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**Sisterhood in COVID-19's she-cession: Does stronger female representation mean weaker female discrimination?**

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# **Sisterhood in COVID-19's she-cession: Does stronger female representation mean weaker female discrimination?**

## **Structured Abstract:**

### Purpose

Gender equality is an important issue, targeted all around the world, see for example the Gender Equality Strategy articulated by the European Union. These goals were hindered by COVID-19, which caused a well-documented she-cession: females were hit harder than males. This paper shows that a "sisterhood behaviour" can mitigate the effects of the she-cession: female decision makers were more likely to favour other females in recruitment and retention.

### Design/methodology/approach

Motivated by theories from psychology and industrial demography, we hypothesise a so-called sisterhood effect, or homophily: female decision makers are more likely to favour other females in recruitment and retention. We use firm-level survey data from 19 European countries collected before and during the first wave of the COVID-pandemic and we apply a difference-in-differences methodology to test the hypothesised sisterhood behaviour.

### Findings

Our study finds that in firms where the top manager was a woman, gender discrimination was less likely or even not at all presented, that is, COVID-19 did not decrease the proportion of female employees.

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3 Originality/value  
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6 To the best of the author's knowledge, this paper is the first attempt to analyse the existence of  
7 the theories mentioned before in a manager – employee relationship using firm-level data from  
8 the COVID-19 period.  
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13 Practical implications  
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16 The results suggest that promoting gender equality in leadership dimensions can also moderate  
17 discrimination at the level of the employees. So, in a wider context: gender equality goals are  
18 interrelated.  
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24 **Keywords:** COVID-19, she-cession, gender inequality, gender discrimination  
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# **Sisterhood in COVID-19's she-cession: Does stronger female representation mean weaker female discrimination?**

## **1. Introduction**

The Sustainable Development Goals, formulated by the United Nations, aim to achieve a better and more sustainable future for people around the world. The action plan, which was adopted by all member countries, defines 17 different goals to achieve. One of these goals (Goal 5) is gender equality and the empowerment of women. Targets of Goal 5 are the elimination of violence and harmful practices against women, the recognition of domestic work, the increase of political participation, and improving economic inclusion and opportunities. As described in a document by the European Commission (2020), the European Union (EU) also has a comprehensive strategy against gender inequality. An important aspect of the EU's Gender Equality Strategy (2020-2025) is the reduction of gender gaps in the labour market.

There have been significant improvements in gender equality in the past few decades, although, as data from 2019 for the countries of the European Union – provided by the Eurostat – shows, there is still a long way to go:

- The employment gap (i.e. the difference between male and female employment ratios) was 11.2 percentage points on average.
- The unadjusted gender pay gap (i.e., the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees) was 13.7% on average.
- The share of female board members and executives in the largest publicly listed companies was 28.4%.

- Work segregation (i.e. percentage of people employed in low-paid sectors – such as education, human health and social work – out of total employed) is also much higher among females: 29% versus 8%.

There is evidence that COVID-19 stopped the developments of the past decades and endangered many of the subgoals of gender equality, see, for example, the reports of the United Nations (2020a, 2020b, 2022). The recession induced by COVID-19 hit the entire population, but the effects on women were more severe. An important figure showing this phenomenon is the Gender Inequality Index (GII), which is a composite measure of gender disparities, developed by the United Nations Development Program (2023), focusing on three main dimensions: health, empowerment, and the labour market. The GII takes values between 0 (meaning equality between men and women) and 1 (one gender fares poorly compared to the other). The world-average value of GII was 0.581 in 1990, and has been showing a slight negative trend since then, which means that gender equality has increased. Although this trend stopped in 2019 – with a value of 0.465 – and there has been a stagnation since then.

In this paper, I focus on the COVID-19-related gender discrimination on the labour market. Using firm-level survey data from European countries, I show first that female discrimination was observable: female workers were hit harder by the recession induced by COVID-19, i.e., the proportion of females in the permanent, full-time workers decreased in my sample. Then, motivated by theories from psychology and organisational demography, I hypothesise sisterhood behaviour during COVID-19, and present evidence for it by showing that if females are represented among the decision makers of a firm, gender discrimination is less serious, or even disappears.

The remainder of this article is organised as follows. Section 2 presents a literature review focusing on the phenomenon of she-cession, and on theories that motivated the hypothesised

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3 sisterhood behaviour. Section 3 describes the data in detail, while Section 4 presents the  
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5 methodology. Section 5 shows evidence of gender discrimination on the labour market during  
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7 the first wave of COVID-19, and also analyses the sisterhood behaviour of female decision  
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9 makers. Finally, Section 6 puts forward conclusions.  
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## 12 13 **2. Review of the literature**

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16 Many recent papers analyse the labour market implications of the recession caused by COVID-  
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18 19, and document the phenomenon of she-cession: females were hit harder than males. See, for  
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20 example, the papers of Adams-Prassl *et al.* (2020) for Germany, Albanesi and Kim (2021),  
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22 Alon *et al.* (2020) and Fabrizio *et al.* (2021) for the USA, Andrew *et al.* (2022) for England,  
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24 Cueva *et al.* (2021) for Peru, Kikuchi *et al.* (2021) for Japan, the World Bank (2021) for  
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26 Vietnam, and Alon *et al.* (2022), and Dang and Nguyen (2021) for different samples of  
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28 countries. Carli (2020) and De Paz Nieves *et al.* (2021) also mention this phenomenon in their  
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30 survey papers. According to a report by the International Labour Organisation (2021), the  
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32 decline in global employment between 2019 and 2020 was 4.2% (54 million jobs) for women  
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34 and 3% (60 million jobs) for men. Five fundamental causes of the COVID-19-induced she-  
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36 cession are discussed in the literature: industry composition, occupation composition, childcare,  
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38 and domestic duties, part-time or temporary work, and participation in the informal sector.  
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45 The first factor is industry composition. Albanesi and Sahin (2018) analyse the cyclical  
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47 behaviour of the unemployment gap (i.e. the difference in unemployment by gender) using long  
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49 time series from OECD countries, and find that the main source of cyclicity in the  
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51 unemployment gap is industry composition, i.e. recessions hit those industries harder, where  
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53 males are overrepresented. However, many articles show that during the COVID-19-induced  
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55 recession the situation is contrary to the 'regular' one, that is, the female-dominated industries  
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3 were in a more severe situation. For empirical evidence, see, for example, the papers of Alon  
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5 *et al.* (2020), Alon *et al.* (2022), and Casarico and Lattanzio (2022).  
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9 The second root is the occupation-distribution, which is, of course, strongly related to the  
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11 industry-induced inequalities discussed in the previous paragraph. According to a policy brief  
12  
13 of the United Nations (2020a), women are overrepresented in pandemic-exposed occupations  
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15 in catering, hospitality, accommodation services and other related industries. Albanesi and Kim  
16  
17 (2021) group occupations based on flexibility (whether remote working is possible or not) and  
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19 contact intensity (based on physical proximity to customers or co-workers) using US data, and  
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21 they show that the most vulnerable categories are dominated by female workers. Others, like  
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23 Alon *et al.* (2020), Alon *et al.* (2022), and Mongey *et al.* (2021), also argue for and show  
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25 evidence of the relevance of the occupation channel.  
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29 Third, women traditionally play an important role in taking care of children and domestic work,  
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31 so they should have faced the increased needs in childcare due to closures of schools and other  
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33 related institutions. Although, as Alon *et al.* (2022) argues, the effect of course depends on  
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35 factors, such as the participation of mothers in the labour market, and the length and mode of  
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37 closures. Evidence was found for the relevance of this third factor by Andrew *et al.* (2022) for  
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39 England, Beauregard *et al.* (2022) for Canada, Zamarro and Prados (2021) for the USA, and  
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41 others. The increasing burden of childcare, family care and domestic duties also disrupts or  
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43 undermines women's labour market opportunities.  
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49 Fourth, the type of work, and labour contract can also matter. As it is discussed in a report from  
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51 the Eurostat (2009), temporary and part-time working are more riskier forms of employment  
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53 from a business cycle fluctuation point of view. In a recession, employers often decide not to  
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55 renew the contracts of temporary workers or to fire first part-time employees. This was the case  
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57 during the COVID-19 period as well, as Adams-Prassl *et al.* (2020) using data from the USA,  
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59 the UK, and Germany show: temporary workers are more likely to lose their jobs than  
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3 employees with permanent contracts. This phenomenon also hits females harder, since, as  
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5 Boniol *et al.* (2019), or earlier, Petrongolo (2004) show, females are overrepresented in these  
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7 contract categories. Kikuchi *et al.* (2021) analyse Japanese data and find that contingent  
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9 workers – part-time workers, temporary workers, dispatched workers, contract employees and  
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11 others – were hit harder. They also mention that women have a larger fraction of contingent  
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13 workers than men.  
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17 Fifth, differences in the participation in the informal sector also matter. There is some  
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19 preliminary evidence that the informal economy was more fragile during the COVID-19 period,  
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21 see, for example, Alvarez and Pizzinelli (2021). Although, globally a larger share of the  
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23 participants of informal economy is male, but as the International Labour Office (2018) reports,  
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25 in the case of low, and lower-middle income countries, females are overrepresented in the  
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27 informal sectors, so in those countries it can be a possible cause of she-cession.  
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31 This article discusses a sixth potential cause: the lack of female representation among decision  
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33 makers in firms. Several theories from the fields of psychology and organisational demography  
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35 suggest that female employees of firms with female representation in the leadership may hope  
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37 for sisterhood, i.e. less negative or more positive discrimination. I discuss the relevant theories  
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39 in the following.  
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44 Tajfel (1978) defines social identity as [...] that part of an individual's self-concept that derives  
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46 from knowledge of membership in a social group (or groups) together with the value or  
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48 emotional significance attached to that membership.” (p. 63) Ridgeway and Smith-Lovin  
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50 (1999) argue that gender homophily – i.e. the tendency that network connections are likely to  
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52 be same-sex rather than cross-sex – formulates already in childhood and remains relevant in  
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54 adulthood as well. According to Scheepers and Ellemers (2019), social identity determines  
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56 emotions and behaviour related to in-group and out-group members, so, for example, it can  
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58 affect discrimination. As it is described by Brown (2000), group members are more likely to  
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3 discriminate between their own group and other groups and think that their group is superior to  
4 other groups. Wood and Eagly (2015) note that a possible source of social identity is gender.  
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8 Another theoretical basis for the analysis of this article is the theory of relational demography,  
9 which refers to comparative demographic characteristics – for example gender, age, or race –  
10 of members of groups, according to Tsui and O'Reilly (1989). In her survey paper, Riordan  
11 (2000) describes the main idea of relational demography as follows: individuals perceive  
12 themselves compared to the demographic composition of a group to determine the extent of  
13 similarity of themselves with the group. Furthermore, strong demographic similarity has a  
14 positive effect on the attitudes and behaviour.  
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25 The third theoretical root of the hypothesis of this article is the similarity-attraction paradigm,  
26 described by Byrne (1971), which suggests that if two individuals share the same characteristics  
27 (for example demographic characteristics, like gender), a similarity attraction evolves and so a  
28 stronger attraction is formed to one another.  
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35 There are several papers investigating the implications of the theories mentioned above in a  
36 gender-related context and find robust evidence for the existence of sisterhood. For example,  
37 Grissom *et al.* (2012) analyse teacher – principal relations using U.S. data and find that however  
38 gender congruence does not matter in schools with male principals, it does in the case of female-  
39 led schools. Female teachers in such schools have higher satisfaction and a lower turnover  
40 propensity. Focusing on business environment, there is also some evidence for the theories. Bae  
41 *et al.* (2017) analyse American survey data and find that gender dissimilarity is negatively  
42 associated with perceptions of organisational inclusion. Furthermore, as Tsui and O'Reilly  
43 (1989) show, gender similarity in a superior – subordinate relationship does matter:  
44 Subordinates in a same-gender dyad are rated as performing better and are liked more by the  
45 superior compared to a mixed-gender dyad. Hatmaker and Hassan (2023) use survey data  
46 collected from a U.S. government agency, and find that female employees are likely to get more  
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3 support from female managers than from the male ones. Choi (2019) shows that gender  
4 congruence in a supervisor-subordinate dyad may strengthen the relationship between the  
5 supervisor and the subordinate, and that supervisors are more likely to delegate their authority  
6 to same-gender subordinates in case of absence.  
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13 Finally, Heilman (1983)'s lack of fit model, which provides an explanation for potential omitted  
14 variable bias and relates to the aforementioned theories, should also be mentioned. As described  
15 by Heilman and Caleo (2018), discriminatory outcomes against women may arise from a  
16 mismatch between the attributes women are perceived to have and those considered essential  
17 for success in male-dominated positions and fields. This incongruity may lead to negative  
18 expectations about women's performance. Kanze *et al.* (2020) analyse fundraising ventures and  
19 find evidence for the lack of fit model on industry-level. Avoiding this omitted variable bias  
20 potentially implied by the lack of fit on industry-level, the regression models in this article  
21 control for industry categories, as it is described in the Methodology section.  
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34 Theories and empirical evidence presented in this section motivate the hypothesis of this article  
35 that female representation in the firm leadership helps mitigating the effect of she-cession:  
36 female decision makers are more likely to favour other females in recruitment and retention.  
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38 The two main phenomena studied in this article are she-cession and sisterhood behaviour. The  
39 exact meaning of she-cession here is the decrease in the proportion of females in the permanent,  
40 full-time workers, while sisterhood behaviour refers to the potential case where female top  
41 managers discriminate against female employees less than male leaders or not at all.  
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### 3. Data

Two data sources are used in this article. First, some data comes from the Business Environment and Enterprise Performance Survey (BEEPS), which is implemented by the European Bank for Reconstruction and Development and the World Bank<sup>1</sup>. BEEPS is a firm-level survey that covers a representative sample of the private sector. Only registered companies with 5 or more employees are eligible for the survey. The last wave of BEEPS is used here, which data was collected between 2018 and 2020.

The second, and also the main data source is the COVID-19 Follow-up Surveys, which are based on phone interviews, and countries with recent BEEPS data are eligible. The purpose of these follow-up surveys is to provide a snapshot of the impact of COVID-19 on the private sector. The follow-up surveys were administrated to the full sample of the last wave of BEEPS, and so it can also be considered representative to the private sectors of the countries surveyed. The first round of these follow-up surveys is used here, which round focuses on the second half of 2020, when the first mass lockdowns occurred in most countries.

The BEEPS and the follow-up surveys were conducted around many countries in the world, although this article analyses countries only from Europe. The main data source is the COVID-19 Follow-up Surveys, the original BEEPS dataset was used only for imputing some missing values of the Follow-up dataset. The COVID-19 Follow-up Surveys cover 24,000 firms from 45 economies. However, the final regression sample is smaller due to sample selection and data limitations according to the following.

- Around 13,000 firms were dropped because they are from non-European countries.

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<sup>1</sup> I thank the Enterprise Analysis Unit of the Development Economics Global Indicators Department of the World Bank Group for making the data available.

- Around 2,000 sole proprietorships were dropped, because the article analyses the situation of employees.
- Around 1,200 firms were dropped because they did not complete round 1 of the follow-up surveys.
- Around 800 firms were dropped because of missing values for key variables.

Therefore, the final regression sample includes 7,002 firms from the following 19 European countries (the number of firms from the given country is in parentheses): Bulgaria (565), Croatia (165), Cyprus (166), Czech Republic (404), Estonia (237), Georgia (398), Greece (511), Hungary (729), Italy (439), Latvia (212), Lithuania (193), Malta (203), Moldova (246), North Macedonia (87), Poland (487), Portugal (751), Romania (595), the Slovak Republic (315), and Slovenia (299).

The dependent variable in all models is the proportion of women in the permanent, full-time workers. The main explanatory variable is a dummy variable, showing whether the top manager of the particular firm is a female, or not. There are 1,244 firms with a female top manager and 5,758 with a male top manager. Table 1. shows the most important descriptive statistics of the variables used in the regression models.

Table 1: Description of the independent variable and the main explanatory variable

Variable	Mean	Median	Standard deviation
<i>Dependent variable</i>			
Proportion of females in the permanent, full-time workers	0.384	0.327	0.282
<i>Main explanatory variable</i>			
Top manager dummy (1 = female, 0 = male)	0.178	---	---
<i>Control variables (firm-level characteristics)</i>			
Year of foundation	1996	1998	17
Number of employees in 2019	81.3	25	245.1
Ownership	4 categories (see below)		
Industry	11 categories (see below)		

Source: Author's own compilation.

Table 1 shows that around 18% of the firms in the sample are led by a female top manager, and the average proportion of female employees is 38.4%. Turning to the control variables, the average age of the firms is 22 years, and the average number of employees is 81 in 2019 with a relatively high standard deviation. Most (89.2%) of the firms are owned by domestic private owners, although some other owner types are also represented: 8.7% are foreign-owned, 0.2% are state-owned, and 1.1% have other types of owners. Firms of the sample come from 11 different industries: fabricated metal products (9%), food and beverages (11.5%), garments (1.8%), hotels (0.9%), manufacturing (10.5%), machinery and equipment (9.2%), non-metallic mineral products (0.8%), other manufacturing (13.8%), other services (22.0%), retail (19.6%), and textiles (1%).

#### 4. Methodology

First, the existence of she-cession is tested in this article based on the change in the proportion of permanent, full-time female employees at a given firm. If the proportion of women decreases during the first mass wave of COVID-19, it is defined as she-cession.

Second, the article applies a difference-in-differences strategy in order to examine the causal effect a female top manager on the change in the proportion of female employees, i.e. sisterhood behaviour. Firms with a female top manager are considered treated firms, while firms with a male top manager are control firms. The pre-treatment period is 2019 (which is the last year before COVID-19), while the post-treatment period is the second half of 2020, when the first mass lockdowns occurred in most countries. The estimation equation is the following:

$$femprop_{i,t} = \alpha + \beta_1 \cdot Covid_t + \beta_2 \cdot femtop_i + \beta_3 \cdot Covid_t \cdot femtop_i + \gamma \cdot X_{i,t} + \varepsilon_{i,t} \quad (1),$$

where the dependent variable ( $femprop_{i,t}$ ) is the proportion of females in the permanent, full-time workers at firm  $i$ , at date  $t$ ,  $Covid_t$  is a time dummy variable that captures the COVID-19 era (second half of 2020),  $femtop_i$  is a firm-level dummy variable which equals to 1 if the top

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3 manager of firm  $i$  is a female, and 0 otherwise, and  $X_{i,t}$  is a vector of the following firm-level  
4 control variables: year of foundation, ownership dummy variables (private domestic, private  
5 foreign, government, or other), number of employees in 2019, industry, and country.  $\beta_3$  is the  
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10 measure of interest, capturing the difference-in-differences effect.

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13 Four different specifications of Equation (1) were estimated:

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16 • A pooled OLS with only the COVID-19 dummy on the right-hand side to test the  
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18 existence of she-cession.
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20 • Three specifications for testing the sisterhood behaviour:
  - 21  
22 1) A pooled OLS without the vector  $X$  of firm-level controls.
  - 23  
24 2) A pooled OLS with the vector  $X$  of firm-level controls.
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26 3) A fixed-effect specification, controlling for firm fixed-effects.

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30 As a robustness check of the potential bias implied by Heilman (1983)'s lack of fit model  
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32 (explained in Section 2), a Blinder-Oaxaca decomposition, described in detail by Jann (2008),  
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34 is also performed to understand the relative importance of industry composition in forming the  
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36 change in the female proportion during the COVID-19 period. The results are presented in the  
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38 next section.

## 39 40 41 42 43 **5. Results**

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46 Using Equation (1), Table 2 first presents evidence for the existence of she-cession, and then  
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48 compares the evolution of the proportion of females in the permanent, full-time workers in  
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50 firms with a female top manager and firms with a male top manager. The main regressor is the  
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52 interaction term between a dummy variable showing whether the particular firm's top manager  
53  
54 is a female or a male and a time dummy for the COVID-19 crisis. Specification 1 controls for  
55  
56 no covariates, while firm-level controls and country fixed-effects are included in Specification  
57  
58 2. Specification 3 includes firm-level fixed-effects as well.

Table 2: Regression results

Variable	Existence of she-cession	Testing sisterhood behaviour		
		Specification 1	Specification 2	Specification 3
COVID-19	-0.006*** (0.002)	-0.009*** (0.002)	-0.009*** (0.002)	-0.009*** (0.002)
Female top manager	---	0.190*** (0.009)	0.150*** (0.009)	---
COVID-19 * Female top manager	----	0.018*** (0.006)	0.018*** (0.006)	0.018*** (0.006)
Firm-level controls	No	No	Yes	---
Country fixed-effects	No	No	Yes	Yes
Firm fixed-effects	No	No	No	Yes
R-squared	0.282	0.073	0.241	0.003
N	14,004	14,004	14,004	14,004

Source: Author's own calculations. Results of Equation 1. Standard errors clustered at the firm level are in parentheses. \*\*\* = significant on 1%.

First, as shown by the negative and statistically significant coefficient of the COVID-19 dummy variable, evidence for she-cession was found: the COVID-19 crisis negatively affected the proportion of females in the permanent, full-time workers (column 1). Second, and most importantly, the sign of the interaction term's coefficient is positive, indicating a sisterhood behaviour (Specification 1): the proportion of females in the permanent, full-time workers decreases less (in fact increases) in firms with a female top manager than in male-led firms. The results are robust for including observed firm-level characteristics (Specification 2) and also for including firm fixed effects (Specification 3).

The change in the proportion of female employees thus significantly varies depending on whether the company is led by a female or male top manager. According to Heilman (1983)'s lack of fit model presented in Section 2, the industry composition of the sample can potentially bias the results. Although I control for industry in the regression models (in Specification 2, and by firm-level fixed effects in Specification 3 as well), as a form of robustness check, I also examine the role of the industry using a Blinder-Oaxaca decomposition. Table 3 shows the results of the twofold decomposition. The coefficient of the explained part is statistically insignificant, indicating that the differences in the change in the proportion of female employees



between firms with female and male top managers are not due to differences of firm-level characteristics. Essentially, the entire gap is unexplained.

Table 3: Results of the twofold Oaxaca-Blinder decomposition

Decomposition	Coefficient	Robust SE
<b>Total gap</b>	0.0182***	0.0057
<b><i>Explained part</i></b>	-0.0020	0.0012
Year of foundation	0.0004*	0.0002
Number of employees in 2019	-0.0005**	0.0002
Ownership composition	0.0000	0.0002
Industry composition	-0.0013	0.0009
Country composition	-0.0006	0.0010
<b><i>Unexplained part</i></b>	0.0202***	0.0058

Source: Author's own calculations. Standard errors clustered at the firm level are in parentheses. \*\*\* = significant on 1%. \*\* = significant on 5%. \* = significant on 10%.

Considering the detailed decomposition of the explained part, the year of foundation and the number of employees in 2019 do matter, although both have relatively small coefficients with opposite signs, thus cancelling each other out. Reflecting on the implications of Heilman (1983)'s model, the decomposition clearly shows that industry-level lack of fit is not relevant here, as industry composition does not explain any of the total explained difference in the change of the female employment ratio between female-led and male-led companies.

In summary, the baseline model presents evidence for discrimination against women in the dynamics of the labour market during the first mass wave of COVID-19. However, there is significant heterogeneity behind the average effect: a stronger female representation in decision making results in the elimination of female discrimination, so a sisterhood behaviour is found. Results are robust across different specifications. In the next section I conclude and articulate the policy relevance of the results.

## 6. Discussion

Women suffer from persistent labour market disadvantages compared to men. Significant gender disparities exist in employment, wages, type of jobs and contracts, and also in the allocation of burdens of domestic work and childbearing that make women more fragile in the



labour market, see some telling data presented in Section 1. Although there has been some development towards the equality of women, their situation is still far from equal. As described in Section 2, the recession induced by COVID-19 was a she-cession, which means that female employees were hit harder than male ones. Unfortunately, this she-cession hindered the fragile positive trends in the equality of women.

Considering the results of this article, an important policy implication can be formulated: achieving a stronger representation of women in decision-making can help mitigate female discrimination and fragility, and strengthen the economic empowerment of women. A report by the UN Women (2020) proposes three gender-aware responses to support women: (i) investments in a gender-responsive social protection system, (ii) expanded access to childcare services, and (iii) the reversal of long-standing inequalities in the status of women in the labour market. According to the findings of this article, ensuring the right to be represented in decision making could be an important element of actions aimed at reversing long-standing inequalities.

Focusing on Europe, there are encouraging signs from the perspective of my research results. At the end of 2022, a new directive (Directive 2022/2381) of the European Parliament and of the Council came into force, which mandates the improvement of gender balance at the corporate decision-making level. Publicly listed companies operating in the member states of the European Union must meet one of the following two objectives by June 30, 2026:

- members of the underrepresented sex hold at least 40% of non-executive director positions
- members of the underrepresented sex hold at least 33% of all director positions, including both executive and nonexecutive directors

Based on a fact sheet, released by the European Commission (2022), the proportion of female board members of the largest listed companies was 32.% in October 2022. This is a large

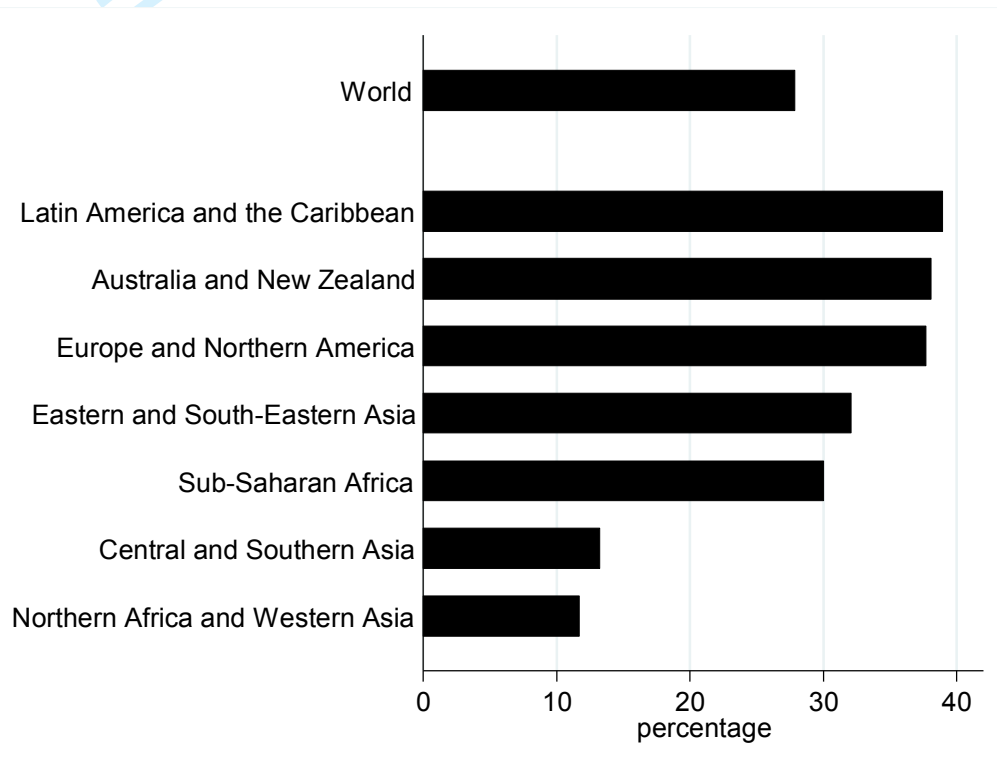
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3 increase compared to the 23.3% in 2016 (European Commission, 2016), but is still below the  
4 target value of 40%. Moreover, the proportion varies significantly between countries, being  
5 France at the top (45.6%) and Cyprus at the bottom (10.2%) in October 2022. The results of  
6 this article provide empirical argument for the directive, as it was shown that including women  
7 in economic decision making may mitigate their labour market fragility.  
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15 Another relevant policy in the European Union is the Strategy on Gender Equality and  
16 Women's Economic Empowerment, adopted by the European Investment Bank Group (2016)  
17 in 2016. One of the three areas of action is investing, i.e. financing female entrepreneurs and  
18 female-led companies. According to a report of the Group (2024), 63 projects were financed in  
19 2023 (showing an increasing trend from 45 projects in 2022, and 31 projects in 2021), providing  
20 €5.8 billion of investment, from which €3.4 billion was realised in the European Union.  
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30 The fact sheet of the European Commission (2022) draws attention to an important aspect by  
31 stating that the participation of women in boards is small despite the fact that 60% of university  
32 graduates are women. Formal education constitutes a significant portion of a person's human  
33 capital, which is an entry requirement for managerial and leadership positions, so for the  
34 economic empowerment of women. As Mincer and Polachek (1974) argue, women have  
35 weaker incentives to invest in human capital for several reasons, such as shorter lifetime labour  
36 market participation or discontinuity of work experience. The theoretical argument of Mincer  
37 and Polachek (1974) can explain the lower participation of women in decision making.  
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39 Although, according to some data from 2020, published by the World Bank – and as articulated  
40 by the above-mentioned fact sheet of the European Commission (2022) - this cannot be a  
41 problem in the European Union, since the gross tertiary school enrolment ratio is much higher  
42 for women than for men: 84% vs. 67% on average. Consequently, the entry requirement for  
43 women into decision-making positions is given in Europe, although it remains an issue for the  
44 rest of the world.  
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3 However, the analysis of this article was carried out using data only from European and mainly  
4 from developed countries, assuming high external validity of the results, the conclusion  
5 articulated above is even more important for developing countries, where gender inequality is  
6 higher.  
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13 Figure 1: Proportion of women in managerial positions, by region, 2019



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38 Source: Author's own compilation based on the UN's The World's Women 2020 dataset.

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41 As Figure 1 shows, there is great heterogeneity in female representation around the world. The  
42 proportion of women in managerial positions in 2019 was 27.9% on average in the world,  
43 although it ranged between 11.8% and 39% between different regions. In Northern Africa and  
44 Western Asia, and in Central and Southern Asia, female representation is extremely low, and  
45 therefore discrimination can be a huge problem, but in Sub-Saharan Africa and other regions  
46 of Asia, the proportion is also lower than in Europe.  
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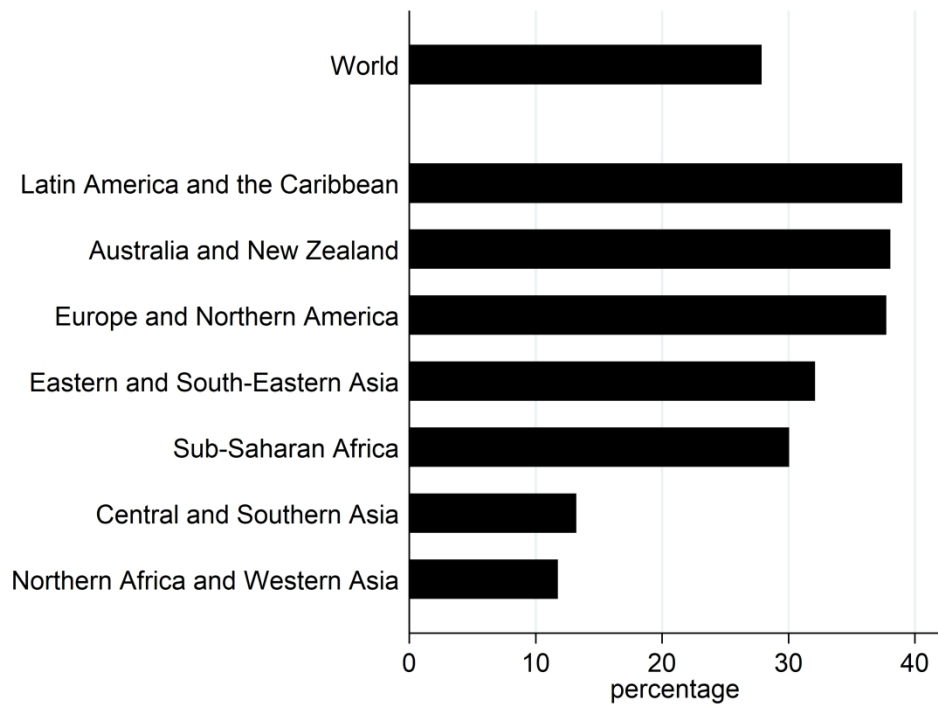


Figure 1: Proportion of women in managerial positions, by region, 2019

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Table 1: Description of the independent variable and the main explanatory variable

<b>Variable</b>	<b>Mean</b>	<b>Median</b>	<b>Standard deviation</b>
<i>Dependent variable</i>			
Proportion of females in the permanent, full-time workers	0.384	0.327	0.282
<i>Main explanatory variable</i>			
Top manager dummy (1 = female, 0 = male)	0.178	---	---
<i>Control variables (firm-level characteristics)</i>			
Year of foundation	1996	1998	17
Number of employees in 2019	81.3	25	245.1
Ownership	4 categories (see below)		
Industry	11 categories (see below)		

Source: Author's own compilation.

Table 2: Regression results

Variable	Existence of she-cession	Testing sisterhood behaviour		
		Specification 1	Specification 2	Specification 3
COVID-19	-0.006*** (0.002)	-0.009*** (0.002)	-0.009*** (0.002)	-0.009*** (0.002)
Female top manager	---	0.190*** (0.009)	0.150*** (0.009)	---
COVID-19 * Female top manager	----	0.018*** (0.006)	0.018*** (0.006)	0.018*** (0.006)
Firm-level controls	No	No	Yes	---
Country fixed-effects	No	No	Yes	Yes
Firm fixed-effects	No	No	No	Yes
R-squared	0.282	0.073	0.241	0.003
N	14,004	14,004	14,004	14,004

Source: Author's own calculations. Results of Equation 1. Standard errors clustered at the firm level are in parentheses. \*\*\* = significant on 1%.

Table 3: Results of the twofold Oaxaca-Blinder decomposition

Decomposition	Coefficient	Robust SE
<b>Total gap</b>	0.0182***	0.0057
<b><i>Explained part</i></b>	-0.0020	0.0012
Year of foundation	0.0004*	0.0002
Number of employees in 2019	-0.0005**	0.0002
Ownership composition	0.0000	0.0002
Industry composition	-0.0013	0.0009
Country composition	-0.0006	0.0010
<b><i>Unexplained part</i></b>	0.0202***	0.0058

Source: Author's own calculations. Standard errors clustered at the firm level are in parentheses. \*\*\* = significant on 1%. \*\* = significant on 5%. \* = significant on 10%.