anticipation, i.e., emotional discouragement.

To test this, we focus our analysis on the sub-sample of discouraged individuals. We create a new variable, *Rational*, which is equal to 1 if the reasons for discouragement are rational (such as disadvantageous procedure, too high interest rate too high, and guarantee required) and 0 if the reasons are emotional (fear of not obtaining credit), and use it as a new dependent variable in our estimations.

{Insert Table 6 here}

In Table 6, column (1) displays our results. First, we observe that the *CEO Female* variable is not significant, indicating that without CPA, women are discouraged to the same extent for both rational and emotional reasons. Considering the interaction term between *CPA* and *CEO Female*, the coefficient is positive and significant, indicating that a female CEO with CPA is more discouraged for rational rather than emotional reasons. Thus, the presence of CPA tends to change the type of discouragement. Discouragement becomes more linked to rational reasons, such as a procedure that is too complicated, interest rates that are too high, and too much demand for collateral. This result ties in with our initial hypothesis, stating that: due to CPA, women are more aware of potential discrimination in the credit market and tend to be more discouraged.

5.4. Exploring the environment

The environment in which the firm operates allows us to better understand the relationships among CPA, women, and discouragement. Indeed, if our hypothesis is correct, women should be even more impacted, as the level of discrimination in the environment they operate in is important. To the best of our knowledge, there are no worldwide data on observable discrimination in the credit market, and there are many other indicators of existing discrimination.

{Insert Table 6 here}

First, in the legal environment, the *WBL index* provides insights into the legal rights afforded to women, which can influence their business activities and access to financial resources. For instance, Bertrand and Perrin (2022) demonstrate that women tend to be less discouraged in countries with a high WBL due to non-discrimination laws. In Table 6, columns (1) and (2) display the results of our main analysis for countries with a low or high WBL index, respectively. In countries with strong legal discrimination against women, the interaction variable *CEO Female* × *CPA (Governmental Contract)* is positive and significant, as in the main analysis. Interestingly, in countries with antidiscrimination laws, the interaction variable is negative and significant. Although women with CPA are more discouraged when the law is against them, they are less discouraged when there are antidiscrimination laws.

In the social environment, the *GII* offers a broader view of gender inequality, capturing disparities in areas such as health, empowerment, and labor market participation. Columns (3)

and (4) show that women with CPA are only more discouraged in countries with social inequalities; however, there is no impact of the CPA in countries that are more egalitarian.

{Insert Table 7 here}

When considering cultural norms, we divide our sample according to the *Gender Cultural Norms Index* by Burns et al. (2022). Although *WBL* captures legal differences in treatment and *GII* social differences, Burns' index focuses on differences in cultural values. Columns (1) and (2) in Table 7 display our results for environment with a low or high index (the higher the index, the more equal the environment). Women with CPA are only discouraged in an environment with a low index, i.e., an environment in which the cultural norms perceive women as less than men. We go further by determining which subcomponents impact the relationship[2], showing that that the interaction terms are only positive and significant in environments with low education, gender, work, trust, and religiosity values.

As explained previously, to the best of our knowledge, there is no global database on acts of discrimination against women in the credit market. However, there are existing data on other forms of observable discrimination, such as the gender wage gap and violence against women, from several international institutions. As a result, we rerun our analyses by dividing our sample according to the average level of the gender pay gap (columns (3) and (4) – data come from Statista) and the level of violence against women (columns (5) and (6) – data come from). In line with our previous results, women with a CPA are discouraged in environments where there is strong discrimination.

Taken together, these results indicate that the higher level of discouragement among women with a CPA is not due to greater financing alternatives but rather to an increased perception of the difficulty in obtaining credit. Furthermore, this discouragement is more rational than emotional, as women are discouraged for practical reasons—such as high interest rates and excessive collateral requirements—rather than for emotional factors, such as fear of rejection. These practical reasons align with the experiences of women who face discrimination in the credit market. Importantly, if this specific discrimination in the credit market is not measurable globally, this discouragement is observed only in environments characterized by high levels of general discrimination. Overall, these findings support our hypothesis that women with CPA are more discouraged because their political connections provide them with a clearer

[2] As there are 9 sub-components, the complete analysis has 18 columns. For the sake of brevity, we have not included all of the results here, but they are available on request.

perception of the discrimination they may encounter in the credit market, such as higher rates and partial rationing.

6. Robustness checks

6.1. Alternative CPA variable

In this section, we test alternative measures of CPA. More specifically, we follow Liedong et al. (2023) and Faccio (2006) and capture CPA via alternative variables from the survey. More specifically, we construct three new variables: *CPA (Time Spent)*, based on the question "Senior management's time spent on dealing with regulations", considering that the more time spent, the stronger the relationships; *CPA (Bribery)*, based on the question "In Any Of These Inspections Was A Gift/Informal Payment Requested?", measuring the involvement of money in the relationship; and *CPA (State Ownership)* based on the percentage of the firm owned by the government/state. All of these variables capture a facet of CPA between the firm and the government. We also create a composite variable, *CPA (Composite)*, from these three variables and our initial variable using a factor analysis. This analysis produced one factor with an eigenvalue of 2.16 and a Cronbach's alpha of 0.75. Individual factor loadings are shown in Appendix C.

{Insert Table 8 here}

Table 8 presents the results of these four alternative variables. In all cases, the interaction variable is always positive and significant, indicating that a female CEO with corporate political activity is always more discouraged.

6.2. Alternative discouragement definition

Kon and Storey (2003) offer a more rigorous definition of a discouraged borrower. According to their framework, only borrowers who are creditworthy and theoretically have the ability to secure loans but opt not to apply are categorized as discouraged. In contrast, a noncreditworthy entity that chooses not to seek credit acts sensibly and is not classified as discouraged.

In line with this perspective and drawing from the reasoning of Petersen and Rajan (1994), this section of our study centers on a subset of businesses that maintain existing credit lines with financial institutions. These firms have demonstrated their capacity to repay loans, implying their creditworthiness.

{Insert Table 9 here}

In Table 9, column (1) displays the result for businesses with a line of credit (12,901 firms). The interaction term is still positive and significant, thus confirming our main findings.

6.3. Truthful respondent

The ES includes a specific question regarding the accuracy of respondents' answers. Those responsible for administering the questionnaire are asked to rate the reliability of respondents as follows: "Not truthful", "Somewhat truthful", or "Truthful".

To maintain the quality of our analysis, we determine whether our results hold up by considering only those responses judged to be "Truthful" by the questionnaire administrator (13,141 individuals).

{Insert Table 9 here}

In Table 9, column (2) shows the results of these analyses and indicates a coefficient that is always positive and significant, in line with our main results.

6.4. Removing overrepresented countries

Some countries may be overrepresented in our sample, potentially introducing bias into our results. For instance, Egypt accounts for 1965 observations, representing 8.61% of the total sample (see Appendix D).

To verify the robustness of our findings, we conducted the main analysis while excluding countries with more than 1000 observations (we also include Ukraine, even though it has only 998 observations).

{Insert Table 9 here}

In Table 9, column (3) presents the results of this analysis. The findings indicate that the results remain consistent even after removing the overrepresented countries, thereby confirming the validity and robustness of our conclusions.

6.5. Self-selection bias

Discouragement in credit-seeking businesses arises from two sequential decisions: first, the fact that the firm requires credit, and second, the decision to ask for it or not. This sequence

introduces the potential for self-selection bias, which affects the reliability of our results. To address this potential bias, we employ the Heckman (1979) methodology, which consists of: 1. estimating the selection equation (in our case, the need for credit); 2. calculating the inverse Mills ratio (λ), which is the correction factor; and 3. adding the factor in our second equation (in our case, the discouragement equation).

We follow Léon (2015) and select specific exclusion variables that may influence a firm's need for credit (the first step) without directly impacting its likelihood of experiencing discouragement (the second step). The first variable reflects "the proportion of the value of sales paid after delivery by customers in the previous year is considered" (WK) and captures the need for funds for financing working capital. The second variable is a dummy variable equal to 1 when the firm has applied for a construction-related permit and 0 otherwise (*Construction*) and captures the willingness to invest.

{Insert Table 10 here}

In Table 10, columns (1) and (2) display the results for our selection equation (independent variable *Need*) and our second equation (independent variable *Discouragement*), respectively, with the Mills ratio. First, we observe that the Mills ratio variable is negative and significant, showing a potential self-selection issue in our analysis. Second, although we control for this potential self-selection bias, our result remains the same.

6.6. Instrumental Variable regression

Finally, as explained by Qi and Nguyen (2021), our analyses are subject to potential endogeneity problems. First, CEOs considering whether to apply for credit may decide to develop CPA to obtain inside information and thus be discouraged, resulting in a reverse causality problem. In addition, there may be omitted variables that simultaneously impact women's discouragement and their political connections (e.g., the voting of legislation involving women's access to credit).

To address this endogeneity, we follow Hung et al. (2018) and Faccio (2006) and use three instruments: (1) changes in government (*Government Change*) following elections in the country, as a change in government leads to a shock in existing connections and the need to develop new connections; (2) the perceived level of public corruption using the Corruption Perceptions Index (*CPI*), as bank corruption is a direct factor contributing to discouragement; political system corruption does not seem to directly influence the probability of a company

being discouraged. Instead, it likely affects a company's willingness to develop political relationships with the government; (3) the presence of a *Government Transparency Law*. These data were manually collected from government and international institution websites. Countries are coded with a value of 1 when they have a transparency law that explicitly includes provisions about the transparency of relationships between companies and the government. Such laws can significantly affect a company's likelihood of forming political relationships, knowing that these relationships will be public and subject to oversight.

{Insert Table 10 here}

In Table 10, columns (3) and (4) show the results of our first stage of instrumental variable (IV) using our three instruments and the second stage of IV using the instrumented CPA variable. First, as predicted by the literature, a change in government leads to a significant reduction in CPA, as firms must rebuild their political connections with the new administration. Similarly, the presence of a transparency law regarding political connections yields the same effect; companies tend to be more reluctant to establish political ties when they know that these relationships will be publicly disclosed. Conversely, a high perception of public sector corruption increases the likelihood of CPA. This can be attributed to the fact that in highly corrupt environments, political connections often serve as a means to secure greater benefits. Considering the quality of our instruments, our model does not suffer from problems of over-identification (J-test), and the instruments seem relevant (F-test).

In the second stage, the interaction of *CEO female* with the instrumented CPA shows a significant negative result, confirming our initial results. Furthermore, the non-significant exogeneity test confirms the usefulness of IV.

6.7. Matching

Certain firm characteristics, such as size, age, and the likelihood of having certified financial statements, differ depending on the gender of the CEO. Firms led by women with CPA may be smaller or younger, which could explain a greater sense of discouragement. In our main analysis, we control for these variables; however, we cannot control for all company characteristics. One potential solution to this problem is to apply propensity score matching (PSM) (Ioannidou and Ongena 2010).

{Insert Table 11 – Panel A here}

Following the methodology of Shipman et al. (2017), we match the set of observations—one firm led by a woman with CPA (1) and one led by a man or a woman without CPA (0)—based on all the characteristics of the firm and the country in which it is located. Then, the only difference remaining is the gender of the CEO. We then look at the impact of CPA between these pairs. We use the closest neighbor technique and impose a caliper distance equal to 0.10, to avoid "poor" matches. Table 11 Panel A shows the results of our PSM analysis. CPA has a positive impact, demonstrating that women-led firms are more discouraged than men-led firms when they have CPA.

{Insert Table 11 – Panel B here}

We apply the same technique to compare companies led by women with vs. without CPA. For the sake of consistency, we apply the same methodology as described above. Table 11 Panel B shows the results of this new PSM. The variable is still positive and significant, demonstrating that women with CPA are more discouraged than those without CPA.

7. Conclusion

In conclusion, our analysis of the relationships among gender, political activities, and borrower discouragement within the credit market has yielded insightful findings. Our research, grounded in a dataset of 22,822 firms across 50 countries, highlights that CPAs intensify discouragement among women-led firms in their credit application, in contrast to previous results.

Our hypothesis is that if political activities are often seen as tools for accessing resources and navigating markets, they play a dual role in women-led firms. Although these connections provide access to critical resources and strategic insights, they also expose female CEOs to the challenges of the credit market, where discrimination remains significant.

To demonstrate this, we first examine the debt structure of politically connected companies run by women. Our analysis shows that these businesses have less bank debt, not because they have privileged access to alternative financing but because they rely more heavily on internal resources. We further demonstrate that the increase in discouragement among women-led firms was partly driven by a higher perception of the difficulty of obtaining credit. This discouragement is primarily rational, stemming from anticipated barriers, such as high interest rates and excessive collateral requirements. Given the similarity between these barriers and the effects of discrimination in the credit market, we determine whether our findings are shaped by the extent of discrimination women face in their operating environments. Although the direct

measurement of credit market discrimination is not possible, we focus on broader indicators of legal, social, and cultural discrimination as well as significant markers, such as the gender pay gap and violence against women. Our results show that CPA only tends to increase discouragement among women in regions where discrimination levels are high. Taken together, these findings reinforce our argument that CPA increases discouragement by providing women with a clearer understanding of the potential discrimination they may encounter in the credit market.

The implications of our research are important for policymakers, shedding light on the broader economic and societal implications of gender disparities in access to credit. By revealing the effects of political activities and underscoring the importance of supportive legal and social frameworks, our study contributes to a more comprehensive understanding of the barriers to and facilitators of credit access for women-led firms. Although it is important for policymakers to facilitate the credit process, our study shows that this is not enough, as it enables women to understand the discrimination they face. Our study therefore demonstrates the need to evaluate the institutional and societal dimensions of gender inequality in access to credit.

The compelling insights from this study confirm the conclusions of Girardone et al. (2021), showing the importance of analyzing the gender of the CEO when carrying out analyses. Moreover, it paves the way for future research to delve into the nuanced dynamics of gender, political activities, and credit access. Evidence from this research highlights that female entrepreneurs are more discouraged in countries where legal and cultural norms tolerate or encourage discrimination. To address this, governments should take proactive steps to enforce and strengthen antidiscrimination laws in financial markets. This can be achieved by introducing and enforcing policies ensuring that female entrepreneurs have the same access to credit as their male counterparts. Specifically, countries could benefit from enacting more stringent regulations to monitor and penalize gender biases in lending practices. Financial institutions should be required to adopt gender-sensitive credit policies that consider women's specific financial needs and challenges. Additionally, regulators can create systems to independently monitor gender equality in lending, ensuring transparency in how credit decisions are made and holding financial institutions accountable when gender bias is detected.

Furthermore, although CPA can provide women with valuable information about the credit application process, our findings suggest that this knowledge may paradoxically increase emotional discouragement. Female entrepreneurs, who are aware of the discrimination

embedded in the financial system, may become hesitant to apply for credit despite understanding the process better. This psychological barrier requires targeted interventions that go beyond the credit application process. Policymakers can invest in programs that focus on empowering women by educating them about the technicalities of applying for credit and their legal rights and avenues for recourse when they face discrimination. By offering training that includes advocacy skills and knowledge of antidiscrimination laws, women would be better to challenge bias in financial institutions.

Additionally, addressing cultural biases that perpetuate discrimination is important for overcoming the emotional and rational discouragement that women face in the credit market. Our study emphasizes the importance of both legal frameworks and cultural shifts in achieving gender equity in entrepreneurship. Governments and non-governmental organizations should collaborate to challenge harmful cultural norms through public education campaigns that promote gender equality in business and finance. Such campaigns can deconstruct stereotypes about women's financial capabilities and their role in entrepreneurship, encouraging society and financial institutions to adopt more inclusive practices.

Finally, it is important that financial institutions embrace a more inclusive approach. This may involve creating specialized lending products for female entrepreneurs or providing financial products that recognize the unique challenges faced by women when seeking credit. Financial institutions should be encouraged to offer mentoring, networking opportunities, and resources tailored to women-led businesses, creating a more inclusive financial ecosystem.

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Table 1. Descriptive statistics

Descriptive statistics (mean, standard deviation, minimum, maximum, and median values) for all variables in our analyses. The last three columns present a mean test comparison of all variables in relation to whether the firm has applied for credit (Applicant) or not (Discouraged). The last column shows the difference between these two groups. *** p < 0.01, ** p < 0.05, * p < 0.1.

Variable	Mean	Std. Dev.	Min	Max	Median	Applicant	Discouraged	Difference
Dependent variables								
Discouraged	0.382	0.486	0	1	0			
Explanatory variables								
Corporate Political Activity variables								
CPA (Governmental Contract)	0.197	0.398	0	1	0	0.233	0.138	0.095***
CPA (Time spent)	13.299	19.981	0	100	5	14.767	10.920	3.846***
CPA (Bribery)	0.077	0.268	0	1	0	0.075	0.083	−0.009
CPA (State Ownership)	0.484	5.933	0	99	0	0.562	0.358	0.204*
CPA (Composite)	0.011	0.152	−0.083	1.891	−0.027	0.021	−0.006	0.027***
Control variables								
CEO Female	0.159	0.365	0	1	0	0.143	0.184	−0.041***
Manager Experience	21.05	11.67	1	70	20	22.154	19.260	2.894***
Log(Size)	3.505	1.417	0	11.067	3.258	3.771	3.072	0.699***
Log(Age)	2.927	0.905	0	7.616	2.944	3.010	2.793	0.217***
Sole Ownership	0.396	0.489	0	1	0	0.340	0.488	−0.148***
Limited Corp.	0.084	0.277	0	1	0	0.085	0.082	0.003
Foreign Ownership	0.075	0.263	0	1	0	0.089	0.052	0.037***
F.S. Certified	0.489	0.5	0	1	0	0.564	0.366	0.199***
R&D	0.212	0.409	0	1	0	0.275	0.111	0.164***
Saving Account	0.902	0.297	0	1	1	0.934	0.850	0.085***
Corruption Main Obstacle	0.061	0.239	0	1	0	0.055	0.070	−0.015***
Politic Main Obstacle	0.113	0.317	0	1	0	0.110	0.118	−0.007
Legal Efficiency	38.605	17.361	6.6	82.3	39	40.503	35.529	4.974***
Inflation	5.963	5.507	−0.72	45.943	4.545	5.861	6.128	−0.267***
Financial Development	49.036	26.530	12.690	146.224	42.415	48.531	49.854	−1.323***
Divorce Rate	1.681	0.381	0.200	3.900	1.711	1.667	1.701	0.034***
Number of Children	2.121	1.157	1.631	4.312	2.312	2.107	2.201	−0.094***
Number of observations	*22,822*							

Table 2. Main regressions

The main regression results using the probit model. The dependent variable is *Discouraged*. Column (1) shows our main regression analysis. In columns (2), (3), and (4), we test the sensitivity of our main regression by clustering standard errors at the country level (column (2)), adding country × year (column (3)) and sector × year dummies (column (4)). Definitions of variables are provided in Appendix A. P-values are reported in parentheses and are robust to heteroscedasticity. *** p < 0.01, ** p < 0.05, * p < 0.1.

	Without cluster	With cluster	With Country × Year Dummies	With Sector × Year Dummies
	(1)	(2)	(3)	(4)
CEO Female × CPA (Governmental Contract)	0.004***	0.004***	0.004***	0.004***
	(0.001)	(0.000)	(0.001)	(0.001)
CEO Female	−0.038	−0.038	−0.034	−0.039
	(0.234)	(0.334)	(0.289)	(0.222)
CPA (Governmental Contract)	−0.002***	−0.002**	−0.002***	−0.002***
	(0.000)	(0.046)	(0.000)	(0.000)
Manager Experience	−0.004***	−0.004**	−0.003***	−0.004***
	(0.000)	(0.030)	(0.001)	(0.000)
Log(Size)	−0.179***	−0.179***	−0.177***	−0.180***
	(0.000)	(0.000)	(0.000)	(0.000)
Log(Age)	−0.035***	−0.035**	−0.037***	−0.033***
	(0.002)	(0.028)	(0.001)	(0.004)
Sole Ownership	0.040*	0.040	0.027	0.038*
	(0.062)	(0.325)	(0.217)	(0.076)
Limited Corp.	−0.005	−0.005	−0.009	−0.009
	(0.892)	(0.937)	(0.815)	(0.804)
Foreign Ownership	0.017	0.017	0.012	0.013
	(0.660)	(0.703)	(0.765)	(0.741)
F.S. Certified	−0.325***	−0.325***	−0.319***	−0.326***
	(0.000)	(0.000)	(0.000)	(0.000)
R&D	−0.197***	−0.197***	−0.203***	−0.197***
	(0.000)	(0.000)	(0.000)	(0.000)
Saving Account	−0.166***	−0.166**	−0.204***	−0.163***
	(0.000)	(0.045)	(0.000)	(0.000)
Corruption Main Obstacle	0.090**	0.090	0.089**	0.089**
	(0.022)	(0.192)	(0.025)	(0.025)
Politic Main Obstacle	−0.073**	−0.073	−0.085***	−0.081**
	(0.021)	(0.199)	(0.008)	(0.012)
Legal Efficiency	0.114***	0.114***		0.004
	(0.000)	(0.003)		(0.923)
Inflation	0.067***	0.067***		0.085***
	(0.000)	(0.004)		(0.000)
Financial Development	0.010***	0.010***		0.013***
	(0.000)	(0.005)		(0.000)
Divorce Rate	0.010**	0.010**		0.012**
	(0.038)	(0.041)		(0.031)
Number of Children	−0.051*	−0.051*		−0.048*
	(0.083)	(0.086)		(0.089)
Constant	−4.166***	−4.166**	2.220	0.184
	(0.000)	(0.012)	(0.157)	(0.454)
Sector Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes		
Country Dummies	Yes	Yes		
Country × Year Dummies			Yes	
Sector × Year Dummies				Yes
Cluster		Country		
Observations	22,822	22,822	22,822	22,819
Pseudo R^2	0.212	0.212	0.219	0.217

Table 3. Further analysis

Further analysis using the probit model. The dependent variable is *Discouraged*. In columns (1)–(3), we split our analysis by the firm size: small (fewer than 5 employees), medium-sized (5–99 employees), and large (more than 100 employees), respectively. In columns (4)–(6), we split our analysis according to the perceived main obstacle: Corruption, Political Instability, and Other, respectively. In columns (7)–(9), we split the results based on the country's income: low income, middle income, and high income, respectively. P-values are reported in parentheses and are robust to heterosdedasticity. *** p < 0.01, ** p < 0.05, * p < 0.1.

	By Size			By Perceived Main Obstacle			By Income Country		
	Small	Medium	Large	Corruption	Political Instability	Other	Low Income	Middle Income	High Income
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CEO Female × CPA (Governmental Contract)	0.003*	0.005**	0.005	0.001	−0.007	0.004***	0.003***	0.002**	0.004**
	(0.095)	(0.013)	(0.106)	(0.906)	(0.245)	(0.001)	(0.008)	(0.013)	(0.033)
CEO Female	−0.018	−0.082	−0.100	−0.099	0.201	−0.026	−0.102	−0.009	−0.052
	(0.673)	(0.145)	(0.243)	(0.358)	(0.179)	(0.434)	(0.249)	(0.709)	(0.522)
CPA (Governmental Contract)	−0.002***	−0.003***	−0.003**	−0.006***	0.001	−0.002**	−0.004***	−0.003***	−0.003*
	(0.008)	(0.006)	(0.020)	(0.000)	(0.735)	(0.010)	(0.010)	(0.000)	(0.072)
Constant	−5.200***	−2.290*	−0.672	−6.339***	2.067*	−4.135***	−0.605	0.567***	−1.000
	(0.000)	(0.053)	(0.619)	(0.001)	(0.077)	(0.000)	(0.365)	(0.003)	(0.177)
Control Variables	All	All	All	All	All	All	All	All	All
Country, Sector, Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9400	8006	5263	2525	1353	18944	2754	34080	4289
Pseudo R^2	0.143	0.213	0.283	0.225	0.312	0.216	0.141	0.171	0.186

Table 4. Understanding the mechanisms - Debt structure for women with CPA

Mean comparison test of the debt structure based on whether the firm is managed by a woman with a political connection (Women CPA) or not (Other). The last column shows the difference in means. ** $p < 0.05$.

	Women CPA	Other	Diff.
Internal Funds/Retained Earnings	55.676	53.131	2.545**
Bank Borrowing	24.880	28.210	−3.330**
Non-Bank Financial Institutions	2.722	2.284	0.438
Credit From Suppliers/Advances from Customers	7.156	6.329	0.828
Other (Money Lenders\Friends\Relatives\Etc)	2.280	2.000	0.280
Owners' Contributions or Issued New Equity	4.904	4.470	0.433
Observations	22,822		

Table 5. Understanding the mechanisms – Mediating the effect of perception

Structural equation model (SEM). The dependent variables is *Discouraged*. The key independent variable is *CEO Female × CPA*. We have tested the direct effect of *CPA* and its indirect effect through the CEO's perception of an obstacle. P-values are reported in parentheses ** and *** denote an estimated significant difference from 0 at the 5 and 1% significance levels, respectively.

Path	Direct effect	Indirect effect	Total effect	% Indirect effect to total effect
	(1)	(2)	(3)	(4)
CEO Female × CPA → Perception of obstacle → Discouraged	0.004***	0.002**	0.006***	33.3%
	(0.001)	(0.031)	(0.001)	

Table 6. Understanding the mechanisms – Type of discouragement and legal and social environment

Regression results of our mechanisms analysis using the probit model. In column (1), we focus on the subsample of discouraged borrowers and model the probability to be discouraged for a rational reason (Rational). The dependent variable in columns (2)–(5) is *Discouraged*. In columns (2) and (3), we split the results based on the level of the country's WBL indicator: lower than the mean (Low WBL – column (2)) and higher than the mean (High WBL – column (3)). In columns (4) and (5), we split the results based on the level of the country's GII indicator: lower than the mean (Low GII – column (4)) and higher than the mean (High GII – column (5)). P-values are reported in parentheses and are robust to heteroscedasticity. *** p < 0.01, ** p < 0.05, * p < 0.1.

	Rational	Low WBL	High WBL	Low GII	High GII
	(1)	(2)	(3)	(4)	(5)
CEO Female × CPA (Governmental Contract)	0.003***	0.004***	−0.002***	0.003	0.005***
	(0.001)	(0.001)	(0.004)	(0.101)	(0.003)
CEO Female	−0.033	−0.044	0.001	−0.097**	0.005
	(0.625)	(0.192)	(0.993)	(0.042)	(0.910)
CPA (Governmental Contract)	−0.001	−0.002***	−0.005***	−0.000	−0.004***
	(0.581)	(0.002)	(0.001)	(0.680)	(0.000)
Constant	−2.449*	−5.722***	2.137***	−1.408	−2.002***
	(0.061)	(0.000)	(0.000)	(0.213)	(0.001)
Control Variables	All	All	All	All	All
Sector, Year, Country Dummies	Yes	Yes	Yes	Yes	Yes
Observations	8,492	19,855	2,967	12,357	10,465
Pseudo R^2	0.127	0.209	0.150	0.260	0.170

Table 7. Understanding the mechanisms – Cultural environment and visible discrimination

Regression results of our mechanisms analysis using the probit model. The dependent variable is *Discouraged*. In columns (1) and (2), we split the results based on the Gender Index: lower than the mean (Low Gender Index – column (1)) and higher than the mean (High Gender Index – column (2)). In columns (3) and (4), we split the results based on the country's Gender Wage Gap: lower than the mean (Low Gender Wage Gap – column (3)) and higher than the mean (High Gender Wage Gap – column (4)). In columns (5) and (6), we split the results based on the country's violence toward women: lower than the mean (Low Violence – column (5)) and higher than the mean (High Violence – column (6)). P-values are reported in parentheses and are robust to heteroscedasticity. *** p < 0.01, ** p < 0.05, * p < 0.1.

	Low Gender Index	High Gender Index	Low Gender Wage Gap	High Gender Wage Gap	Low Violence	High Violence
	(1)	(2)	(3)	(4)	(5)	(6)
CEO Female × CPA (Governmental Contract)	0.004***	0.001	0.003	0.004***	0.001	0.004**
	(0.001)	(0.457)	(0.384)	(0.006)	(0.006)	(0.017)
CEO Female	0.033	0.092**	0.132***	0.140***	0.040**	0.038*
	(0.500)	(0.030)	(0.004)	(0.006)	(0.036)	(0.051)
CPA (Governmental Contract)	−0.002**	−0.003***	−0.191**	−0.213***	−0.003***	−0.002**
	(0.034)	(0.001)	(0.041)	(0.000)	(0.000)	(0.039)
Constant	−6.055***	−2.753**	−7.730***	−4.770***	−0.770***	−4.255***
	(0.000)	(0.017)	(0.000)	(0.009)	(0.009)	(0.000)
Control variables	All	All	All	All	All	All
Sector, Year, Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	11,263	11,559	11,066	11,756	11,660	11,162
Pseudo R^2	0.199	0.217	0.174	0.186	0.223	0.195

Table 8. Robustness tests – Alternative CPA variables

Robustness tests using the probit model with alternative CPA variables. In columns (1), (2), and (3), we use Time Spent, Bribery, and State Ownership, respectively. In column (4), we use our composite variable construct using a factor analysis. P-values are reported in parentheses and are robust to heteroscedasticity. *** p < 0.01, ** p < 0.05, * p < 0.1.

Z variable ➔	Time Spent	Bribery	State Ownership	Composite
	(1)	(2)	(3)	(4)
CEO Female	−0.009	0.076*	0.020	0.073*
	(0.755)	(0.075)	(0.461)	(0.074)
CPA (Z)	−0.200***	−0.086**	−0.004**	−0.286**
	(0.000)	(0.030)	(0.028)	(0.022)
CEO Female × CPA (Z)	0.139**	0.016***	0.005**	0.225***
	(0.043)	(0.004)	(0.012)	(0.006)
Constant	−4.143***	−3.804***	−4.300***	−3.732***
	(0.000)	(0.000)	(0.000)	(0.000)
Control Variables	All	All	All	All
Sector, Year, Country Dummies	Yes	Yes	Yes	Yes
Observations	22,711	11,163	22,822	11,163
Pseudo R^2	0.214	0.212	0.211	0.212

Table 9. Robustness tests – Alternative dependent variables and samples

Robustness tests using the probit model. In column (1), we use an alternative variable dependent variable (*Alternative Discouraged*) based on the presence of an existing line of credit. In columns (2) and (3), the dependent variable is *Discouraged*, and we test two alternative samples: truthful respondents (column (2)) and removal of overrepresented countries (column (3)). P-values are reported in parentheses and are robust to heteroscedasticity. *** p < 0.01, ** p < 0.05.

	Alternative Discouraged	Truthful respondent	Dropping overrepresented countries
	(1)	(2)	(3)
CEO Female × CPA (Governmental Contract)	0.006***	0.005***	0.004**
	(0.001)	(0.003)	(0.011)
CEO Female	−0.186***	0.000	0.064***
	(0.000)	(0.992)	(0.007)
CPA (Governmental Contract)	0.000	−0.004***	−0.000
	(0.875)	(0.000)	(0.578)
Constant	−1.876	−0.268	−8.260***
	(0.110)	(0.532)	(0.000)
Control Variables	All	All	All
Sector, Year, Country Dummies	Yes	Yes	Yes
Observations	12,901	13,141	13,083
Pseudo R^2	0.155	0.199	0.197

Table 10. Robustness tests - Heckman and IV regressions

Robustness tests using the Heckman model (columns (1) and (2)) and IV regression (columns (3) and (4). In column (1), we display the first step of the Heckman model, modelling the probability of needing credit with our two exclusion variables, *Construction* and *WK*. In column (2), we display the second step of the Heckman model, adding the Mills ratio (λ) in our main estimation. In column (3), we display the first stage of the IV regression, using three instruments: *Government Change*, *CPI*, and *Government Transparency Law*. Statistics for overidentification, relevance, and exogeneity are displayed at the end of the table. In column (4), we display the second stage of the IV regression, using the instrumentalized value of CPA. P-values are reported in parentheses and are robust to heteroscedasticity. *** p < 0.01, ** p < 0.05.

	Heckman		IV	
	(1)	(2)	(3)	(4)
	Need	Discouraged	CPA	Discouraged
CEO Female × CPA (Governmental Contract)		0.004***		0.049***
		(0.004)		(0.000)
CEO Female		−0.013		−0.087***
		(0.694)		(0.001)
CPA (Governmental Contract)		−0.003***		−0.012***
		(0.000)		(0.000)
Construction	0.318***			
	(0.000)			
WK	0.134***			
	(0.000)			
λ		−0.350***		
		(0.000)		
Government Change			−2.132***	
			(0.000)	
CPI			1.257**	
			(0.031)	
Government Transparency Law			−4.184***	
			(0.000)	
Constant	−0.246***	−4.350***	23.047	−0.757
	(0.000)	(0.000)	(0.149)	(0.361)
Control Variables	All	All	All	All
Sector, Year, Country Dummies	Yes	Yes	Yes	Yes
Observations	64,119	20,227	15,014	15,014
Pseudo R^2	0.098	0.215		
Overidentification (J-test)			0.136	
Relevance (F-test)			92.46	
Exogeneity (H-test)			0.149	

Table 11. Robustness tests - Propensity score matching

Panel A. Men vs. Women CPA

Propensity score matching analysis results. In the analysis, we match our sample based on all of the firms' characteristics, the country, and the year, except the gender of the CEO to compare women-led firms with CPA vs. others. *** p < 0.01 (p-values are indicated in brackets).

	Discouraged
Women with CPA vs. Others	0.007***
	(0.000)
Observations	22,822

Panel B. Women with vs. without CPA

Propensity score matching analysis. In the analysis, we match a subsample of firms managed by women based on the firms' characteristics, the country, and the year, except the existence of CPA to compare women-led firms with CPA vs. without. *** p < 0.01 (p-values are indicated in brackets).

	Discouraged
Women (with CPA vs. without CPA)	0.005***
	(0.000)
Observations	3,619

Appendix A – Definition of variables

Variable name	Definition
Dependent variables	
Discouraged	Dummy variable equal to 1 when the firm is discouraged (i.e., decided not to apply), 0 when it applied for credit.
Rational	Dummy variable equal to 1 when the firm decided not to apply because of rational reasons (application procedures are complex, interest rates are unfavorable, collateral requirements are excessive, loan size and maturity are insufficient), 0 when it was for emotional reason (application would be rejected).
Independent variables	
CEO Female	Dummy variable equal to 1 when the CEO of the firm is a woman, 0 otherwise.
Corporate Political Activity variables	
CPA (Governmental Contract)	Dummy variable equal to 1 when the firm has secured or attempted to secure a government contract over the last year, 0 otherwise.
CPA (Time Spent)	Percentage of total senior management's time spent on dealing with requirements imposed by government regulations.
CPA (Bribery)	Dummy equals 1 if the firm paid bribes to the state during inspections.
CPA (State Ownership)	Percentage of company owned by the state.
CPA (Composite)	Composite variable based on the four CPA variables from a factorial analysis.
Control variables	
Manager Experience	CEO experience (in years).
Log(Size)	Natural logarithm of number of firm employees.
Log(Age)	Natural logarithm of firm age.
Sole Ownership	Dummy variable equal to 1 when the firm has only one owner, 0 when it has more.
Limited Corp.	Dummy variable equal to 1 when the firm is a limited corporation, 0 otherwise.
Foreign Ownership	Dummy that equals 1 when the firm is more than 75% owned by a foreigner, 0 otherwise.
F.S. Certified	Dummy variable equal to 1 when the firm's annual financial statements are checked or certified by an external auditor.
R&D	Dummy variable equal to 1 when the firm spent money on formal R&D activities, 0 otherwise.
Saving Account	Dummy variable equal to 1 when the firm has a checking or savings account, 0 otherwise.
Corruption Main Obstacle	Dummy variable equal to 1 when corruption is perceived as the main obstacle by the firm, 0 otherwise.
Politic Main Obstacle	Dummy variable equal to 1 when political instability is perceived as the main obstacle by the firm, 0 otherwise.
Legal Efficiency	World Bank index on legal efficiency.
Inflation	Rate of inflation.
Financial Development	Domestic banking credit to the private sector, as a share of GDP.
Divorce Rate	Average divorce rate in the country.
Number of Children	Average number of children in the country.
Other variables	
WBL	Index capturing the legal inequalities between men and women in terms of mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets, and pension. The range is 0–100, where the higher the index is, the lower the legal inequalities.
GII	Gender Inequality Index (GII), created by the UN Development Programme, that measures inequalities three human development aspects: reproductive health, empowerment, and economic status. The higher the value, the greater the disparities between men and women.
Gender Cultural Norms	Burns et al. (2024) gender cultural index based on WVS.

Heckman variables	
Need	Dummy variable equal to 1 when the firm needs credit, 0 otherwise.
WK	Proportion of the value of sales paid after delivery by customers in the previous year is considered.
Construction	Dummy variable equal to 1 when the firm has applied for a construction-related permit and 0 otherwise.
Instruments	
CPI	Corruption Perceptions Index measuring the perceived levels of public sector corruption (Transparency International).
Government Transparency Law	Dummy variable equal to 1 when the country has passed a law on political transparency, including political connections between companies and the government.
Government Change	Dummy variable equal to 1 if the party in power changes during the year and 0 otherwise.

Appendix B. Detailed questions from the Enterprise Survey

K.16. Referring again to the last fiscal year [year], did this establishment apply for any lines of credit or loans?
1. Yes.
2. No.
3. Don't know (spontaneous).

K.17. What was the main reason why this establishment did not apply for any line of credit or loan?
1. No need for a loan, establishment had sufficient capital.
2. The application procedures were complex.
3. Interest rates were not favorable.
4. Collateral requirements were too high.
5. The size of the loan and maturity were insufficient.
6. Did not think it would be approved.
7. Other.
8. Don't know (spontaneous).

J.2. In a typical week over the last year, what percentage of total senior management's time was spent on dealing with requirements imposed by government regulations?

J.6a. Over the last year, has this establishment secured or attempted to secure a government contract?
1. Yes.
2. No.
3. Don't know (spontaneous).

Appendix C. Factor analysis

Variable	Definition	Factor Loading
Governmental Contract	Government Contract Secured (Or Attempted) in the Last 12 Months?	0.0718
Time Spent	What % Of Senior Management Time Was Spent Dealing With Government Regulations?	0.0897
Bribery	In Any of These Inspections Was a Gift/Informal Payment Requested ?	0.0285
State Ownership	% Owned By Government/State	0.1071
Eigenvalue		2.1627
Cronbach alpha		0.7493

Appendix D. List of countries

Name	Number	Percent	Name	Number	Percent
Albania	171	0.75%	Kazakhstan	455	1.99%
Argentina	1077	4.72%	Latvia	169	0.74%
Armenia	441	1.93%	Lebanon	240	1.05%
Belarus	443	1.94%	Lithuania	193	0.85%
Bosnia and Herzegovina	237	1.04%	Malaysia	432	1.89%
Bulgaria	324	1.42%	Mexico	621	2.72%
Chile	489	2.14%	Morocco	499	2.19%
Colombia	1230	5.39%	Panama	11	0.05%
Costa Rica	157	0.69%	Paraguay	189	0.83%
Croatia	302	1.32%	Peru	1,219	5.34%
Czech Republic	242	1.06%	Philippines	246	1.08%
Dominican Republic	153	0.67%	Poland	254	1.11%
Ecuador	309	1.35%	Portugal	291	1.28%
Egypt	1965	8.61%	Romania	648	2.84%
El Salvador	393	1.72%	Russia	2105	9.22%
Estonia	200	0.88%	Serbia	325	1.42%
Greece	236	1.03%	Slovak Republic	191	0.84%
Guatemala	266	1.17%	Slovenia	281	1.23%
Honduras	217	0.95%	Sri Lanka	354	1.55%
Hungary	371	1.63%	Thailand	396	1.74%
Indonesia	786	3.44%	Tunisia	321	1.41%
Israel	197	0.86%	Turkey	1143	5.01%
Italy	300	1.31%	Ukraine	998	4.37%
Jamaica	56	0.25%	Uruguay	306	1.34%
Jordan	330	1.45%	Venezuela	43	0.19%