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UNEXPECTED LOSSES, GENDER AND ALTERNATIVE FINANCE

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MATÍAS IGNACIO VALDÉS ECHEGARAY

PROFESOR GUÍA:

PATRICIO VALENZUELA AROS

MIEMBROS DE LA COMISIÓN:

ALEJANDRO BERNALES SILVA

MARCELA VALENZUELA BRAVO

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PÉRDIDAS INESPERADAS, GÉNERO Y FINANZAS ALTERNATIVAS

El acceso a capital puede ser crítico para el crecimiento de las firmas (Banerjee y Duflo, 2008; De Mel et al., 2008), especialmente para aquellas pequeñas (Beck et al., 2005) y con propietarias mujeres. Además, firmas con propietarias mujeres son menos propensas a la utilización de financiamiento externo como una fuente de capital, y pagan tasas de interés mayores que hombres por sus préstamos más recientes (Coleman, 2000). En vista de estos datos, este estudio contestará dos preguntas. ¿Cuál es el rol de las finanzas alternativas después de pérdidas inesperadas? ¿Juegan las finanzas alternativas un rol más importante en firmas con propietarias mujeres?

Una investigación reciente que examina empresas que han experimentado efectivamente eventos criminales (Bernales et al., 2019) encontró que el crimen empeora el acceso y las condiciones del financiamiento externo.

Esta investigación pretende contribuir a la literatura sobre canales de financiamiento utilizados por las empresas cuando sufren pérdidas inesperadas, específicamente asociadas a eventos criminales. Examina si las firmas confían más en canales de financiamiento alternativo cuando experimentan una perturbación negativa. Finanzas Alternativa es definida como todas las fuentes externas no provenientes del mercado o los bancos. Así mismo, se estudia si existe heterogeneidad entre hombres y mujeres propietarios en vista de una brecha de género.

Los resultados de esta investigación son obtenidos de un análisis multivariado con datos de World Bank Enterprise Survey (WBES). Esta encuesta contiene información de financiamiento al nivel de firma así como muchas otras características, algunas usadas como control.

La tesis reporta cuatro regresiones diferentes aplicadas a cinco variables dependientes. Las variables dependientes son: Alternative Finance, Credit From Non-Bank Institutions, Credit From Suppliers/Customers, Credit From Money Lenders/Friends/Relatives y Credit From Bank. Por otro lado, las variables independientes son Unexpected Losses, Female Owners (género) y la interacción de ambas.

Este estudio sugiere que los empresarios confían tanto en las finanzas alternativas como en las finanzas bancarias. Este efecto no es homogéneo entre hombre y mujeres: mujeres utilizan más las finanzas alternativas cuando enfrentan una pérdida inesperada. Esto es consistente con la idea que mujeres tienen menor acceso a fuentes formales de financiamiento externo, lo se mantiene incluso después de controlar por características claves de las empresas y aplicar pruebas de robustez.

I

UNEXPECTED LOSSES, GENDER AND ALTERNATIVE FINANCE

Access to capital can be critical for firm growth (Banerjee and Duflo, 2008; De Mel et al., 2008), especially for small firms (Beck et al., 2005) and women-owned. Also, women-owned firms are less likely to use external financing as a source of capital, and they paid higher interest rates than men for their most recent loans (Coleman, 2000). In view of these facts, this study will answer two questions. What is the role of alternative finance before unexpected losses? Does alternative finance play a more important role in women?

A recent investigation that examines individual firms that have effectively experienced crime events (Bernales et al., 2019) found out that crime worsens the access and conditions of external financing.

This research aims to contribute to literature on funding channels utilized by firms when they suffer unexpected losses, specifically associated to crime events. It examines whether firms rely more in alternative financial channels when they face negative shocks. Alternative finance is defined as all the non-market and non-bank external sources. In addition, it studies if there is a heterogeneity between men and women firms' owners in view of a gender gap.

The results of this research are obtained from multivariate analysis with data from World Bank Enterprise Survey (WBES). This survey collects information on financing at the firm level as well as several other relevant firm characteristics, some of them are used as control. The sample covers 90.598 observations of firms from 129 countries between 2006 and 2017.

This thesis reports four different regression applied to five different dependent variables. Our dependent variables are: Alternative Finance, Credit From Non-Bank Institutions, Credit From Suppliers/Customers, Credit From Money Lenders/Friends/Relatives and Credit from Bank. On the other hand, our independent variables of interest are Unexpected Losses, Female Owners (gender) and the interaction of both of them.

The study suggests that entrepreneurs rely as in alternative finance as in the banking sector. Unexpected Losses are positively correlated with all the different types of alternative finance and the bank finance.

This effect is not homogeneous between men and women: women rely more in alternative finance, when they face a negative shock. This is consistent with the idea that women have less access to external formal sources, which is maintained even after controlling for firm's key characteristics and applying robustness checks.

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1. Introduction

In spite of the vast economic literature dedicated to study the different forms of delinquency (Becker, 1968; Witte, 1980; Glaeser et al., 1996; Blanco and Ruiz, 2017; Heller et al., 2017; Levitt, 2017), for example, the existing research of how high regional rates of crime reduces house prices a (Thaler, 1976; Gibbons, 2004) and the affection it has for the growth of small businesses (Benyishay and Pearlman, 2013). Nonetheless, the number of studies about the relation between criminal events and their negative effects in the funding of enterprises is still limited. The most resent one examined individual firms that effectively experienced crime events (Bernales et al., 2019) found out that crime worsens their access to funding while conditioning their chances of external financing.

Specifically, the World Bank Enterprise Surveys (WBES) that covered 90.598 observations of firms from 129 countries, between 2006 and 2017, stated that 17.2 percent of the companies experienced crime events. In addition, when conditioning on firms that faced a crime, it resulted in losses represented in an average of about 6.6 percent of annual sales. Considering these results and understanding the significance implied in the recovery needed by the firms after such events, it is natural to wonder how they obtain the funding required to operate normally.

When it comes to the funding of the firms, an extensive and still growing literature has documented how important is the access to credit, especially for small firms (Beck et al., 2005) and the creation of new businesses (Klapper et al., 2006). Country-specific studies and randomized field experiments confirmed that access to capital can be critical for firm growth (Banerjee and Duflo, 2008; De Mel et al., 2008). Additionally, it has been shown that credit is not the only financial service that seems to matter. Recent evidence showed that access to savings services can also increase enterprise investment, especially among female entrepreneurs (Dupas and Robinson, 2013).

Broad access to financial services is not only important for individuals, but also for the economy at large; credit constraints reduce the efficiency of capital allocation and intensify income inequality by impeding the capital flow to poor individuals, with investment opportunities and high expected returns (Aghion and Bolton, 1997; Beck et al., 2007; Galor and Moav, 2004; Galor and Zeira, 1993; Lopez and Serven, 2009).

The remaining question is, how do firms access to funding when the banking market is contracted, or even when it is not constituted, as in developing countries? The recent global crisis has revealed failures in financial markets and problems associated with large financial institutions in developed countries. Furthermore, in many emerging countries the banking sector is limited and vulnerable to banking crises, and equity and bond markets are only accessible to large firms in a small number of industries (e.g., mining). In addition, the costs for developing the traditional financial system, and especially a large and efficient market with multiple types of financial products, can be enormous for emerging economies and the process may take several decades. This suggests that firms must sometimes make use of alternative forms of finance in these countries since bank finance is not feasible.

Alternative (external) financing channels, play an important role in both developed and developing countries. Thus, consistent with the 'Coasian view' (1937), alternative finance and institutions arise in an environment with weak formal institutions and become a vital engine to fund economic growth.

This research study how unexpected losses due to delinquency affect the funding channel utilized by firms. In particular, it is hypothesized and confirmed by significant evidence that the small and medium enterprises (SMEs) from the World Bank Enterprise Surveys resort to alternative finances to obtain the funding required before such losses. In addition, it is also perceived the use of these resort mostly by firms whose majority ownership is held by women. In this way, this might suggest a firm tendency for women to trust these type of funding resorts after a negative shock.

Female ownership and their funding channels are also explored along this research. According to the existing literature, it was found (Coleman, 2000) that women-owned firms are less likely to use external financing as a source of capital, also that they paid higher interest rates than men for their most recent loans. Kudzaishe and Fatoki found, in 2012, a significant gender differences in SMEs' demand for debt finance, only with insignificant differences in availability for South African small and medium enterprises. About a difference for genders when looking for access to credit, microcredit has been the mostly studied but, still, there isn't much literature about a difference in the access when the majority ownership of an enterprise is female, which motivates the development of this study.

As mentioned, this study looks for contributing on different matters. On one hand, it aims to a better understanding how firms obtain the required funding after a negative shock, due to crimes, through the study of external funding sources used by them. Particularly, it aboard the comparison between the alternative financing and banking market. On the other hand, it looks for elucidating if it exists a difference in the usage of this funding channels when there are mostly women in the majority ownership of a firm. A better understanding on these matters would help not solely the promote government measures, that could grant enterprises the faculty of overcome unexpected losses, but also to make visible the existence of a gender gap when accessing to funding and to encourage further studies that might allow a deeper comprehension in this subject.

According to the previously given information, this study looks for proving the following hypothesis:

1. Before a negative shock, firms tend to resort mostly to alternative finances, expected to be more present in variables were credit is obtained from suppliers or customers.

2. Due to evidence of gender discrimination in the access to credit, there is a bigger resort to alternative finances by firms owned mostly by women.

3. Before unexpected losses due to criminal events, firms owned mostly by women are more likely to resort to alternative finances.

2. Literature Review

Along the process of conformation and subsequent growth of a firm, it requires capital resources to finance their operations. In this context, there are different channels that allow firms to obtain it, and these are divided in two main sources.

On one hand, the internal funding sources are the firm's own capital that allow them to operate, e.g. Retained Earnings. On the other hand, external funding sources are funds that are obtained from outside of the firm, which can come from the formal financial market: banking, intermediation sector, stock market and bond market, or from the alternative financial sector, defined as all the non-market and non-bank external sources. The conformation of stable formal financial market requires several years, which is why it is limited and vulnerable to crisis in many countries. In this case, the alternative financial market provides a more accessible and earlier funding source in developing countries, fundamental for potentially profitable investment opportunities to become real. Even so, the usage of this financial market remains relevant in developed countries (Allen et al., 2013).

Alternative funding can be reached from different channels, including leasing, trade credit, credit cards, investment funds and loans, from family and friends. Particularly, the data used for this research puts together these channels in three groups: credit from non-bank institutions, credit or advances from suppliers or customers (trade credit), and credit from money lenders, friends, relatives and others.

Existing literature found along this research is focusing principally on the trade credit provision. On one side, there are theories that attempt to understand different reasons for its existence and follow lines of argument as: corporate advantage in the acquisition of information (Mian and Smith, 1992; Biais and Gollier, 1997; Smith, 1987), corporate advantage in settlement (Mian and Smith, 1992; Frank and Maksimovic, 1998), product guarantee of quality (Long et al., 1993; Lee and Stowe, 1993; Emery and Nayar, 1998), providers' price discrimination (Brennan et al., 1988; Fabbri and Klapper, 2009; Giannetti et al., 2008), sunk costs and customized products (Cuñat, 2007; Smith, 1987; Nget al., 1999), and moral risk (Burkart and Ellingsen, 2004). These theories often refer to particular aspects of the structure of our market and characteristics of the products, suggesting certain industries or enterprises might have a better chance use commercial credit than others. On the other hand, part of the literature has been focused on the existing relation between trade credit and bank credit, finding empirical evidence to argument that they both are complementary (Bias and Gollier, 1997; Giannetti et al., 2008), or being one a substitute of the other (Fisman and Love, 2003; Cuñat, 2007; Nilsen, 2002).

Aiming to contribute to the existing literature, this study explores, not only trade credit but also other alternative funding sources, such as working capital funded by informal money lenders; friends, relatives or other non-banking financial institutions.

3. Data

Data from the World Bank Enterprise Survey (WBES) is used in an attempt to collect information on financing at the firm level as well as several other relevant firm characteristics. These include the firm size and age, if the firms are private or public shareholding companies, number of workers, and sources of capital.

Master Data base (Combined Data) collect comparable information for several firm characteristics across all the countries. This comparability allows us to document cross-country and within- country variation in the profiles of firms that have female ownership participation. To obtain the firms' panel data, Combined Data version containing firm-year identifiers and the same survey containing country level data which, apart from containing panel data codes, it contains the firm-year identifiers that allows to merge them.

To control the endogeneity problems, fixed effects are used considering country, year and stratification sector. In addition, control variables are added to a firm level, and information about incidence of unexpected losses and their recurrent funding sources are obtained from each firm.

Hence, the outcome variables on the analysis are the financing sources used by the firms (banking and alternative sources) in the years of incidence of crimes events, comprehending the need for firms to access to funding in a short- time period in order to overcome the difficulties implied and restore their operational functions. The dependent variables are related to the incidence of unexpected losses and the genders participating in the composition these firms.

Table 1 present summary statistics of the variables used in the study. The dataset reported in Table 1 includes 90.598 observations of firms from 129 countries, between 2006 and 2017. From these, 4.344 correspond to firms with two observations on different years, and 92 firms with three observations. In the sample, 17.2 percent of the companies experienced crime events. Additionally, conditional on firms facing crime resulted in an average of 19.3 percent of firms resorting to alternative finances.

Table 1 also presents firms characteristics that are used as controls in the analyses presented in the following section. For instance, the average age of the firms was 18.3 years; about 53.1 percent of the firms reported having externally audited financial statements and 42 percent of firms are legally private or public shareholding companies. Furthermore, on average, the 79.3 percent is own by the largest owner and 31.6 percent of the firms have females amongst the owners of the firm.

The Enterprise Surveys also provide information on owners' gender. Our main gender variable, "female owners", is a dummy variable determining whether there is any female among the owners, which, even when considering the participation of the female gender in the ownership of the firm, might be too imprecise to determine the influence of this gender in the decision making on a financial matter. To address this issue, the same regressions are replicated with the variable "female owners 2", a dummy variable with value 1 when the ownership of the firms is held mainly by females.

4. Empirical Strategy

4.1 Endogeneity

Identifying the causal effects of crime on firm's financing channels entails one main challenge, it requires addressing concerns related to the endogeneity crime events.

Data on unexpected losses are used during the same fiscal year when the firms were surveyed. The information of the proportion of usage of these financing channels correspond to the same day of the survey, which allows to evaluate the effects produced by unexpected losses on the usage of the channels in a short term.

About the endogeneity problem of firm level losses events, if there are a contemporary characteristic systematically correlated between 'unexpected losses' and the usage of alternative finances, it is solved by adding variables in the years of survey, from 2006 to 2017.

Additionally, to isolate and determine the effect of unexpected losses over the utilization of alternative finances in a more precise way, 7 variables are added, related to the characteristics of the firm: Years Of Operations, Size, Shareholding Company, Largest Owner own, Political Instability, External Auditor and Number Full-time Workers.

4.2 Multivariate regression

To determine the consistency and robustness of the results, the analysis is divided as follows:

Four models are estimated, where all variables to use are measured at the level of firm (i), country (c), sector (s) and time (t). In order to control for potential shocks or measurement errors across different country–years, where the surveys are done and for demand-side differences in external financing, all the regressions include country, time and sector fixed effects. These regressions are:

Equation (1)

$$Dependent\ variable_{icst} = \beta_0 + \beta_1\ Unexpected\ Losses_{icst} + \beta_2\ Female\ Owners_{icst}$$
$$+ \alpha\ Country_c + \gamma\ Sector_s + \delta\ Time_t + \varepsilon_{icst}$$

Equation (2)

$$Dependent\ variable_{icst} = \beta_0 + \beta_1\ Unexpected\ Losses_{icst} + \beta_2\ Female\ Owners_{icst}$$
$$+ \sigma_1\ Years\ Of\ Operations_{icst} + \sigma_2\ Size_{icst} + \sigma_3\ Shareholdig\ Company_{icst}$$
$$+ \sigma_4\ Largest\ Owner(s)\ Own_{icst} + \sigma_5\ Political\ Inestability_{icst}$$

$$+ \sigma_6 \, External \, Auditor_{icst} \; + \; \sigma_7 \, Number \, Of \, Fulltime \, Workers_{icst}$$

$$+ \; \alpha \, Country_c + \gamma \, Sector_s + \delta \, Time_t + \varepsilon_{icst}$$

Equation (3)

$$Dependent \, variable_{icst} = \beta_0 \; + \; \beta_1 \, Unexected \, Losses_{icst} \; + \; \beta_2 \, Female \, Owners_{icst}$$

$$+ \; \beta_3 \, Unexpected \, Losses_{icst} * Female \, Owners_{icst}$$

$$+ \; \alpha \, Country_c \; + \; \gamma \, Sector_s \; + \; \delta \, Time_t \; + \; \varepsilon_{icst}$$

Equation (4)

$$Dependent \, variable_{icst} = \beta_0 \; + \; \beta_1 \, Unexpected \, Losses_{icst} \; + \; \beta_2 \, Female \, Owners_{icst}$$

$$+ \; \sigma_1 \, Years \, Of \, Operations_{icst} \; + \; \sigma_2 \, Size_{icst} \; + \; \sigma_3 \, Shareholdig \, Company_{icst}$$

$$+ \; \sigma_4 \, Largest \, Owner(s) \, Own_{icst} \; + \; \sigma_5 \, Political \, Inestability_{icst}$$

$$+ \; \sigma_6 \, External \, Auditor_{icst} \; + \; \sigma_7 \, Number \, Of \, Fulltime \, Workers_{icst}$$

$$+ \; \beta_3 \, Unexpected \, Losses_{icst} * Female \, Owners_{icst}$$

$$+ \; \alpha \, Country_c \; + \; \gamma \, Sector_s \; + \; \delta \, Time_t \; + \; \varepsilon_{icst}$$

The flexible specification in regression allows to analyze whether, before unexpected losses due to crimes events, firms tend to resort to alternative finances (coefficient β_1); whether firms with female ownership participation are more prone to be financed with alternative finances than other companies (coefficient β_2) and whether these effects are different for firms who have suffered unexpected losses (coefficient β_3).

These regressions are estimates for five dependent variables. In the first place, 'Alternative Finance' corresponding to the addition of all the percentages of working capital that are financed with alternative funding sources. Later on, the three variables composing the alternative financing sources; Credit From Non-Bank Institutions, Credit From Suppliers/Customers and Credit From Money Lenders/Friends/Relatives, with the purpose of estimating the relevance of each before a negative shock, and finally, Credit from Bank, in the attempt of contrasting the previously obtained results with the acquisition of funds by the formal financial market.

Hereunder, it proceeds with the presentation of the checks for robustness, analyzing whether the results are determined by nonlinear relations that are not specified in the previously created models. Four models with 'Alternative Finances' as a dependent variable but contemplating the addition of other interaction between specific characteristics of the firm and 'Unexpected Losses', results presented on Table 7.

Complementarily, it is observed if the results are preserved even after increasing the restriction of 'Female owners' variable, changing its specification. In order to accomplish it, the estimation of all four models are repeated with the same five variables, with the difference of changing 'Female Owners' variable for 'Female Owners 2'. This searches for understanding how the results differ when the percentage of female ownership of the firm is restricted, to measure the relevance of gender when accessing to credit.

Finally, secondary results are also presented, according to the coefficients obtained from the firms' characteristics on different models.

5. Results

Initially, on Table 2, it is observed that, before an unexpected loss, firms tend to resort to alternative finances. Further, it is found that firms whose ownership is held mainly by females tended to resort to alternative finance, effect preserved when adding controls to the firm. The significance of this effect diminishes when incorporating the interaction of 'Unexpected Losses' and 'Female Owners', meaning that a part of the effect that is captured before by 'Female Owners' is because women who suffer this negative shock make use of this funding channel.

In addition, it is observed that, when passing from model 3 to 4, the effect about resorting to alternative finances by women disappears, but the significance in the interaction is maintained. This happen because the effect observed in the regression 1 is captured by control variables (determined by characteristics of the enterprise) so there isn't evidence of a better use of alternative finances only for being a woman, but it exists when women experienced unexpected losses

About the results of Table 3, 4 and 5, it is observed how the effect of significance previously obtained is determined when studying their components.

As a result, for all the components, while consistent with the results on Table 2, it is found that, before unexpected losses, firms get funded through alternative channels, with 1% of significance. Apart from that, when analyzing how influential is the percentage of women in a firm's ownership over the funding source used by them, it is obtained that, contrary to what is previously found with the results on Table 2,

When Credits from Non-Bank Institutions (Table 3) are examined, the significance between 'Female Owners' and 'Unexpected Losses' interaction disappears, making 'Female Owners' results become meaningful.

While observing the results on Table 4, which presents 'Credit from Suppliers/Customers' results, it is found that they are similar in magnitude and equals in sign to what is obtained on Table 2 but, when incorporating controls to the model, the significance over 'Female Owners' disappears.

In Table 5, showing 'Credit from Money Lenders, Friends, Relatives or others', the significance over 'Female Owners' disappear when adding the interaction between 'Female Owners' and 'Unexpected Losses' just as it happen in Table 2, suggesting the

effect over women it's absorbed by this new variable. Also, when adding controls to the model with interactions, the significance of both variables of interest disappear, but the positive effect of the usage of alternative funding is kept.

Finally, for the purpose of contrasting the previously mentioned results, in the models of Table 6 can be observed how 'Credit from Banks' as an outcome variable. In it, Unexpected losses is a positive variable and statistically significant to 1% for all the models considered, implying that before an unexpected loss, firms tend to resort to banking finances, remarking a complementary effect between banking credits and alternative funding. It is observed as well that 'Female Owners' has a positive and statistically meaningful result in the usage of banking finances, and that the interaction of both variables have a negative and statistically non meaningful result when adding interactions (model 4).

It is worth to mention that the R-squared provide mixed evidence on the fit of the models, which are specially low for the regressions, when using 'Credits from Non-Bank Institutions' and 'Credit from Money Lenders, Friends Relatives or others' as an dependent variable.

It is shown that a first mechanism driving the results is related to the fact that firms with female ownership participation tend to have specific characteristics that explain the unconditional gap (i.e., size, years of operations, shareholding company). Nonetheless, the gender gap is kept on the usage of alternative finances when firms have experienced a negative shock. Another possible reason for the lack of conditional gender discrimination may be the existence of a selection bias. Such would imply that females are discriminated against, in a first stage when trying to establish and run a formal company in the first place, so that female entrepreneurs must be particularly capable or, in other words, must have characteristics that set them apart from male entrepreneurs owning companies with similar characteristics in order to thrive.

6. Robustness Checks

Other results that can be observed in this study are those obtained from control variables. On them, it can be appreciated the existence of a consistency in the coefficients obtained for model 2 and model 4, for the same outcome variable.

First, for the 'Years of Operations' variable, a negative and statistically meaningful coefficient is obtained, for the alternative finances dependent variables as for banking finances dependent variables. This result is because an older enterprise is more capable of self-sustainment, acquiring their financing through internal funds.

As for 'Size' variable, it results in a negative coefficient with statistical significance when 'Alternative finance' is used as an outcome variable. Looking at their results, when using the components from this variable also as an outcome variable, a very similar coefficient is obtained in Size variable just as when using component 'Credit from Money Lenders, Friends, Relatives and Others' as an outcome variable as well, which is different when using the other components from 'Alternative Finances', that results in positive and

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statistically non-significant coefficients. This is because enterprises of a bigger scale need more capital, therefore the amounts they require must be accessible through bigger money lenders, which is a contrary case for enterprises of a smaller scale. All this is consistent with the results obtained in the 'Credit from Banks' outcome variable, which is positive and significant at the 1% level.

In order to verify the consistency of the obtained results in the models present in Table 2, Table 7 is structured, with the addition of the mentioned and different interactions between characteristics of the firm and 'Unexpected Losses'. This is made with the intention of capturing possible non-linear effects not considered before. From them, it is obtained that no matter the linearity added to the model, the results in 'Female Owners' variable and the interaction between 'Female Owners' and 'Unexpected Losses' stay invariant. It is worth mentioning that only the results of the variable on interaction are statistically meaningful.

In the case of changing 'Female Owners' for 'Female Owners 2', the same models shown from Table 2 to Table 6 are presented from Table 8 to Table 12. On them, it is observed 'Unexpected Losses' being transversally positive and statistically significant on the usage of banking finances just as for alternative finances, concordant with the main results. Therefore, it is clear that a firm, before a negative shock event, there exists a need for funds to overcome the loss.

Deepening on the details of the right-side variables, it is seen that some results are conserved while others change, when increasing the restriction to the percentage of properties owned mostly by women. On one side, when 'Alternative Finance' is used as a dependent variable, 'Credit from Non-Bank Institutions' and 'Credit from Money Lenders, Friends Relatives or others' maintained the results obtained on 'Female Owners' variable and from the interaction of it and 'Unexpected Losses'

In the case of 'Credit or Advances from Suppliers or Customers', 'Female Owners 2' is observed to change its coefficient from positive to negative, but the result remain not being significant. In the case of the firms with a predominant female ownership that suffer unexpected losses, the usage of this channel is maintained, but its significance disappears.

Finally, in the case of 'Credit from Banks', there is not a consistency shown in the results, contrary to prior results. According to the presence or absence of controls to the firms, the results change from negative to positive on firms mainly owned by females, although when suffering unexpected losses, its coefficient goes from negative to positive, but without a significant coefficient.

It is important to stress that results should not be interpreted in a causal manner as they only present conditional correlations. Specifically, there may be differences in the operations of female-owned firms that affect their financing patterns, which are observable to both firm and financial institution but not to the researcher.

On this study, the results are mostly consistent with the previously obtained, confirming the existence of an unconditional gender gap. As before, this gender gap is weakened

by the inclusion of controls but, differently from the previous regressions, remains statistically significant despite these controls. In sum, the results presented provide evidence toward the existence of an unconditional gender gap on the usage of alternative financing channels.

7. Conclusions

This study suggests the utilization of alternative finance and banking finances after suffering an unexpected loss due to a crime event, which speaks about the need for enterprises to overcome adversity and regain their operational capacities. As previously mentioned, this suggests a complementarity between these channels. The fact that both are being used, could be due to firms requesting for credit to banking institutions, who offer higher interest rates or don't provide the whole amount needed by firms because of the risk it implies. This is corresponding to literature (Bernales et al 2019) and explain the need for firms to resort to both funding channels.

Regarding the role of the owner's gender when accessing credit, the results show that women, in a baseline, resort to banking finances instead of alternative options, but after a negative shock, this is inverted. These effects are conserved even after adding control for key firm's characteristics enterprises and adding a robustness check.

Even when the results of this study are concluding, more literature is required, in order to achieve a deeper understanding about the impact of criminal events in the funding channels chosen by firms, and if, in such cases, the predominant gender on the firms' ownership make a difference. For example, models like 'Propensity Score Matching' can be made, in order to correct the selection bias determining the percentage of women in the enterprise ownership and adding firms' fixed effects to increase robustness to the model.

8. Bibliography

Aghion, P. and Bolton, P. 1997. A theory of trickle-down growth and development. Review of Economic Studies 64(2): 151–172.

Allen, A., Carletti, E., Qian, J. and Valenzuela, P. 2013. Financial intermediation, markets, and alternative financial sectors. In: The Handbook of the Economics of Finance. North Holland. Elsevier. pp. 759-798.

Aterido, R., Beck, T. and Iacovone, L. 2013. Access to finance in Sub-Saharan Africa: Is there a gender gap? World Development. 47(1): 102–120.

Banerjee, A. and Duflo, E. 2006. Growth theory through the lens of development economics. In: Handbook of Economic Growth. USA. North-Holland. pp.473–552.

Beck, T., Demirguç-Kunt, A. and Levine, R. 2007a. Finance, inequality, and the poor. Journal of Economic Growth. 12(1): 27–49.

Beck, T., Demirguc-Kunt, A. and Maksimovic, V. 2005. Financial and legal constraints to growth: Does firm size matter? Journal of Finance. 60(1): 137–177.

Becker, G. 1968. Crime and punishment: An economic approach. Journal of Political Economy. 76: 169-217.

Benyishay, A., and Pearlman, S. 2013. Crime and microenterprise growth: Evidence from Mexico. World Development 56: 139–52.

Bernales, A., Beuermann, D., Cumming, D. and Olid, C. 2019. Blue-collar crime and finance. Unpublished.

Biais, B. and Gollier, C. 1997. Trade credit and credit rationing. Review of Financial Studies. 10(4): 903-937.

Blanco, L., and Ruiz, I. 2013. The impact of crime and insecurity on trust in democracy and institutions. American Economic Review. 103(3): 284-88.

Brennan, M., Maksimovic, V. and Zechner, J. 1988. Vendor financing. Journal of Finance. 43(5): 1127-1141.

Burkart, M. and Ellingsen, T. 2004. In-kind finance: A theory of trade credit. American Economic Review. 94(3): 569-590.

Cadsby, C., Frank, M. and Maksimovic, V. 1998. Equilibrium dominance in experimental financial markets. Review of Financial Studies. 11(1): 189-232

Coleman, S. 2000. Access to capital and terms of credit: A comparison of men- and women-owned small businesses. Journal of Small Business Management. 38(3): 37-52.

Cuñat, V. 2007. Trade credit: Suppliers as debt collectors and insurance providers. The Review of Financial Studies. 20(2): 491–527.

De Mel, S., McKenzie, D. and Woodruff, C. 2008. Returns to capital in microenterprises: Evidence from a field experiment. Quarterly Journal of Economics. 123(4): 1329–1372.

Dupas, P. and Robinson, J. 2013. Savings constraints and microenterprise development: Evidence from a field experiment in Kenya. American Economic Journal: Applied Economics. 5(1): 163–192.

Emery, G. and Nayar, N. 1998. Product quality and payment policy. Review of Quantitative Finance and Accounting. 10(3): 269-284.

Fabbri, D. and L. Klapper. 2009. Trade credit and the supply chain. Mimeo, University of Amsterdam.

Fisman, R. and Love, I. 2003. Trade credit, financial intermediary development, and industry growth. Journal of Finance. 58: 353-374.

Galor, O. and Moav, O. 2004. From physical to human capital accumulation: Inequality and the process of development. Review of Economic Studies. 71(4): 1001–1026.

Galor, O. and Zeira, J. 1993. Income distribution and macroeconomics. Review of Economic Studies 60(1): 35–52.

Giannetti, M., Burkart, M. and Ellingsen, T. 2008. What you sell is what you lend? Explaining trade credit contracts. Review of Financial Studies. 24(4): 1261-1298.

Gibbons, S. 2004. The costs of urban property crime. Economic Journal. 114(499): 441–463.

Glaeser, E., Sacerdote, B. and Scheinkman, J. 1996. Crime and social interactions. The Quarterly Journal of Economics. 111(2): 507-548.

Heller, S., Shah, A., Guryan, J., Ludwig, J., Mullainathan, S. and Pollack, H. 2017. Thinking, fast and slow? Some field experiments to reduce crime and dropout in Chicago. Quarterly Journal of Economics. 132(1): 1-54.

Klapper, L., Laeven, L. and Rajan, R. 2006. Entry regulation as a barrier to entrepreneurship. Journal of Financial Economics. 82(3): 591–629.

Kudzaishe, D. and Fatoki, O. 2012. The impact of gender on SME characteristics and access to debt finance in South Africa. Development Southern Africa. 29(3): 448-461.

Lee, Y. and Stowe, J. 1993. Product risk, asymmetric information, and trade credit. Journal of Financial and Quantitative Analysis. 28(2): 285-300.

Levitt, S. 2006. White-collar crime writ small: A case study of bagels, donuts, and the honor system. American Economic Review. 96(2): 290-294.

Long, M., Malitz, I. and Ravid, S. 1993. Trade credit, quality guarantees, and marketability. Financial Management. 22(4): 117-127.

Lopez, H. and Serven, L. 2009. Too poor to grow. World Bank Policy Research Working Paper 5012.

Mian, S. and Smith, C. 1992. Accounts receivable management policy: Theory and evidence. Journal of Finance. 47(1): 169-200.

Ng, C., Smith, J. and Smith, R. 1999. Evidence on the determinants of credit terms used in interfirm trade. Journal of Finance. 54(3): 1109-1129.

Nilsen, J. 2002. Trade credit and the bank lending channel. Journal of Money, Credit and Banking. 34(1): 226-253.

Smith, J. 1987. Trade credit and informational asymmetry. Journal of Finance. 42(4): 863-872.

Thaler, R. 1978. A note on the value of crime control: Evidence on the property market. Journal of Urban Economics. 5: 137–145.

Witte, A. 1980. Estimating the economic model of crime with individual data. Quarterly Journal of Economics. 94(1): 57-84.

Table 1

Summary Statistics

This table contains statistics on all variables and for all firms.

Variable	Description	Unit	Obs	Mean	Std. Dev.	Min	Max
	Variable studied						
Unexpected Losses	In fiscal year, did this establishment experience losses as a result of theft, robbery, vandalism, arson on this establishment's premises or from internet hacking or fraudulent internet transactions?	Dummy	90598	.1720347	.3774127	0	1
	Sources of finance (Dependent variable)						
Alternative Finance	Sum of working capital financed from alternative sources	Percent	90598	14.34624	25.34083	0	100
Credit from Non-Bank Institutions	% of working capital borrowed from non-bank financial institutions	Percent	90456	1.31234	7.748322	0	100
Credit from Suppliers/Costumers	% of working capital purchased on credit/advances from suppliers /customers	Percent	90598	10.22098	20.91331	0	100
Credit from Money Lenders/Friends/Relatives	% of working capital financed by other (money lenders, friends, relatives, etc.)	Percent	90451	2.819549	12.22819	0	100
Credit from Bank	% of working capital borrowed from banks	Percent	89627	12.9978	24.18785	0	100
	Controls: Firm Characteristics						
Female Owners	Amongst the owners of the firm, are there any females?	Dummy	90598	.3168723	.4652598	0	1
Female Owners 2	Dummy from female ownership categories	Dummy	90598	.0602993	.2380419	0	1
Years of Operations	Years of operations	Natural	89523	18.33343	15.39858	0	340
Size	Small, medium, and large firm categories based on no. of employees	(1=Small, 2=Medium, 3=Large)	90598	1.724034	.7639508	1	3
Shareholding Company	Dummy variable equals to 1 if the legal status of the firm is a private or public shareholding company	Dummy	88916	.4204418	.4936327	0	1
Largest Owner	Percentage own by the largest shareholder/owner	Percent	86955	79.30586	26.42035	0	100
Political Instability	How much of an obstacle: political instability	Percent	88199	.3029853	.4595515	0	1
External Auditor	Dummy variable equals to 1 if the firm had its annuals Statements Checked and certificated by an external auditor	Dummy	89004	.5311559	.4990312	0	1
Number Full-time Workers	Number of workers (full time equivalent)	Natural	90386	.608103	.4881766	0	1

Table 2

Alternative Finance Analyses

This table present the regression analysis results with Alternative Finance as a dependent variable. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	2.519***	2.583***	1.894***	1.996***
	(0.221)	(0.236)	(0.272)	(0.287)
Female Owners	0.774***	0.666***	0.442**	0.346
	(0.183)	(0.198)	(0.201)	(0.217)
Years of Operations		-0.013**		-0.013**
		(0.006)		(0.006)
Size		-0.394***		-0.392***
		(0.133)		(0.133)
Shareholding Company		1.192***		1.192***
		(0.260)		(0.260)
Largest Owner		-0.006*		-0.006*
		(0.004)		(0.004)
Political instability		0.469**		0.471**
		(0.213)		(0.213)
External Auditor		-0.676***		-0.669***
		(0.201)		(0.201)
Number Full-time Workers		0.025		0.027
		(0.194)		(0.194)
Unexpected Losses x **Female Owners**			1.751***	1.672***
			(0.443)	(0.469)
Observations	90,598	81,235	90,598	81,235
R-squared	0.110	0.111	0.110	0.111
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Table 3

Credit from Non-Bank Institutions Analyses

This table present the regression analysis results with Credit from Non-Bank Institutions as a dependent variable. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	0.363***	0.418***	0.367***	0.402***
	(0.071)	(0.075)	(0.087)	(0.091)
Female Owners	0.174***	0.207***	0.176***	0.198***
	(0.059)	(0.063)	(0.065)	(0.069)
Years of Operations		-0.008***		-0.008***
		(0.002)		(0.002)
Size		0.003		0.003
		(0.042)		(0.042)
Shareholding Company		0.108		0.108
		(0.082)		(0.082)
Largest Owner		0.001		0.001
		(0.001)		(0.001)
Political Instability		0.063		0.063
		(0.067)		(0.067)
External Auditor		-0.023		-0.023
		(0.064)		(0.064)
Number Full-time Workers		-0.098		-0.098
		(0.061)		(0.061)
Unexpected Losses x **Female Owners**			-0.011	0.045
			(0.142)	(0.148)
Observations	90,456	81,115	90,456	81,115
R-squared	0.019	0.021	0.019	0.021
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Table 4

Credit or Advances from Suppliers or Costumers

This table present the regression analysis results with Credit from Suppliers/Costumers as a dependent.
***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	1.555***	1.458***	1.096***	0.990***
	(0.181)	(0.194)	(0.223)	(0.237)
Female Owners	0.450***	0.258	0.206	0.002
	(0.150)	(0.163)	(0.165)	(0.179)
Years of Operations		0.011**		0.011**
		(0.005)		(0.005)
Size		0.166		0.167
		(0.110)		(0.110)
Shareholding Company		0.828***		0.828***
		(0.214)		(0.214)
Largest Owner		-0.006*		-0.006*
		(0.003)		(0.003)
Political Instability		0.410**		0.412**
		(0.176)		(0.176)
External Auditor		-0.291*		-0.286*
		(0.166)		(0.166)
Number Full-time Workers		0.377**		0.379**
		(0.160)		(0.160)
Unexpected Losses x **Female Owners**			1.287***	1.333***
			(0.363)	(0.387)
Observations	90,598	81,235	90,598	81,235
R-squared	0.123	0.124	0.123	0.124
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Table 5

Credit from Money Lenders, Friends Relatives or others

This table present the regression analysis results with Credit from Money Lenders/Friends/Relatives as a dependent. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	0.602***	0.709***	0.433***	0.606***
	(0.110)	(0.115)	(0.135)	(0.140)
Female Owners	0.152*	0.204**	0.061	0.147
	(0.091)	(0.097)	(0.100)	(0.106)
Years of Operations		-0.016***		-0.016***
		(0.003)		(0.003)
Size		-0.563***		-0.562***
		(0.065)		(0.065)
Shareholding Company		0.261**		0.261**
		(0.127)		(0.127)
Largest Owner		-0.002		-0.002
		(0.002)		(0.002)
Political Instability		-0.002		-0.002
		(0.104)		(0.104)
External Auditor		-0.363***		-0.362***
		(0.098)		(0.098)
Number Full-time Workers		-0.254***		-0.254***
		(0.095)		(0.095)
Unexpected Losses x **Female Owners**			0.475**	0.293
			(0.221)	(0.229)
Observations	90,451	81,109	90,451	81,109
R-squared	0.056	0.053	0.056	0.053
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Table 6

Credit from Banks

This table present the regression analysis results with Credit from Banks as a dependent. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	2.664***	1.493***	3.017***	1.695***
	(0.211)	(0.222)	(0.259)	(0.270)
Female Owners	2.172***	1.540***	2.361***	1.652***
	(0.175)	(0.187)	(0.193)	(0.205)
Years of Operations		-0.014**		-0.014**
		(0.006)		(0.006)
Size		2.850***		2.850***
		(0.126)		(0.126)
Shareholding Company		1.260***		1.260***
		(0.244)		(0.244)
Largest Owner		-0.028***		-0.028***
		(0.003)		(0.003)
Political Instability		0.824***		0.823***
		(0.200)		(0.200)
External Auditor		4.033***		4.031***
		(0.189)		(0.189)
Number Full-time Workers		2.186***		2.185***
		(0.183)		(0.183)
Unexpected Losses x **Female Owners**			-0.986**	-0.576
			(0.423)	(0.441)
Observations	89,627	80,433	89,627	80,433
R-squared	0.119	0.147	0.119	0.147
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Table 7

Alternative Finance Analyses

This table present the regression analysis results with Alternative Finance as a dependent variable. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Unexpected Losses	2.229***	1.915***	1.998***	1.976***	2.047***	1.750***	2.197***	2.109*
	(0.380)	(0.585)	(0.354)	(0.751)	(0.333)	(0.378)	(0.462)	(1.133)
Female Owners	0.341	0.347	0.346	0.345	0.347	0.351	0.343	0.345
	(0.218)	(0.217)	(0.218)	(0.218)	(0.217)	(0.218)	(0.217)	(0.218)
Years of Operations	-0.010	-0.013**	-0.013**	-0.013**	-0.013**	-0.013**	-0.013**	-0.010
	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)
Size	-0.391***	-0.401***	-0.392***	-0.392***	-0.392***	-0.396***	-0.391***	-0.407***
	(0.133)	(0.144)	(0.133)	(0.133)	(0.133)	(0.133)	(0.133)	(0.146)
Shareholding Company	1.194***	1.191***	1.193***	1.192***	1.192***	1.189***	1.193***	1.185***
	(0.260)	(0.260)	(0.275)	(0.260)	(0.260)	(0.260)	(0.260)	(0.277)
Largest Owner	-0.006*	-0.006*	-0.006*	-0.006	-0.006*	-0.006*	-0.006*	-0.006
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Political Instability	0.472**	0.471**	0.471**	0.471**	0.500**	0.472**	0.471**	0.497**
	(0.213)	(0.213)	(0.213)	(0.213)	(0.233)	(0.213)	(0.213)	(0.233)
External Auditor	-0.667***	-0.670***	-0.669***	-0.669***	-0.670***	-0.747***	-0.668***	-0.767***
	(0.201)	(0.201)	(0.201)	(0.201)	(0.201)	(0.215)	(0.201)	(0.217)
Number Full-time Workers	0.024	0.028	0.027	0.027	0.027	0.029	0.066	0.082
	(0.194)	(0.194)	(0.194)	(0.194)	(0.194)	(0.194)	(0.207)	(0.209)
Unexpected Losses x **Female Owners**	1.699***	1.671***	1.673***	1.675***	1.667***	1.651***	1.685***	1.688***
	(0.470)	(0.469)	(0.472)	(0.478)	(0.469)	(0.469)	(0.470)	(0.480)
Unexpected Losses x Years of Operations	-0.012							-0.015
	(0.013)							(0.014)
Unexpected Losses x Size		0.046						0.071
		(0.289)						(0.333)
Unexpected Losses x Shareholding Company			-0.003					0.037
			(0.457)					(0.491)
Unexpected Losses x Largest Owner				0.000				0.000
				(0.009)				(0.009)
Unexpected Losses x Political Instability					-0.143			-0.125
					(0.476)			(0.477)
Unexpected Losses x External Auditor						0.455		0.581
						(0.454)		(0.488)
Unexpected Losses x Number Full-time Workers							-0.282	-0.390
							(0.508)	(0.537)
Observations	81,235	81,235	81,235	81,235	81,235	81,235	81,235	81,235
R-squared	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111
Country Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES

Table 8

Alternative Finance Analyses

This table present the regression analysis results with Alternative Finance as a dependent. Additionally, "Female Owners" variable was changed for "Female Owners 2" to evaluate robustness of the results. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	2.540***	2.593***	2.400***	2.483***
	(0.221)	(0.236)	(0.228)	(0.242)
Female Owners 2	0.807**	0.855**	0.426	0.555
	(0.357)	(0.380)	(0.386)	(0.411)
Years of Operations		-0.012**		-0.012**
		(0.006)		(0.006)
Size		-0.397***		-0.397***
		(0.133)		(0.133)
Shareholding Company		1.239***		1.243***
		(0.260)		(0.260)
Largest Owner		-0.009**		-0.009**
		(0.004)		(0.004)
Political Instability		0.476**		0.475**
		(0.213)		(0.213)
External Auditor		-0.660***		-0.659***
		(0.201)		(0.201)
Number Full-time Workers		0.035		0.033
		(0.194)		(0.194)
Unexpected Losses x **Female Owners 2**			2.362***	1.847*
			(0.911)	(0.958)
Observations	90,598	81,235	90,598	81,235
R-squared	0.110	0.111	0.110	0.111
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Table 9

Credit from Non-Bank Institutions Analyses

This table present regression analysis results with Credit from Non-Bank Institutions as a dependent variable. Additionally, the "Female Owners" variable was changed for "Female Owners 2" to evaluate robustness of the results. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	0.368***	0.421***	0.354***	0.409***
	(0.071)	(0.074)	(0.073)	(0.077)
Female Owners 2	0.310***	0.307**	0.271**	0.272**
	(0.115)	(0.120)	(0.124)	(0.130)
Years of Operations		-0.008***		-0.008***
		(0.002)		(0.002)
Size		0.003		0.003
		(0.042)		(0.042)
Shareholding Company		0.123		0.123
		(0.082)		(0.082)
Largest Owner		0.000		0.000
		(0.001)		(0.001)
Political Instability		0.065		0.065
		(0.067)		(0.067)
External Auditor		-0.018		-0.018
		(0.064)		(0.064)
Number Full-time Workers		-0.095		-0.095
		(0.061)		(0.061)
Unexpected Losses x **Female Owners 2**			0.240	0.212
			(0.293)	(0.303)
Observations	90,456	81,115	90,456	81,115
R-squared	0.019	0.021	0.019	0.021
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Table 10

Credit or Advances from Suppliers or Costumers

This table present the regression analysis results with Credit from Suppliers/Costumers as a dependent variable. Additionally, "Female Owners" variable was changed for "Female Owners 2" to evaluate robustness of the results. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	1.565***	1.462***	1.523***	1.423***
	(0.181)	(0.194)	(0.187)	(0.200)
Female Owners 2	-0.083	-0.009	-0.197	-0.114
	(0.292)	(0.314)	(0.316)	(0.339)
Years of Operations		0.011**		0.011**
		(0.005)		(0.005)
Size		0.160		0.160
		(0.110)		(0.110)
Shareholding Company		0.841***		0.842***
		(0.214)		(0.214)
Largest Owner		-0.007**		-0.007**
		(0.003)		(0.003)
Political Instability		0.412**		0.412**
		(0.176)		(0.176)
External Auditor		-0.287*		-0.286*
		(0.166)		(0.166)
Number Full-time Workers		0.381**		0.380**
		(0.160)		(0.160)
Unexpected Losses x **Female Owners 2**			0.704	0.647
			(0.747)	(0.791)
Observations	90,598	81,235	90,598	81,235
R-squared	0.122	0.124	0.122	0.124
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Table 11

Credit from Money Lenders, Friends Relatives or others

This table present the regression analysis results with Credit from Money Lenders/Friends/Relatives as a dependent variable. Additionally, "Female Owners" variable was changed for "Female Owners 2" to evaluate robustness of the results. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	0.609***	0.712***	0.525***	0.654***
	(0.110)	(0.115)	(0.113)	(0.118)
Female Owners 2	0.579***	0.556***	0.353*	0.397**
	(0.177)	(0.186)	(0.192)	(0.201)
Years of Operations		-0.016***		-0.016***
		(0.003)		(0.003)
Size		-0.559***		-0.559***
		(0.065)		(0.065)
Shareholding Company		0.279**		0.281**
		(0.127)		(0.127)
Largest Owner		-0.002		-0.002
		(0.002)		(0.002)
Political Instability		0.000		-0.000
		(0.104)		(0.104)
External Auditor		-0.357***		-0.356***
		(0.098)		(0.098)
Number Full-time Workers		-0.251***		-0.252***
		(0.095)		(0.095)
Unexpected Losses x **Female Owners 2**			1.403***	0.971**
			(0.453)	(0.467)
Observations	90,451	81,109	90,451	81,109
R-squared	0.056	0.053	0.056	0.053
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Table 12

Credit from Banks

This table present the regression analysis results with Credit from Banks as a dependent variable. additionally, "Female Owners" variable was changed for "Female Owners 2" to evaluate robustness of the results. ***, **, * denote significance at 1%, 5% and 10%, respectively.

VARIABLES	(1)	(2)	(3)	(4)
Unexpected Losses	2.710***	1.515***	2.695***	1.482***
	(0.211)	(0.222)	(0.217)	(0.228)
Female Owners 2	-0.874**	0.797**	-0.915**	0.705*
	(0.342)	(0.360)	(0.371)	(0.390)
Years of Operations		-0.013**		-0.013**
		(0.006)		(0.006)
Size		2.825***		2.825***
		(0.126)		(0.126)
Shareholding Company		1.352***		1.353***
		(0.244)		(0.244)
Largest Owner		-0.033***		-0.033***
		(0.003)		(0.003)
Political Instability		0.836***		0.836***
		(0.200)		(0.200)
External Auditor		4.061***		4.062***
		(0.189)		(0.189)
Number Full-time Workers		2.207***		2.207***
		(0.183)		(0.183)
Unexpected Losses x **Female Owners 2**			0.255	0.562
			(0.869)	(0.902)
Observations	89,627	80,433	89,627	80,433
R-squared	0.118	0.146	0.118	0.146
Country Fixed Effects	YES	YES	YES	YES
Sector Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES