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Additional Information

Domestic economic and social conditions empowering female entrepreneurship

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Abstract

To identify the combinations of the economic and social aspects related to female entrepreneurship in OECD countries, we carried out a cross-national analysis of female entrepreneurship using fsQCA methodology. We analyzed 2015 data from 29 OECD countries, covering different geographical areas. Data were retrieved from three databases (Global Entrepreneurship Monitor, Country Risk Score, and Glass Ceiling Index) and the relationship between entrepreneurship by gender and the conditions in a country were studied, especially those socially related to gender under female labor working conditions. The results show that the combination of good country risk score conditions and the low presence of women in power positions **is** related to high female entrepreneurship and low gender labor-force gap. By contrast, low female entrepreneurship is reached through a combination of high gender labor-force and wage gaps.

Keywords: Female Entrepreneurship, Gender, Glass Ceiling, Country Risk, fsQCA

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Abstract

To identify the combinations of the economic and social aspects related to female entrepreneurship in OECD countries, we carried out a cross-national analysis of female entrepreneurship using fsQCA methodology. We analyzed 2015 data from 29 OECD countries, covering different geographical areas. Data were retrieved from three databases (Global Entrepreneurship Monitor, Country Risk Score, and Glass Ceiling Index) and the relationship between entrepreneurship by gender and the conditions in a country were studied, especially those socially related to gender under female labor working conditions. The results show that the combination of good country risk score conditions and the low presence of women in power positions **is** related to high female entrepreneurship and low gender labor-force gap. By contrast, low female entrepreneurship is reached through a combination of high gender labor-force and wage gaps.

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1. Introduction

Research on entrepreneurship has been recently growing (Shepherd, Douglas, & Shanley, 2000). The field of entrepreneurship is defined as the scholarly examination of how, by whom, and with what effects opportunities lead to creating future goods and services (Shane, & Venkataraman, 2000). However, although many researchers examined this area of knowledge, there is still room to shed more light on this matter (Poggesi, Mari, & De Vita, 2016; Unger, Rauch, Frese, & Rosenbusch, 2011).

First, entrepreneurship is defined as the resource and process whereby individuals utilize opportunities on the market through the creation of new firms (Naudé, 2010; O'Connor, 2013). Entrepreneurs are individuals who set up a business or businesses, taking on some financial risks in the hope of profit. They thus contribute to economic growth, productivity, and renewal of productive and social networks (Crecente-Romero, Giménez-Baldazo, & Rivera-Galicia, 2016; Mas-Tur, Pinazo, Tur-Porcar, & Sánchez-Masferrer, 2015). There are different motivations to undertake an entrepreneurial venture (Kirkwood, 2009; Segal, Borgia, & Schoenfeld, 2005; Scott Shane, Locke, & Collins, 2003). Considering the Global Entrepreneurship Monitor's (GEM) definition of motivation (Hessels, Van Gelderen, & Thurik, 2008; Levie & Autio, 2008; Reynolds, Bygrave, Autio, Cox, & Hay, 2002), entrepreneurs can be opportunity-driven, that is, they decide to create a business because they perceive sectorial, strategic, or market opportunities or necessity-driven, that is, they do not have a better work option or are unable to sustain themselves financially (Hytti, Linstead, & Hytti, 2005). Factors influencing entrepreneurs can be different, depending on their underlying motivation (Devece, Peris-Ortiz, & Rueda-Armengot, 2016; Kirkwood, 2009; Verheul, Stel, & Thurik, 2006), and can also differ by country (Crecente-Romero, Giménez-Baldazo, & Rivera-Galicia, 2016) or even depending on the gender of the entrepreneur (Minniti & Naudé, 2010).

The literature on gender entrepreneurship, employment, and self-employment (Berner, Gomez, & Knorringa, 2012; Peredo & McLean, 2006; Seelos & Mair, 2005) is significant in this respect, together with sustainable finance, business funding, and economic aspects (Cervelló-Royo, Moya-Clemente, & Ribes-Giner, 2015; Garikipati, 2008; Kabeer, 2001; Ngo & Wahhaj, 2012; Weber & Ahmad, 2014). However, limited studies exist on the economic, financial and social conditions of a country in terms of entrepreneurship determinants, especially under a gender framework. The scarcity of reliable and valid data still represents a clear obstacle to understanding the challenges to women's entrepreneurship and their impact on economic growth. The creation of systematic knowledge about women's entrepreneurship is therefore needed (Veras Zoeller, 2015). Therefore, it might be interesting to study in more detail the potential relation between entrepreneurship and gender across countries.

Thus, the main purpose of this study is to identify the combinations of economic, financial, and social indicators of an Organization for Economic Co-operation and Development (OECD) country, which may lead to an increase in female entrepreneurship. Previous studies, such as Devece, Peris-Ortiz, and Rueda-Armengot (2016), Mas-Tur, Pinazo, Tur-Porcar, and Sánchez-Masferrer (2015), or Rey-Martí, Tur Porcar, and Mas-Tur (2015), analyze the entrepreneurial activity and the most relevant success factors that affect it over time. Furthermore, they also provide insights on the female entrepreneurs' motivations. As such, this study considers not only social aspects, but also economic and financial factors.

Focusing on these economic and financial factors, the importance of a country's risk ratings has increased in the past few years and is also underscored by the existence of several major country risk rating agencies (Afonso, 2003; Hoti & McAleer, 2004; Levich, Reinhart, & Majoni, 2002). A higher country risk rating implies higher solvency (Cervelló-Royo et al., 2014; Hoti, 2005; Hoti & McAleer, 2004), lowering its probability of default, and vice versa. For this purpose, country risk scores (CRS) measure several factors, both quantitative and qualitative, and represent good indicators to the current situation of a country in terms of political, structural, economic, and financial assessment aspects, and to determine country risk ratings.

Consequently, countries differ not only in financial and economic terms but also in many others related to sustainability and social aspects such as location, infrastructure, labor market, government, environmental regulation, corruption. Many of these quantitative and qualitative factors are measured by CRS components (Cervelló-Royo et al., 2014). However, there are other indexes that consider many other social aspects that might also affect female entrepreneurship in a country, for instance, the Glass Ceiling Index (GCI), prepared by the Economist Intelligence Unit.

To study social factors, a bundle of variables from the GCI has been taken as reference in this study. This glass ceiling comprises different barriers that prevent women from reaching higher leadership positions. GCI was introduced by The Economist (2014) to reveal those countries where women have the best chance to be treated equally to men at work. This index covers aspects such as higher education, labor-force participation, pay, child-care costs, maternity rights, and business-school applications, among others.

There is abundant literature dealing with the GCI and gender differences in academia (Crettaz von Roten, 2011; González, 2012; Noguera, Alvarez, Merigó, & Urbano, 2015; Stefankova, Caganova, & Moravcik, 2015; Welde & Laursen, 2011). Despite the GCI being an indicator that measures the relative chances of women compared to men for reaching a top position, to the best of our knowledge, no studies that consider this index to study gender differences in entrepreneurship exist. For this reason, certain GCI components have been considered in this study, such as women in power positions, gender wage gap, or the labor-force participation gap, as to study their relationship with female entrepreneurship.

The remainder of the paper is structured as follows. Section 2 introduces the theoretical background of the study. Section 3 depicts the methodology and data used. In Section 4, we show and discuss the results obtained from the application of qualitative comparative analysis (QCA). Section 5 finishes the paper with some concluding remarks.

2. Theoretical background

Although cross-national research enables comparisons and replication, and reduces the risk of nation-specific results that are not generalizable to other countries, conducting this type of research on entrepreneurship has been considered difficult by scholars (Terjesen, Hessels, & Li, 2013). As such, cross-national research on entrepreneurship has focused mainly on identifying fundamental differences in entrepreneurial activity across countries (Acs, Bosma, & Sternberg, 2008; Cumming, Johan, & Zhang, 2014; Simen Markussen & Røed, 2017; Terjesen et al., 2013), or identifying government policies and programs that best support entrepreneurial efforts and desired outcomes in terms of innovation or growth in the different national contexts (Terjesen et al., 2013).

As per prior studies on this subject (Beynon, Jones, & Pickernell, 2016; Devece et al., 2016; Mcclelland, Swail, Bell, & Ibbotson, 2005), the entrepreneurship activity has been measured by the total entrepreneurial activity (TEA) retrieved from the GEM. TEA has been defined as the share of adults in a population, aged 18 to 64 and who are either actively involved in starting a new business or managing a business less than 42 months old (Reynolds et al., 2002). Most studies carried out to date, show that the entrepreneurship ratio of women compared to men is low (Camelo-Ordaz, Diáñez-González, & Ruiz-Navarro, 2015).

The main aspects analyzed in the majority of extant studies on gender and entrepreneurship (Langowitz & Minniti, 2007; Poggesi, Mari, & De Vita, 2015) can be grouped as contextual, socio-demographic, and individual perceptual factors. However, this review takes a different approach: we research cross-country common characteristics in terms of entrepreneurship under the lens of gender. Specifically, the following literature review discusses key findings on female entrepreneurship and its relationship with: i) CRS and ii) GCI, specifically considering the following variables included in the index: women in power positions, gender wage gap; and labor-force participation of women.

2.1. Country Risk Score

The role of gender in the access to business financing has been the subject of extensive research, debate, and policy concerns, as part of a wider interest in terms of women's entrepreneurship and business ownership (Harrison & Mason, 2007). Actually, much of the debate on gender and finance has been concerned with access to loan financing and the role of banks in creating or perpetuating gender-based differences regarding access to finance (Bartual-Sanfeliu, Cervelló-Royo, & Moya-Clemente., 2013; Garikipati, 2008; Kabeer, 2001; Ngo & Wahhaj, 2012; Weber & Ahmad, 2014). Despite the significant volume of research, there is no unequivocal support for gender-based differences in access to finance (Harrison & Mason, 2007). Additionally, there is only limited work on relationship between CRS and the rate of female entrepreneurs.

CRS has been chosen as a good indicator of a country's level of development, international confidence, and probability of debt default (Cervelló-Royo et al., 2013; Hoti, 2005). In this paper, we use the CRS definition of the Euromoney Agency (Euromoney Agency, 2017). Therefore, CRS combines different categories related to political, economic, and structural assessment, among others (Hoti & McAleer, 2004). Focusing on these components, different indicators measuring employment/unemployment, labor relations, cultural/social institutions, corruption, etc. can be found. All components are strongly linked to the entrepreneurship level and motivations of a country. Moreover, they might have a stronger influence when considering a gender approach.

Proposition 1. Female entrepreneurship relates to the CRS.

2.2. Glass Ceiling Index

The "glass ceiling" is known as an added difficulty for women in accessing top positions in a firm (Buttner & Moore, 1997; Noguera et al., 2015). It is often considered an organizational motivator, encouraging experienced women to leave large organizations to open their own businesses (Buttner & Moore, 1997; Still & Walker, 2006).

The GCI commonly measures the relative chances of women compared to men to ascend to top positions in organizations (González, 2012). Its components can be retrieved from the database prepared by the Economist Intelligence Unit (The Economist-Daily chart, 2015). Particularly,

the following variables of the GCI have been considered in this study: labor force participation, gender wage gap, women in senior managerial positions, and women on company boards.

2.2.1. Women in power positions

Literature on gender and organizations revealed a propensity amongst the women in middle and senior positions to leave their organizations. Studies have singled out, as a unique group, women who have, in fact, done so to set up their own businesses (Brush, de Bruin, & Welter, 2009; Buttner & Moore, 1997; Mallon & Cohen, 2001; Sullivan & Meek, 2012; Weiler & Bernasek, 2001).

Indeed, it has already been shown that women's frustrations regarding career advancement opportunities (the so-called glass ceiling) at big companies is seen as the drive for starting their own female-owned businesses, being in effect an organizational push (Bowen & Hisrich, 1986; Buttner & Moore, 1997; Hisrich & Brush, 1985; Kephart & Schumacher, 2005).

Proposition 2: Female entrepreneurship is related to women in power positions.

2.2.2. Gender wage gap

Previous studies demonstrated that one of the most relevant factors in the decision to create a new business is the degree of worker satisfaction derived from their work place (Noguera et al., 2015). This satisfaction has been related mainly to the income level and work conditions. This paper shows that the existence of income level differences has a positive influence on female entrepreneurship (Eikhof et al., 2013; Kobeissi, 2010; Orhan & Scott, 2001; Segal et al., 2005; Startienė & Remeikienė, 2015), that is, having relevant differences in terms of salary is one of the factors pushing women to become entrepreneurs (Noguera et al., 2015). On the other hand, the size of the gender wage gap varies considerably across countries (Christofides, Polycarpou, & Vrachimis, 2013).

Proposition 3: Female entrepreneurship relates with gender wage gap.

2.2.3. Labor-force participation of women

The changing demographic composition of the labor market, especially the increasing female participation, has undoubtedly influenced the balancing of working lives and household tasks. The need for paid work to be compatible with caring responsibilities has become an important policy issue in over the past few years (Renee Baptiste, 2008). The flexibility that employees request does not relate to hours of work only, but can also relate to the time and place of work (Houston, 2005). This issue does not only affect women, since workers generally work nowadays longer and harder than they have done for over a generation. However, the Workplace Employment Relations Study (WERS) 2004 survey suggests women are more prone to have caring responsibilities and, therefore, a requirement to working full-time or long hours, which disadvantages them (Renee Baptiste, 2008).

Previous studies analyzing the determinants of self-employment choices for both men and women indicate men are more likely to emphasize the role of standard economic factors such as the state of the economy, access to credit, and economic opportunities when considering self-employment. By contrast, social factors, such as work-life balance/flexible working, parenthood, childcare concerns, and esteem issues, are more likely to be emphasized by women (Saridakis, Marlow, & Storey, 2014). Moreover, the extent of women's participation in the labor force is likely to take place in areas with fewer opportunities for advancement or high

income prospects, which may lead to career dissatisfaction and, in turn, to the decision to become self-employed (Kobeissi, 2010).

Proposition 4. Female entrepreneurship relates to the gender labor-force participation gap.

3. Material and Methods

Fuzzy set QCA (fsQCA) is an empirical method based on Boolean algebra that allows for a configurational examination of the causal relationship between a group of antecedent conditions and a related outcome (Ragin, 1989, 2000). This methodology offers a set-theoretic approach to causality analysis, in respect of conditions, and an outcome (Ragin, 2008). This method also acknowledges that different combinations might explain an outcome, in other words, different combinations of attributions might explain the same outcome.

This study observes which motives (labor-force participation rate (gender gap), gender wage gap and women in power positions, and CRS) have a relationship with female entrepreneurship. Currently, several authors have used the fsQCA methodology to analyze issues related to entrepreneurship (Devece et al., 2016; Judge et al., 2015; Kuckertz, Berger, & Allmendinger, 2015; Mandl, Berger, & Kuckertz, 2016; Rey-Martí, Tur-Porcar, & Mas-Tur, 2015). Here, to apply the fuzzy QCA methodology, the fs/QCA software v. 3.0 has been used (Thiem & Dusa, 2013). Additionally, the fsQCA methodology is useful when we have small N-samples (Fiss, 2011), as in our case.

This empirical study **analyzes** 2015 data from 29 OECD countries, covering different geographical areas (Western Europe, Eastern and Central Europe, Middle East, etc.). Data have been retrieved from three databases: GEM, CRS, and GCI, to study the relationship between entrepreneurship by gender and the economic, financial, and social conditions of a country, especially those socially related with gender in terms of the female labor working conditions as per Table 1. Descriptive statistics on the initial data improve the understanding of the methodology (Table 2).

GEM is a trusted resource on entrepreneurship for key international organizations such as the United Nations, World Economic Forum, World Bank, and the OECD, providing custom datasets, special reports, and expert opinions. TEA is the GEM's most well-known index, representing the percentage of the population aged 18–64 who are either nascent entrepreneurs or owner-managers of a new business.

As it has been previously commented, CRS measures the current situation of countries in terms of political, economic, and financial assessment measures, and has been retrieved from the Euromoney Agency Country Risk website (Euromoney Agency, 2017).

Finally, the GCI measures the relative chance of women compared to men to reach top positions. Its components have been retrieved from a database prepared by the Economist Intelligence Unit (The Economist-Daily chart, 2015). In this study, particular attention has been placed on labor force participation, gender wage gap, women in senior managerial positions, and women on company boards to develop this piece of research.

Table 1. OECD countries' data

[Table 1 goes here]

Source: authors' own elaboration from GEM, CRS, and GCI data (2015)

Table 2. Descriptive statistics

[Table 2 goes here]

Source: authors' own elaboration

4. Results

In this paper, calibration indicates the measure by which countries can be considered members of a set, which changes according to their particular economic and social attributes. Specifically, five factors have been analyzed: on one hand, the 2015 TEA ratio as an outcome, and on the other, as antecedent conditions, the 2015 CRS value and three components of the 2015 GCI—labor-force participation rate (gender gap), gender wage gap, and women in power positions. The variables used in the model are defined in Table 3.

Table 3. Definitions of variables

[Table 3 goes here]

Source: authors' own elaboration using GEM (Reynolds et al., 2002), The Economist Intelligence Unit (2014, 2016), Euromoney Agency (2017), and De Miguel (2015).

Each of these variables needed to be calibrated to provide a grade of membership or belonging to the previously defined sets. Table 4 shows the sets.

Table 4. Definitions of sets

[Table 4 goes here]

Source: authors' own elaboration

Once the results and all conditions have been calibrated (the suffix f_z indicates the calibrated variable), we proceed to extracting the table of truth (Table 5), in which all possible configurations are listed (there are 2^k configurations or rows, where k is the number of conditions, in this case $2^4 = 16$ combinations). The value 1 in each configuration indicates a score of the calibrated variable greater than or equal to 0.5 (i.e., closer to the full member category), and 0 indicates values of the calibrated variable below 0.5 (i.e., closest to the no member category). They are ranked from the highest to lowest number of cases with a membership score above 0.5 in that configuration (the *number* column is the cumulative

percentage), and the consistency of each of them is shown based on the subset relation to the result.

Table 5. Table of truth

[Table 5 goes here]

Source: authors' own elaboration

The next step is to drop those configurations without cases (reminders) and, since the sample size is relatively low, also drop those with a case (the configurations that are maintained must cover 75–80% of the cases, in this case 85%). Next, a consistency threshold is selected to distinguish causal combinations that are subsets of the result from those that are not. In general, values below 0.75 in this column indicate substantial inconsistency. We select 0.95 as a consistency threshold and assign the value 1 to the result variable (tearatiofz) when the consistency of that configuration exceeds the threshold, and 0 otherwise (see Table 6).

Table 6. fsQCA output

[Table 6 goes here]

Source: authors' own elaboration

4.1. Necessity Analysis

As per Table 7, only laborforcefz meets, to some extent, the condition of necessity, since its consistency is 0.865 and, as shown in Figure 1, a large majority of countries remain below the diagonal line (which is a critical condition for the fulfilment of the need). Therefore, it could be argued that, to a large extent, the presence of a low gender gap in labor participation necessarily leads to a high degree of female entrepreneurship.

Table 7. Necessity analysis

[Table 7 goes here]

Source: authors' own elaboration

To help visualize and understand this subset concept (i.e., the result is a subset of the condition), the scatter plot of the arithmetic relationship between the two conditions is shown in Figure 1, that is, the membership in the set of countries with high female entrepreneurship against the membership in set of countries with low labor-force participation gender gap.

Figure 1: Plot of “tearatiofz” against “laborforcefz”

[Figure 1 goes here]

Source: authors' own elaboration

4.2. Sufficiency Analysis

Table 8 shows the intermediate solution, which results from the two combinations which increase female entrepreneurship in a sufficient way.

Table 8. fsQCA output. Intermediate solution (reduced final set): antecedent configuration leading to high female entrepreneurship

[Table 8 goes here]

Source: authors' own elaboration

The final solution can be expressed as follows:

$$\text{Tearatio} = (\text{laborforcefz} * \text{wagegapfz} + \text{laborforcefz} * \sim \text{womenpowerfz} * \text{crsrankfz}),$$

The two combinations in Table 8 sufficiently increase female entrepreneurship by 93% of the total cases and cover 73% of them. In other words, a low labor-force gender gap, together with a low gender wage gap, lead to an increase in female entrepreneurship; or a low labor-force gender gap together with a high CRS value and a low presence of women in power positions (private and public) also lead to an increase in female entrepreneurship. The labor-force gender gap (laborforcefz) is present in both combinations; thus, we can suggest that a low labor-force gender gap is a necessary condition to improve female entrepreneurship. However, other variables need to be present for this relationship to take place.

Each combination shows a coverage grade between 45% and 65%. The unique coverage (that is, exclusive of an only combination) allows identifying the most important combinations and finding that the first configuration laborforcefz*wagegapfz individually covers 27% of cases (of the total solution coverage of 73%), while the second laborforcefz*~womenpowerfz*crsrankfz covers only 9.9% of cases.

Figure 2 shows the membership scatter plot for the set of countries with high female entrepreneurship against membership in set of countries with low labor-force participation gender gap and gender wage gap, or low labor-force participation gender gap and low presence of women in power positions (private and public) and high CRS value. Countries below the diagonal are inconsistent with the result, and those above are consistent. As it can be seen in the chart, there are only two countries out of 29 whose inconsistency with the solution is remarkable, whereas the remaining 27 can be considered consistent.

Figure 2: Plot of “tearatiofz” against “laborforcefz*wagegapfz + laborforcefz*~womenpowerfz*crsrankfz ”

[Figure 2 goes here]

Source: authors' own elaboration

Opposite to other quantitative techniques of estimation, the fsQCA is not symmetric. Therefore, it might be convenient to study which combinations of factors lead to low female entrepreneurship, taking considering that a result does not always explain its negation. Table 9 shows the resulting configuration for the negative result.

Table 9. fsQCA output. Intermediate solution (reduced final set): antecedent configuration leading to low female entrepreneurship

[Table 9 goes here]

Source: authors' own elaboration

As per Table 9, this combination shows a coverage of 48% and a consistency of 84%. That is, the combination of high labor-force gender gap, low presence of women in power positions, high gender wage gap, and high value of CRS lead to low female entrepreneurship in a sufficient way. It should be noted that a high CRS value, together with the low presence of women in power positions, lead to high female entrepreneurship in combination with a low gender labor-force gap. However, if this pairing is combined with a high gender labor-force gap and a high gender wage gap, it will lead to low entrepreneurship.

In Figure 3, this combination is represented graphically, particularly the membership in the set of countries with low female entrepreneurship against the membership in the set of countries with high labor-force participation gender gap and low presence of women in power positions (private and public), and high gender wage gap and high CRS value.

Figure 3: Plot of “~tearatiofz” against “~laborforcefz*~womenpowerfz*~wagegapfz*crsrankfz”

[Figure 3 goes here]

Source: authors' own elaboration

5. Conclusions

The aim of this study is to identify the combination of economic and social factors in an OECD country that lead to an increase in female entrepreneurship. These factors have been selected due to the lack of research analyzing country risk and a combination of factors related to the GCI with entrepreneurship, much less in terms of gender, to date.

To this end, the fsQCA methodology has been used. This methodology has proved suitable for examining the relationships between the analyzed variable (high level of female entrepreneurship) and all possible combinations (high/low or missing) of the predictors, according to the proposals previously formulated in this work: CRS, gender labor-force participation gap, gender wage gap, and women in power positions. The fsQCA method allowed a detailed analysis of the causal conditions that contribute to a specific result. In other words, it allowed identifying the possible combinations of these five factors.

The solution provided two combinations, which increased entrepreneurship in a sufficient way in 93% of the total cases and cover 73% thereof. Specifically, a low labor-force gender gap, together with low gender wage gap, lead to an increase in female entrepreneurship. Moreover, a low labor-force gender gap, together with a high CRS value and a low presence of women in power positions, give the same result. It should be stressed that the labor-force gender gap is present in both combinations, suggesting that the lower the difference of participation between women and men on the labor market, the greater the percentage of women entrepreneurs. This is

a necessary condition to improve female entrepreneurship; however, other factors need to be present.

Therefore, it is worth noting the favorable predisposition for women's entrepreneurship in countries with high participation of women in the labor market, when combined with lower wage differentials between men and women, that is to say, high and good quality female employment.

The other situation that leads to high female entrepreneurship also requires a high participation of women on the labor market, a condition necessary in both combinations, here coupled with a low presence of women in power positions. This last condition is explained by the difficulties women find when trying to promote and reach positions of power in their organizations (due to the glass ceiling), which consequently drives them to create their own companies when these barriers frustrate and disappoint them. Furthermore, a solution also considered as favorable to female entrepreneurship is the combination of the above with a high position in country risk ranking, reflecting that the good economic, financial, and development conditions of a country contribute to providing confidence to investors and favor entrepreneurship, even more so when financing is one of the main problems women face when they start their own businesses.

Since the fsQCA method is not symmetric, it was considered convenient to study what combinations of factors lead to a negative result, that is, low female entrepreneurship. In this case, the resulting configuration indicated that the combination of a high labor-force gender gap, low presence of women in power positions, high gender wage gap, and high CRS value lead to low female entrepreneurship in a sufficient way.

From the results, the combination of high country risk and low presence of women in power positions in organizations are related to high female entrepreneurship (in combination with low gender labor-force gap). However, this pairing is linked to high gender labor-force and wage gaps, which results in changes and leads to low entrepreneurship. Therefore, despite a favorable position of a country on the international financial markets, in terms of access to finance and investment appeal, together with high female motivation to start a business due to the difficulties they find when trying to apply to power positions in organizations, female entrepreneurship can be slowed down if the participation of women on the labor market of a country is not high, even more so if the gender wage gap between men and women is significant.

It is noteworthy that the conclusions obtained in this paper are consistent for most OECD countries, so that the analysis of the causes that affect women's entrepreneurship is valid in countries from different geographical areas, such as Australasia, Asia, Western Europe, North America, Eastern and Central Europe, and the Middle East, which show different economic and social conditions.

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TABLES AND FIGURES

Table 1. OECD countries' data

| Country name | Female/Male TEA Ration (GEM, 2015) | CRS value | Labor-force participation rate, gender gap (%) | Gender wage gap (%) | Women in senior managerial positions, 2012 or latest (%) | Women on company boards (%) |
|-----------------|------------------------------------|-----------|--|---------------------|--|-----------------------------|
| Australia | 0.65 | 81.63 | -11.6 | 18 | 36.2 | 23.1 |
| Austria | 0.68 | 79.41 | -9.2 | 18.1 | 30 | 17.4 |
| Belgium | 0.67 | 72.25 | -9.5 | 5.9 | 32.4 | 24.3 |
| Great Britain | 0.53 | 71.7 | -10.9 | 17.4 | 34.2 | 21.5 |
| Canada | 0.84 | 82.02 | -7.1 | 19.2 | 36.2 | 19.4 |
| Czech Republic | 0.39 | 69.29 | -15.6 | 16.1 | 26.2 | 12 |
| Denmark | 0.53 | 83.99 | -6.1 | 6.8 | 28.4 | 25.9 |
| Finland | 0.47 | 83.16 | -3.2 | 20.2 | 29.7 | 29.9 |
| France | 0.60 | 69.4 | -7.9 | 13.7 | 39.4 | 33.5 |
| Germany | 0.54 | 81.39 | -9.6 | 13.4 | 31.1 | 20.1 |
| Greece | 0.80 | 33.8 | -17 | 11.3 | 25.1 | 10 |
| Hungary | 0.53 | 46.92 | -12.7 | 3.8 | 38.6 | 11 |
| Iceland | 0.50 | 60.39 | -4.9 | 14.5 | 39.9 | 44 |
| Ireland | 0.45 | 64.04 | -14.6 | 12.8 | 32.6 | 17.6 |
| Israel | 0.65 | 65.49 | -7.7 | 21.8 | 31.8 | 18.1 |
| Italy | 0.42 | 55.89 | -19.5 | 11.1 | 25.8 | 25.3 |
| Japan | 0.25 | 67.31 | -18.9 | 26.6 | 11.1 | 3.4 |
| South Korea | 0.72 | 70.47 | -21.6 | 36.7 | 11 | 2.1 |
| The Netherlands | 0.32 | 82.99 | -10.3 | 20.5 | 29 | 22 |
| New Zealand | 0.63 | 79.69 | -10.1 | 5.6 | 40 | 22.5 |
| Norway | 0.51 | 90.64 | -4.3 | 6.3 | 31.5 | 36 |
| Poland | 0.48 | 66.74 | -13.5 | 10.6 | 37.8 | 19 |
| Portugal | 0.54 | 53.07 | -6.7 | 16.7 | 34.6 | 11 |
| Slovak Republic | 0.50 | 67.01 | -14.8 | 14.3 | 33.1 | 14 |
| Spain | 0.78 | 58.27 | -11 | 8.6 | 30 | 14.2 |
| Sweden | 0.51 | 84.27 | -4.3 | 15.1 | 35.5 | 33.9 |
| Switzerland | 0.54 | 89.32 | -9.5 | 16.5 | 33.2 | 13.2 |
| Turkey | 0.47 | 54.72 | -43 | 20.1 | 12.2 | 10 |
| United States | 0.69 | 75.65 | -11.4 | 17.5 | 43.7 | 16.4 |

Source: authors' own elaboration from GEM, CRS, and GCI data (2015)

Table 2. Descriptive statistics

| | Valid N | Mean | Standard deviation | Minimum | Maximum |
|-----------------------|---------|-------|--------------------|---------|---------|
| tearatio | 29 | 0.56 | 0.14 | 0.25 | 0.84 |
| crsrank | 29 | 70.38 | 13.42 | 33.80 | 90.64 |
| laborforcegend | 29 | 11.95 | 7.60 | 3.20 | 43.00 |
| genderwagegap | 29 | 15.14 | 6.89 | 3.80 | 36.70 |
| womenpower | 29 | 26.91 | 8.00 | 8.40 | 41.65 |

Source: authors' own elaboration

Table 3. Definitions of variables

| Conditions | | Symbol | Items |
|-----------------------|--|------------|---|
| Outcome/Results | TEA ratio | Tearatio | Relation between female and male TEA (female TEA divided by male TEA) |
| Antecedent Conditions | CRS value | CRS value | CRS value, the higher the value the better economic and financial conditions |
| | Labor-force participation rate, gender gap (%) | Laborforce | % of participation on labor-force (female minus male rate) |
| | Gender wage gap (%) | wagegap | Male minus female median wages, divided by male median wages |
| | Women in power positions (%) | womenpower | Average percent of women on company boards or in senior manager positions in the organization |

Source: authors' own elaboration using *GEM* (Reynolds et al., 2002), *The Economist Intelligence Unit* (2014, 2016), *Euromoney Agency* (2017), and *De Miguel* (2015).

Table 4. Definitions of sets

| Conditions | | Set of membership |
|------------------------------|--|---|
| Results | TEA ratio | Countries with high female entrepreneurship |
| Antecedent Conditions | CRS value | Countries with a high CRS value |
| | Labor-force participation rate, gender gap | Countries with a low labor-force participation gender gap |
| | Gender wage gap | Countries with a low gender wage gap |
| | Women in power positions | Countries with high presence of women in power positions (private and public) |

Source: authors' own elaboration

Table 5. Table of truth

| csrankfz | wagegapfz | womenpowerfz | laborforcefz | number | tearatiofz | raw consist. |
|----------|-----------|--------------|--------------|----------|------------|--------------|
| 1 | 1 | 1 | 1 | 6 (22%) | | 0.960199 |
| 1 | 0 | 0 | 1 | 5 (40%) | | 0.971053 |
| 1 | 0 | 1 | 1 | 3 (51%) | | 0.912883 |
| 1 | 0 | 0 | 0 | 3 (63%) | | 0.892035 |
| 1 | 1 | 0 | 1 | 2 (70%) | | 0.990029 |
| 0 | 1 | 1 | 1 | 2 (77%) | | 1.000000 |
| 0 | 1 | 0 | 1 | 2 (85%) | | 0.989051 |
| 0 | 1 | 1 | 0 | 1 (88%) | | 0.980927 |
| 0 | 1 | 0 | 0 | 1 (92%) | | 0.990234 |
| 0 | 0 | 1 | 1 | 1 (96%) | | 1.000000 |
| 0 | 0 | 0 | 0 | 1 (100%) | | 0.913978 |
| 1 | 1 | 1 | 0 | 0 (100%) | | |
| 1 | 1 | 0 | 0 | 0 (100%) | | |
| 1 | 0 | 1 | 0 | 0 (100%) | | |
| 0 | 0 | 1 | 0 | 0 (100%) | | |
| 0 | 0 | 0 | 1 | 0 (100%) | | |

Source: authors' own elaboration

Table 6. fsQCA output

| csrankfz | wagegapfz | womenpowerfz | laborforcefz | number | tearatiofz | raw consist. |
|----------|-----------|--------------|--------------|--------|------------|--------------|
| 0 | 1 | 1 | 1 | 2 | 1 | 1.000000 |
| 1 | 1 | 0 | 1 | 2 | 1 | 0.990029 |
| 0 | 1 | 0 | 1 | 2 | 1 | 0.989051 |
| 1 | 0 | 0 | 1 | 5 | 1 | 0.971053 |
| 1 | 1 | 1 | 1 | 6 | 1 | 0.960199 |
| 1 | 0 | 1 | 1 | 3 | 0 | 0.912883 |
| 1 | 0 | 0 | 0 | 3 | 0 | 0.892035 |

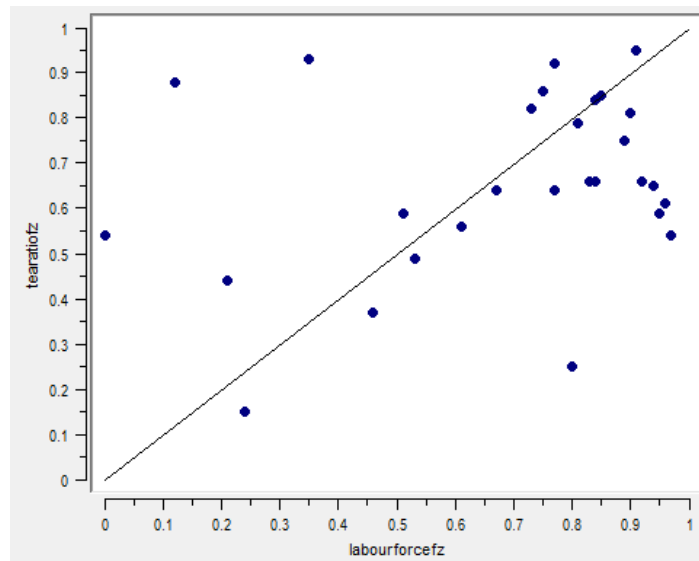
Source: authors' own elaboration

Table 7. Necessity analysis

| Necessity Analysis | Consistency | Coverage |
|--------------------|-------------|----------|
| Laborforcefz | 0.8645 | 0.8198 |
| Womenpowerfz | 0.6556 | 0.8596 |
| Csrankfz | 0.8199 | 0.8064 |
| Wagegapfz | 0.6887 | 0.8649 |

Source: authors' own elaboration

Figure 1: Plot of “tearatiofz” against “laborforcefz”



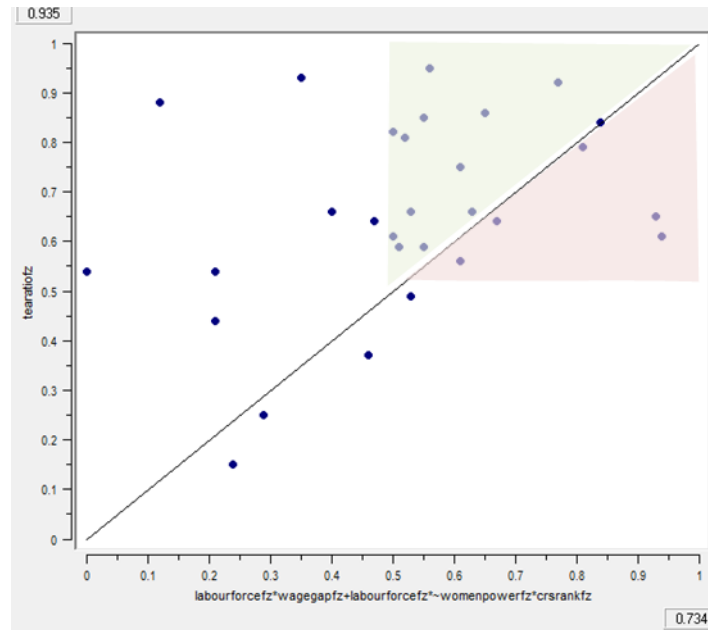
Source: authors' own elaboration

Table 8. fsQCA output. Intermediate solution (reduced final set): antecedent configuration leading to high female entrepreneurship

| Sets | Raw coverage | Unique coverage | Consistency |
|--------------------------------------|--------------|-----------------|-------------|
| laborforcefz*wagegapfz | 0.6345 | 0.2698 | 0.9365 |
| laborforcefz*~womenpowerfz*crsrankfz | 0.4646 | 0.0999 | 0.9757 |
| Solution coverage: 0.7344 | | | |
| Solution consistency: 0.9352 | | | |

Source: authors' own elaboration

Figure 2: Plot of “tearatiofz” against “laborforcez*wagegapfz + laborforcez*~womenpowerfz*crsrnkfz ”



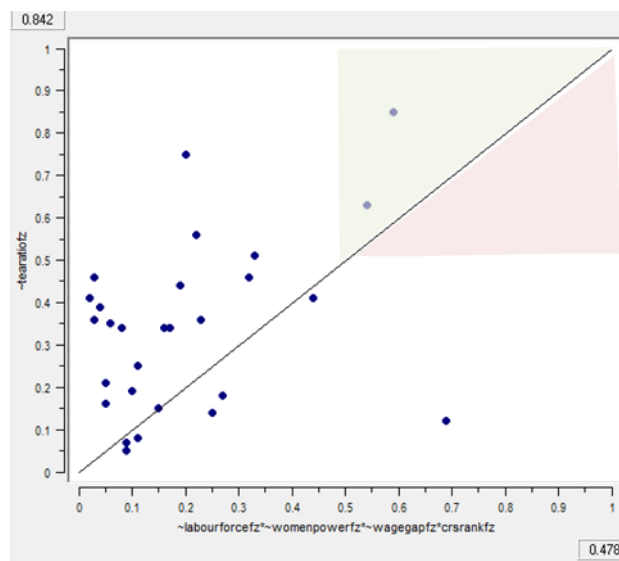
Source: authors' own elaboration

Table 9. fsQCA output. Intermediate solution (reduced final set): antecedent configuration leading to low female entrepreneurship

| Sets | Raw coverage | Unique coverage | Consistency |
|--|--------------|-----------------|-------------|
| ~laborforcez*~womenpowerfz*~wagegapfz*crsrnkfz | 0.4784 | 0.4784 | 0.8425 |
| solution coverage: 0.4784 | | | |
| solution consistency: 0.8425 | | | |

Source: authors' own elaboration

Figure 3: Plot of “~tearatiofz” against “~laborforcez*~womenpowerfz*~wagegapfz*crsrnkfz”



Source: authors' own elaboration