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**Entrepreneurship Financing through Local Equity Market and Access to Loans  
on Gender Perspective: Regression Analysis of Country Effects**

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**Abstract**

The low participation of in entrepreneurship and the low level of women entrepreneurship is often linked by the financial incentives. Thus, the assumptions in this study suggest that entrepreneurship facilities could easily increase in on developed financial environment. This study argues that the organizational environment of an entrepreneurs highly impacts the entrepreneurship level of individuals. To begin with, the study tries to explore the effects of gender on entrepreneurship and then effects of financial environment on both the level of entrepreneurship and women entrepreneurship.

The study identifies which factors increase entrepreneurial motivation. The study draws a conceptual framework related entrepreneurship regarding both gender and two financial variables: financing through local equity market, ease of access to loans. Based on this framework, a large sample of cross-sectional time series data constructed by integrating several databases was tested. The multilevel logistic regression estimation techniques with country random intercepts were used. After controlling the industry effects, year effects, several individual and country level variables effects on the measure of entrepreneurial activity; the study concluded that entrepreneurial activity and the women entrepreneurship improve by the factors: financing through local equity market, ease of access to loans.

The results of the analyses are almost completely consistent with the conceptual framework of this study. In general, the findings emphasize the importance of financial environment on entrepreneurship and women's participation in entrepreneurial activities.

**Key Words:** Entrepreneurship, Women Entrepreneurship, Financing through Local Equity Market, Ease of Access to Loans, Financial Environment.

**1-INTRODUCTION**

Environmental compatibility is crucial factor for every enterprise. There are environmental factors that directly and indirectly impact enterprises. Environmental factors that directly affect

the enterprise are financial factors, public regulations, consumers, suppliers and competitors etc. The most important environmental factor that directly affects an entrepreneur's decision to start a new enterprise is financial factors (El-Chaarani and El-Abiad, 2019). Moreover, the biggest challenge compared to old ventures that a new start-up faced is the financial difficulty. Surveys gathering information about current and potential entrepreneurs show that providing adequate access to financial capital is one of the biggest obstacles to establish a new business and to sustain its success. Many studies clearly demonstrate the link between finance and entrepreneurship and they argue that the availability of financial resources is the most important constraint in the organizational and marketing capacity of an enterprise. Enhancing a suitable financial environment for entrepreneurship depends on regular monetary and fiscal policies and the availability of necessary financial factors. Besides, both the equity status and loan supply conditions directly affect women's decision to engage in entrepreneurship activities as well. Increasing the level of entrepreneurship in economies is vital in order to increase the welfare of individuals in societies, to provide more job opportunities to them and to increase added value facilities to develop the economies. Therefore, today regulating fiscal policies and improving financial welfare are the most popular topics related being discussed in all economies in order to increase the number of entrepreneurs.

## **2-LITERATURE**

Financial institutions are external resources that entrepreneurs apply to meet their funding needs. Entrepreneur borrows money from financial institutions by the loan. Entrepreneurs can obtain their funding needs from various sources such as banks and creditors. They can also meet their needs by selling stocks and bonds on the stock market. In addition, when necessary, entrepreneurs can meet these needs by leasing movable or immovable investment goods instead of purchasing them (Sian and Roberts, 2009). By its nature, the leasing method is the use of a tangible property defined by a lessee company for a certain fee, without the need for direct purchase by the lessor. In the capital lease agreement including finance and investment, the subject of leasing is considered as the property of the leased lessee (Merrill, 2020). Further the rental expenses are classified as principal value and interest expense.

The benefit provided by the asset in a finance lease is almost a benefit that is very close to its life cycle. The lessee can deduct some expenses from taxes, and thus the cost of financial leasing is limited only to the amount of repayment of the interest from the lease (Lewis and Schallheim, 1992).

Financial leasing has many important functions in economic practice. When undertaking a venture, a company must make a number of investments. Financial leasing is also the most

suitable financing tool, used for once, to meet the minimum investment amount. Financial leasing provides the development of entrepreneurial activities by increasing the flexibility, innovation and competitiveness of the enterprises (Kolpak et. al., 2016).

Entrepreneurs' expectations from financial institutions are to regulate a payment plan by spreading their debts over the long term. On the other hand, financial institutions expect entrepreneurs to pay their debts in due time. In many countries, the government uses the large savings pool of rural and urban communities to finance budget deficits, and these savings are used as a financial resource for investments in micro-enterprises and entrepreneurs on a local scale (Thaker, 2018). As a result of budget deficit financing, the development of entrepreneurs and micro enterprises, which form the backbone of economies, is restricted. This restriction, which causes credit crunch, can be eliminated by creating donor funds.

Mixing social, political, and economic criteria within a government-owned financial institution can lead to misappropriation of scarce resources and poor loan repayment rates. A well-functioning market predicts financial sector development (Dowla, 2006). In this respect, the government and the private sector assume different roles and responsibilities, with the participation of governments in banking and the impact of ongoing liberalization and globalization on financial market trends.

Since entrepreneurs have the courage to adopt risks in the face of uncertainty, they convert current conditions into opportunities (El-Chaarani and Raimi, 2021). Start-up costs include all official fees and additional fees for legal and professional services related to incorporating a business into the market system. These costs are measured as a percentage of the economy's per capita income. The minimum capital requirement to be paid is the amount an entrepreneur must deposit before or immediately after a bank transaction. At the same time, notarization has to be recorded as a percentage of per capita income (Gale, 2018).

The entrepreneur should apply real option theory to sustain the growth of a new venture. Real option theory provides a coherent framework for considering individuals' resource allocation decisions. This model is affected by tradeoffs associated with opportunity costs and, in part, irreversible resource allocation. The irreversible resource allocation states that the more valuable the resources allocated to the enterprise, the higher the growth prospects. Valuable resources are expected to yield higher returns; this is because the interference not only matches the value of the resource, but also adds the cost of external uncertainties to the value of the resource (Adner and Levinthal, 2004). Research on the impact of external uncertainty on entrepreneurship is enriched by institutional and financial conditions that regulate opportunity costs.

According to an institutional approach, explaining differences in entrepreneurship and income levels and growth rates between regions are very crucial to reach success. The institutional approach, which focuses on how economic institutions and financial factors affect entrepreneurship, discusses the critical role of institutions in terms of economic growth with the role of entrepreneurship. From the utility-maximizing perspective, an individual's household income magnifies entrepreneurial growth goals in three ways (Dau et al., 2021):

First, similar to education, household income increases an individual's income expectations while increasing perceived opportunity costs. Similar to tertiary-educated individuals, high-income households demand an upfront need for the quality of their entrepreneurial opportunities when choosing between alternative vocational pursuits. High-income households empowering this mechanism could also provide fertile environments to access high-quality opportunities, as the social connectivity associated with financial wealth will enable them to see more entrepreneurial growth opportunities than high-income families (Ratha et. al, 2016).

Second, higher household incomes bring higher income expectations. When the decision to start a new venture is given, members of high-income families are motivated to work harder than ever before in order to earn required income. From a genuine option perspective, working hard to ensure success reduces negativity risks and thus increases the value of early action (Ratha et. al, 2016).

Third, high-income families are better given financial resources. The option to apply for venture capital to access resources is usually only available for the most promising ventures. Financial capital inputs increase the entrepreneur's ability to acquire other resources such as human and intellectual capital necessary to sustain entrepreneurial growth. The fact that the capacity to obtain resources from markets is faster translates into faster growth expectations and actions (Ratha et. al, 2016).

It is possible for almost all countries to have an effective financial sector by encouraging the investments of their own society (local population), as well as by paving the way for investments from foreign sources. There is strong empirical evidence that the emergence of new businesses in the same industry intensifies competition in the output market, resulting in increased productivity. Instead of paving the way for investments that contribute to the economy from external sources through political connections, the most important attitude to be followed in this context is to allocate resources. Supporting the initiatives and projects of foreign investors by making the market attractive with the highest return rates is also crucial for the development of entrepreneurship.

One of the most recent contributions about the entrepreneurship and thus to economics is the theory of productive and unproductive entrepreneurship. According to this theory, entrepreneurial individuals choose to increase their labor efforts either to improve wealth with the private sector or to secure wealth through political and legal processes such as lobbying. The theory argues that entrepreneurs exploit profit opportunities not only within private markets, but also in the political and legal spheres. This choice of the entrepreneur is influenced by the activities and rates of return shaped by the quality of the existing political and legal institutions.

Another theory related entrepreneurship argues that there is an important relationship among the quality measures of the state's political, legal institutions, the rates of productive and unproductive entrepreneurship. The theory states that the decent corporate structures ensure high venture capital investment per capita, high patents per capita, fast sole proprietorships, and a high venture rate (Sobel, 2008).

The profitability of inefficient political and legal entrepreneurship declines when institutions provides effective constitutional limits when institutions protect property rights, when a fair and balanced judiciary is ensured, contracts are duly enforced, and the government's ability to transfer wealth through taxation and regulation increases. Within the framework of this incentive structure, entrepreneurial individuals are likely to engage in new and successful ventures in productive markets. Therefore, there are some differences of entrepreneurship in terms of outcomes, rewards and incentives. In general, the political institutions in the economies dominate the outcomes of entrepreneurial facilities.

### **3. CONCEPTUAL FRAMEWORK**

In order to contribute to the motivation of entrepreneurs and to support the development of new approaches and solutions to the environmental and financial challenges entrepreneurs face with, it is important to analyze the potential positive and negative effects of the environmental factors on entrepreneurs. Since, the social network and the financing options offered to the entrepreneurs are vital for new starters to survive.

This study aims to analyze the financial dynamics, which are the environmental factors that are thought to affect new entrepreneurs who desire to engage in entrepreneurial activities, and to examine the direct effects of financial factors on entrepreneurial activities and the interaction effects of gender and financial factors. In this context, the factors that will lead individuals to adopt entrepreneurship as a career choice and enable them to continue their enterprises successfully will be discussed.

The key question of this study is “How does the development of the financial system in a country affect both entrepreneurship and women entrepreneurship as well?”.

Micro (small) businesses and start-ups are important drivers of socioeconomic development on the world. New ventures form the social structure and produce sustainable development, because they are tightly connected to their sector. However, in developing countries, limited access to finance often poses a serious barrier to the new comers. Limited resources and finance generally prevent the growth and sustainability of these ventures (Colombelli et. al., 2016).

Micro businesses and new ventures usually support both local production and consumption. These enterprises also provide their products and services to large enterprises that contribute to economic growth and social development (Karadag, 2016). In doing so, these businesses promote the development of the private sector. By the tens of thousands of business start-up opportunities are available to individuals and new enterprises can help keep individuals away from poverty and isolation.

In order to ensure that start-ups take the right place in the economy, the financing and other financial services that meet entrepreneurs’ need could be enough and accessible. If so, startups can develop their full potential as economic drivers in many countries.

### **The Effects of Gender on Entrepreneurship**

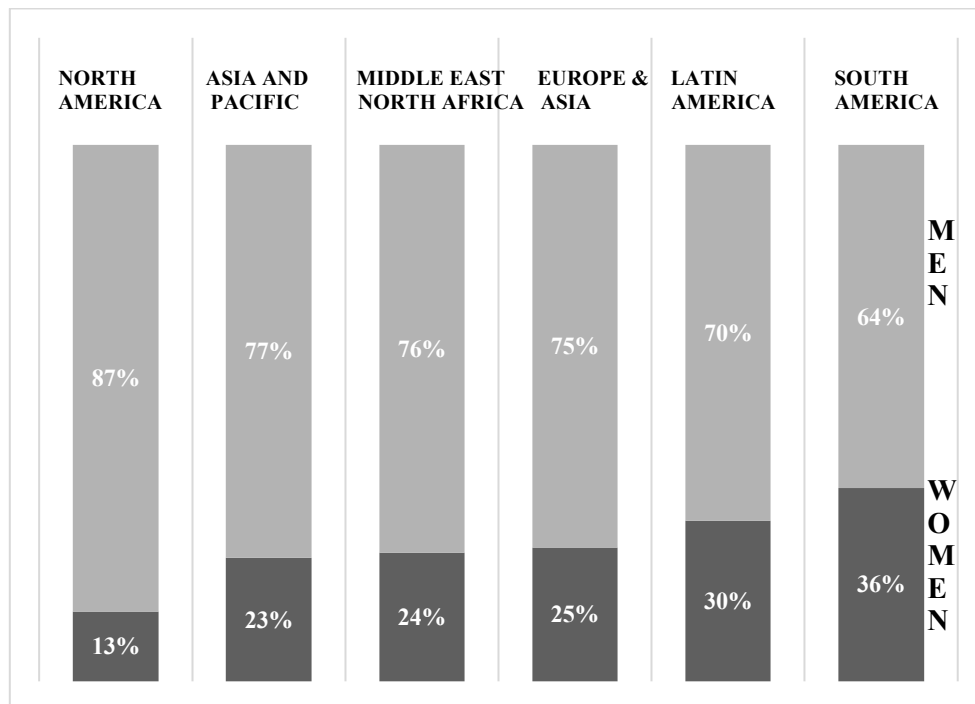
Hypothesis 1: Females have less entrepreneurial motivation than males.

With hypothesis 1, the relationship between gender and entrepreneurship was examined. Thus, it is aimed to have an idea about how being a woman and a man influences and motivates entrepreneurship. Possible reasons for the difference in the distribution of entrepreneurship by gender; women do not prefer to be entrepreneurs of their own free will, women make less attempts than men due to individual or cognitive reasons.

The reason for the difference between two gender of entrepreneurship motivation is because women do not prefer to be entrepreneurs of their own free will and women are less willing to take initiatives than men due to individual or cognitive reasons. Women who desire to engage in entrepreneurial facilities have different beliefs than men about the value of opportunity and resources (Calás et. al., 2009). This is another reason why women have a lower rate of entrepreneurship than men.

Bringing together several different sources is essential to produce a totally new product or service by entrepreneurship. Male entrepreneurs have more entrepreneurial approaches while initiating than female entrepreneurs have. This is a result of men making more accurate resource price estimations than resource owners and women. As a matter of fact, if resource owners and women have the same assumptions as male entrepreneurs; male entrepreneurs try to profit from

this opportunity by re-pricing the resources so that their profits are zero. However, when the entrepreneurship rates of women and men are compared, it is seen that this is not the case. If all potential entrepreneurs, men and women, considered the same entrepreneurial assumptions; they would compete for the same entrepreneurial profit and split the profit of the venture until the profit that encouraged the pursuit of opportunity disappeared. But in reality, such a situation does not even exist between male and female entrepreneurs.



**Figure 1.** The Entrepreneurship Rates of Female & Male Entrepreneurs Worldwide  
**Source:** (GEM Report, 2019/2020)

As it can be seen from Figure 1, while the rate of women entrepreneurs initiating entrepreneurship is 13% in North America, this rate is 23% in Asia and Pacific countries, 24% in Middle East and North African countries, 25% in Europe and Central Asian countries, and Latin America. It is 30% in Turkey and 36% in South America. In short, it is seen that female entrepreneurs are less than male entrepreneurs around the world.

Most researchers attribute the reason for this difference between men and women to the inequality of opportunity between the two gender. While some of the reasons for the inequality of opportunity between women and men can be explained by individual factors; some reasons are explained by institutional factors. In the following part, financial development and its sub-

factors, which are among the institutional factors that are expected to eliminate the inequality of opportunity between women and men, will be discussed.

### **The Effects of Facilitation of Financing Through Local Capital on Entrepreneurship**

Hypothesis 2a: There is a positive relationship between the ease of obtaining financing through local capital in a country and the rate of entrepreneurship.

Hypothesis 2b: There is a positive interaction between gender and the ease of obtaining financing through local capital. Namely as financing becomes easier through local capital, the proportion of women among entrepreneurs increases.

One of the indispensable conditions for a well-functioning financial system including banks and capital markets; the existence of sound macroeconomic and policy frameworks. Strong capital institutions in the capital market provide the trust of entrepreneurs with their institutional framework. This is critical, as it paves the way for the protection of entrepreneurs, especially women entrepreneurs.

Capital markets increase economic well-being for all parties by promoting harmony in cash flow profiles and risk taking between entrepreneurs and intermediaries. The benefit of well-functioning markets; to protect entrepreneurs, to encourage deep and liquid markets and to manage the existing risk of the system. For this, it is critical to make adequate regulations for entrepreneurs and intermediaries in addition to robust capital market supervisory regulations.

### **The Effects of Ease of Access to Credits on Entrepreneurship**

Hypothesis 3a: There is a positive relationship between the ease of access to credit and the rate of entrepreneurship in a country.

Hypothesis 3b: There is a positive interaction between gender and ease of access to loans. Namely as access to loans becomes easier, the proportion of women among all entrepreneur increases.

The financial sector in developing countries consists of three sub-sectors: the formal, semi-formal and informal sectors. The formal financial sector is subject to banking laws, regulation and supervision by financial authorities and includes various banks (commercial, development, specialized, regional, cooperative), insurance companies, social security schemes, pension funds in some countries and capital markets. In many countries, the formal sector is largely urban-centered and organized primarily to meet the financial needs of the wealthier population and larger corporations.

Access to bank loans is the basic step for the entrepreneur's access to capital. Access to credit represents the transition from equity to the next layer of financing for the entrepreneurial process. It covers a wide range of areas such as regulation of entrepreneurial activities and trade



by credit, credit market regulation including ownership and competition measures in the banking sector. Concerning access to credit, the credit annuity prevents more than 1% of the American population from engaging in entrepreneurship.

Potential entrepreneurs may have problems accessing loans. Although many empirical studies find a positive relationship between personal wealth and firm acquisition and the probability of launching a successful venture. Based on empirical evidence from bank loan refusals, credit assessment is not very realistic in practice.

An entrepreneur who has been in business for more than two years can find the opportunity to raise capital through conventional bank loans. Many financial institutions refrain from allowing a business to borrow money in the start-up period, even if the financing needs are low.

Cyclical business loans can provide financing opportunities for more established businesses that have passed the initial stage, and these businesses can benefit from very low and fixed interest rates. In this way, raising capital can be faster than equity financing; however, it may also require more documentation and stricter just-in-time repayment terms. Also, for an entrepreneur who gets a business loan and can't repay the loan, the risk of losing his reputation and credibility and ruining the business relationship with the bank is quite high.

The stronger the relationship and information flow between lenders and borrowers, the greater the entrepreneurial optimism in business lending. The role of entrepreneurial optimism on a new venture is very important. Entrepreneurs with better access to credit generally obtain lower financing costs and thus have a more optimistic opinion about the venture in question.

#### **4. RESEARCH METHODOLOGY**

##### **4.1. Data Set**

In order to test the hypotheses of the study, data at the individual level and entrepreneurship rates at the country level were obtained from the Global Entrepreneurship Monitor (GEM) entrepreneurship database. GEM has been collecting data from many countries since 1999 with 2 different survey methods. One of these surveys is a survey of at least 2000 people randomly selected from each country. This survey measures the behavior and attitudes of entrepreneurs. The other is the survey made to at least 36 experts from each country. With this survey, it was aimed to analyze the entrepreneurship environment.

At the beginning of the survey process, those who participated in the survey between the ages of 18-64 were subjected to certain questions. According to their answers to these questions, it was measured whether the participants were entrepreneurs or not and whether their businesses were an enterprise. If the participant is an entrepreneur, the variable takes the value 1; In the case of not being an entrepreneur, the variable takes the value 0.

Participants determined as entrepreneurs were divided into 3 classes. These are 1) Nascent business entrepreneur, 2) Baby business entrepreneur, 3) Established business entrepreneur. Idle entrepreneurs are entrepreneurs who have ventures that have earned income for at least 3 months and at most 42 months since the venture has brought income. Mature entrepreneurs, on the other hand, are entrepreneurs who have ventures that have been more than 42 months old since the venture yielded income. Thus, the entrepreneurship rates of entrepreneurs aged 18-64 in the GEM dataset were calculated separately in 3 groups.

By bringing together the entrepreneurship rates of newborn and naive entrepreneurs, a scale that gives the entrepreneurship rate of any country and called Total Early-Stage Entrepreneurial Activity (TEA—Total Early Stage Entrepreneurial Activity) in the GEM database was determined.

Most of the studies in the literature analyze entrepreneurship in the category of Total Early-Stage Entrepreneurship Activity. Because the initiatives in this category are at the initial stage. There is an argument that more realistic and up-to-date data are analyzed while testing theories and hypotheses. The mature entrepreneur category surveyed was not included in the analysis of this study.

In the analysis, only the data of two groups of entrepreneurs in the Total Early-Stage Entrepreneurial Activity category were considered as dataset. The dataset of the study is related to the entrepreneurship rate covering approximately 200,000 people at the level of at least 93 countries between 2015 and 2020. It contains the most reliable and comprehensive GEM data worldwide.

There are several advantages to using GEM data. The GEM dataset provides information on a wide range of individual characteristics that are likely to have an impact on entrepreneurship, such as people's job skills, fear of failure, and social networks. The GEM is the only dataset that allows researchers to compare the level of entrepreneurship, its determinants and entrepreneurship rates at the micro level for many countries. GEM also includes data on regulatory measures in product markets, labor markets and the legal system, which are thought to have an impact on entrepreneurship. Thus, useful data set can be reached on the determinants of entrepreneurship levels across countries.

#### **4.2. The Dependent Variable**

The dependent variable of the study is the entrepreneurship rate. The dependent variable of this study was taken directly from the GEM dataset. The entrepreneurship rates were obtained directly from the GEM dataset. GEM asks entrepreneurs who participated in the survey questions about their entrepreneurial motivation and attempts. The dependent variable is

measured with a scale built in a binary structure. In cases where there is an entrepreneur who offers goods and services to the market as newcomers, the variable takes the value 1, while it takes the value 0 when it is not.

### **4.3. Independent variables**

#### *Gender*

This variable takes the value of 0 if the entrepreneur is male and 1 if the entrepreneur is female.

#### *Ease of Funding Through Local Capital*

This variable measures how easy it is for companies in a country to raise money by issuing stocks on the stock market. Asked in this variable executive opinion survey, “How easy is it in your country for firms to obtain financing by selling stocks or bonds in the capital markets?” given to the question; It was measured by averaging the answers classified as numbers from 1 to 7, with 1 = very difficult, 7 = very easy.

#### *Ease of Access to Credits*

This variable shows how easy it is to get a bank loan in a country with just a well-prepared business plan without any collateral. Access to loans should not be limited for high-risk and high-yielding investments such as ventures. In countries where access to loans is easy, the efficiency of the financial system can be mentioned.

Asked in this variable executive opinion survey, “How easy is it for companies in your country to get loans?” given to the question; It was measured by averaging the answers classified as numbers from 1 to 7, with 1 = very difficult, 7 = very easy.

#### *Control Variables*

In the study, control is applied for individual factors related to entrepreneurs that are thought to affect entrepreneurship.

#### *Confidence*

This control variable is a dual nature answer to the question “Do you have the knowledge, skills and experience needed to start a venture?” measured by the question. The “yes” (=1) answer to this question indicates the presence of self-confidence, and the “no” (0) answer indicates insufficient self-confidence.

#### *Age*

The age of the participant can also determine the type of entrepreneurship along with the entrepreneurship rate. Therefore, a control was applied for this feature of the participants as well. The age of the participants is measured by the absolute difference between the survey year and the year of birth.

#### *Education*

This variable is measured on a five-point scale by the number of years the respondents have graduated from or the number of years they have spent in school. This variable takes the value 0 if the participant has no education.

1-11 Years of Education Experience: If the entrepreneur has studied for a maximum of 11 years but is not a high school graduate, the variable takes the value 1.

12 Years of Education Experience: If the entrepreneur is a high school graduate, the variable takes the value of 2.

13-16 Years of Education Experience: If the entrepreneur has a vocational school or a bachelor's degree, the variable takes the value 3.

17-20 Years of Education Experience: If the entrepreneur has a graduate degree, the variable takes the value 4.

#### *Fear of Failure*

This control variable was related to the question “Does fear of failure prevent you from starting a business?” measured by the question. The answer of “yes” (=1) to this question indicates the presence of fear of failure, and the answer of “no” (0) indicates that there is no fear of failure.

#### *Social Capital*

It is expected that social capital has a positive effect on entrepreneurship. Control with this variable was applied to test the assumption that the entrepreneurial individual's knowing other entrepreneurs positively affects the entrepreneur's starting a business and being successful in this business. This variable corresponded to the question “Have you had a personal acquaintance with someone who started a business in the last two years?” measured by the question. The answer “yes” (=1) to this question indicates the existence of a social network containing entrepreneurs, and the answer “no” (0) indicates that there is no social network containing entrepreneurs.

#### *Entrepreneurship Experience*

This variable corresponds to the question “Have you sold, closed, or left a business in the last 12 months?” It is measured in a binary structure with the question. The answer of “yes” (=1) to this question indicates the existence of entrepreneurship experience, and the answer of “no” (0) indicates that there is no entrepreneurship experience.

### **4-4 Analysis Method**

The entrepreneurship rate, which is the dependent variable of this research; is a binary variable because it takes either 0 or 1. In this respect, it would be appropriate to use the logistic regression model to test the determined hypotheses. Since the dataset used in this study has a clustered structure, the participants (entrepreneurs) in the dataset are clustered in different

countries. By this, it is possible to measure unobservable or unmeasured characteristics of a country which affect entrepreneurs in this country. The effects could be clustered which means that observations of one effect from a cluster cannot be independent from the other effect. This lack of independence reduces the reliability of the regression estimation. This is because the unobservable country effect regression is added to the error term. However, since the error term will be related to the independent variables in the regression, the results obtained from the analysis will not be reliable.

In this case, it is necessary to distinguish between country effects and error terms. To do this, the mixed effect logistic regression estimation technique can be used. This estimation technique allows for more reliable coefficient estimation by taking into account (decomposing) country-level effects that are likely to affect entrepreneurship but are not measured. Therefore, mixed-effects (multilevel) logistic regression estimation technique was used to test the hypotheses of this study.

Country-specific unmeasured random effects are modeled with a vertical intercept. The average of these effects is 0 (zero). However, the estimation technique used in the analyzes gives the variance of these effects, giving an idea of how country-specific effects differ from each other. All regression estimates that occur during hypothesis testing include dummy variables for possible year and industry effects.

## **5-FINDINGS AND DISCUSSION**

Table 1 gives summary statistics of the data used in this study. According to this table, 26% of the businesses in the data set are classified as entrepreneurs. When the financial variables are examined, it is observed that the average of the ease of obtaining financing through local capital and the ease of access to loans seems to be below the value of 4. This situation gives an idea that the average opinions of the survey participants about the factors in the environment of entrepreneurship and selected criteria in this study are positive.

When the standard deviation of the values related to the financial variables is examined, it is understood that there are countries that can be considered good in the data set, as well as quite bad countries. Therefore, it is seen that there is a variance that needs to be analyzed between countries in terms of the financial environment in which entrepreneurial activities are carried out.

Based on the demographic variables, it could be argued that the average age of entrepreneurs is 37 years old. The entrepreneurs are graduated from high school at average level and 42% of the entrepreneurs are women.

Looking at the cognitive characteristics of these entrepreneurs, it is seen that 85% believe that they have the knowledge and skills needed to be successful in entrepreneurship. Apart from this, it is understood that 64% of them have at least one entrepreneur in their social network (among their acquaintances), but only 10% have a previous entrepreneurial experience. In terms of entrepreneurial opportunity expectation, it can be said that the entrepreneurs in the data set have an expectation (perception) that can be considered neither good nor bad on average. Finally, it is seen that 74% of the entrepreneurs who entered the data set have a fear of failure.

**Table 1. The Descriptive Statistics**

<b>Variable</b>	<b>Avarage.</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Max.</b>
<b>Entrepreneurship</b>	0,27	0,44	0	1
<b>Gender</b>	0,43	0,48	0	1
Confidence	0,85	0,35	0	1
Age	33,08	12,4	19	57
Education	2,75	1,01	0	4
Fear of Failure	0,81	0,44	0	1
Social Capital	0,73	0,48	0	1
Entrepreneurship Experience	0,3	0,15	0	1
Financing through Local Capital	4,26	0,77	1,33	7
The Ease of Access to Loans	4,4	0,79	2,3	6,41

Table 2. presents the mixed effect (multilevel) logistic regression estimation results used in hypothesis testing of this study. Due to the high correlation between the independent variables that measure the development of the financial system, testing all hypotheses simultaneously with a single regression model brings a multicollinearity problem. In such cases, which are very common in the literature, generally interrelated independent variables are included in the regression estimations alone. Therefore, in this study, direct and indirect (regulatory) effects on the variables related to the development of the financial system are tested with separate regression models. Table 2. summarizes all the hypothesis testing results of this study.

**Table 2. Hypothesis Testing Results**

<b>Model</b>	<b>H No</b>	<b>Direction</b>	<b>β</b>	<b>P-Value</b>	<b>Interaction</b>	<b>Worst</b>	<b>Most</b>	<b>Result</b>
1	H1	–	-0,04	0,01				Accept

2	H2a	+	0,20	0,001				Accept
3	H2b	+	0,06	0,001	$-0,29 + 0,06 \times \text{YSFT}$	-0,23	0,13	Accept
4	H3a	+	0,08	0,001				Accept
5	H3b	+	0,07	0,001	$-0,27 + 0,07 \times \text{KEK}$	-0,2	0,22	Accept

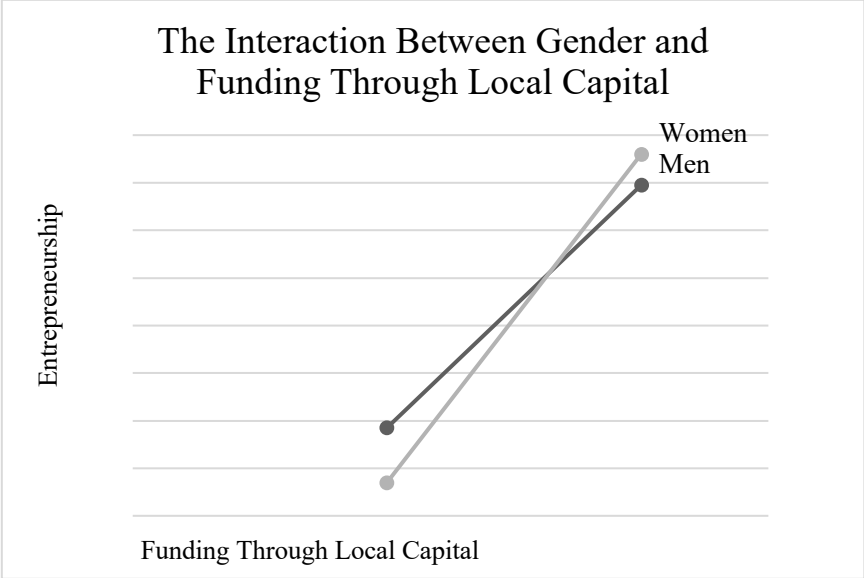
### **5-1-Model 1 and Model 2: The Effects of Facilitation of Financing through Local Capital**

Model 1 in Table 3 shows the relationship between the ease of financing through local capital and entrepreneurship. According to Hypothesis 5a, as the financing of local capital becomes easier, the probability of being an entrepreneur increases. According to Model 1, there is a positive relationship between the ease of obtaining financing through local capital and entrepreneurship ( $\beta=0.20$ ). At the same time, this relationship is quite significant and the Hypothesis 2a is supported ( $p<0.001$ ). According to the results in Model 1, a one-unit improvement in the ease of obtaining financing through local capital increases the probability of being an by 22% ( $e^{\beta},^{20}=1.22$  times).

Model 2 represents the interaction relationship between gender variable and ease of obtaining financing through local capital (YSFT). According to Hypothesis 2b, as financing through local capital becomes easier, the negative effect of being a woman entrepreneur decreases. Therefore, according to this Hypothesis 2b, as financing becomes easier through local capital, the probability of women to be entrepreneurs will increase more than men.

According to Model 2, the coefficient of the interaction term (gender x ease of obtaining financing through local capital) is positive and this relationship is statistically quite significant ( $\beta=0.06;p<0.001$ ). As can be seen, the results support Hypothesis 2b. In Model 2, the relationship between gender and entrepreneurship is expressed with the coefficient “ $-0.29+0.06x \text{YSFT}$ ”, other factors being constant. In other words, the effect of gender on entrepreneurship changes depending on the value of the variable of ease of financing through local capital. As mentioned in the research methodology section, the variable of ease of obtaining financing through local capital takes values between 1 (meaning "worst") and 7 (meaning "best"). In this case, when the ease of obtaining financing through local capital is the worst, the variable takes the value 1 and the effect of gender is expressed with the term “ $-0.29+0.06x 1=-0.23$ ”. That is, while the ease of obtaining financing through local capital is at its worst. The effect of gender on entrepreneurship will increase  $e^{-0},^{23}=0.80$  times. That is, when

the ease of obtaining financing through local capital is 1, the entrepreneurship rate of women among entrepreneurs decreases by 20%. the effect of gender on entrepreneurship will increase  $e^{-0,29+0,06 \times 7} = e^{0,13} = 1.14$  times. Therefore, the best case increases the probability of being an entrepreneur by 14% ( $e^{0,13} = 1.14$  times).



**Figure 2.** The Interaction Between Gender and Funding Through Local Capital

Figure 2. graphically presents the interaction relationship between gender and the ease of obtaining financing through local capital in a country. As can be seen in Figure 2, as the financing available through local capital increases, equality of opportunity occurs between men and women, and this situation positively affects entrepreneurship. In addition, the increase in financing through local capital affects women's initiatives more positively than men.

**5-2-Model 3 and Model 4: The Effects of Ease of Access to Credits**

Model 3 shows the relationship between ease of access to loans and entrepreneurship. According to Hypothesis 3a, as the access to loans becomes easier, the probability of entrepreneurs to be an entrepreneur increases. According to Model 3, there is a positive relationship between the ease of access to loans and entrepreneurship ( $\beta=0.08$ ). At the same time, this relationship is quite significant and the hypothesis is supported ( $p<0.001$ ). According to the results in Model 3, a one-unit improvement in the ease of access to loans increases the probability of being an entrepreneur by 8% ( $e^{0,08} = 1.08$  times).

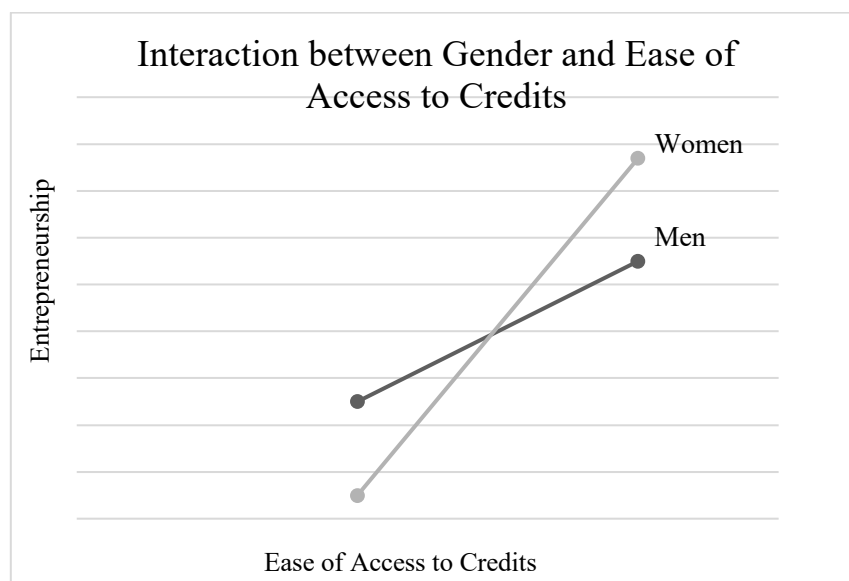
Model 4 represents the interaction relationship between gender variable and ease of access to loans (KEK). According to Hypothesis 3b, as access to loans becomes easier, the negative effect of being a woman entrepreneur on entrepreneurship decreases. Therefore, according to this hypothesis, as access to credit becomes easier, women will be more likely to be entrepreneurs



than men. According to Model 4, the coefficient of interaction term (gender x ease of access to loans) is positive and this relationship is statistically quite significant ( $\beta=0.07;p<0.001$ ). As can be seen, the results support Hypothesis 3b.

In Model 4, the relationship between gender and entrepreneurship is given with the term “ $-0.27+0.07x$  KEK”, other factors being constant. In other words, the effect of gender on entrepreneurship changes depending on the value of the variable of accessibility to loans. As mentioned in the methodology section, the variable of accessibility to loans takes values between 1 (meaning "worst") and 7 (meaning "best"). In this case, when the ease of access to loans is the worst, the variable takes the value of 1 and the effect of gender is expressed with the coefficient “ $-0.27+0.07x 1=-0.20$ ”. That is, while ease of access to loans is at its worst; the effect of gender on entrepreneurship will increase  $e^{-0,20}=0.82$  times. That is, when the ease of access to loans is set to 1, the entrepreneurship rate of women among entrepreneurs decreases by 18%.

On the other hand, when the ease of access to loans is at its best, that is, when it gets the value of 7; the effect of gender on entrepreneurship will increase  $e^{-0,27+0,07 \times 7} = e^{0,22}=1.25$  times. Therefore, the best case increases the probability of being an entrepreneur by 25% ( $e^{0,22}=1.25$  times).



**Figure 3.** Interaction between Gender and Ease of Access to Credits

Figure 3 graphically presents the interaction between gender and a country's ease of access to loans. When access to loans is not easy in a country, the rate of ventures in that country is low. As access to loans becomes easier, it is expected that there will be equality of opportunity between men and women and this situation will have a positive effect on entrepreneurship. As

can be seen in Figure 3, easier access to loans affects women's initiatives more positively than men.

## **6-CONCLUSION**

In this study, the role of entrepreneurship in the economy and the relationship of entrepreneurship with individual and institutional factors were examined. In addition, the deterrent effect of gender while beginning entrepreneurship in the startup process is demonstrated. It has been observed that the ease of financing through local capital and the ease of access to loans have increased both entrepreneurship rates and women entrepreneurship. However, the improvement in women's entrepreneurship has not been as much as in men's entrepreneurship. In order for facilitating financing through local capital to be more effective in eliminating gender-based negativity, women should have a high level of education. In fact, as a result of the research, it is recommended that women make their education choices in areas connected to high-growth sectors in order to increase the effect of financing through local capital on entrepreneurship.

Further, the findings of this study are consistent with the hypotheses as expected. The individual and national factors determined for the analysis increase entrepreneurship in general and women entrepreneurship as a part. On the other hand, eliminating the negative impacts of inequality of opportunity between genders have a positive impact on women's entrepreneurship. Supporting women by financial opportunities makes them more confident and motivated to be an entrepreneur. Financial welfare has a positive contribution to women's entrepreneurship, in general. If the financial factors determined at the country level are limited or and financial systems in macro scale have many deficits, the rate of men and women to engage in initiatives decreases in total. But in case of such a worse situation, women participation in entrepreneurial activities are more negatively affected than men participation.

To sum up, it has been observed that while deciding to start a new venture, women have a number of individual concerns more than men, and that these concerns of women are caused by some financial obstacles (institutional factors) as well as individual factors. The study concludes that the reasons for the low entrepreneurship rates of women entrepreneurs compared to men depend mostly on their negative beliefs of reaching finance. In other words, the prejudices about access to have start-up finance demotivate women entrepreneurs. Analyzes were done in this study to support hypotheses argue that the view of improving some financial factors would be effective in eliminating this demotivation. According to results of these analyses, financial development has a positive effect on the decision to start a new venture. Thus, both governments and financial market regulators on macro scale and many sector players on micro

scale should help to eliminate these negative beliefs about start a new venture by improving financial factors and regulating financial systems.

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