Covid-19 Pandemic and Women-Led Companies: An Exploratory Study of the Italian Context



Cristina Di Stefano and Luciano Fratocchi

1 Introduction

The spread of Covid-19 pandemic in the last year strongly affected people's daily life and health determining severe social and economic consequences in countries all over the world.

From the beginning of 2020, several governments have imposed differentiated measures to increase "social distancing" including partial and total lock-down of regions or even countries with the aim of limit the uncontrolled spread of the virus. Therefore, non-essential businesses in many countries have been forced to interrupt production processes for long periods and faced strong negative economic consequences. The first impact of those restrictions was a severe economic crisis due to a simultaneous reduction in aggregate demand and supply and international trade (del Rio-Chanona et al., 2020). There is still much uncertainty about the end of this crisis, even if vaccines increase hope for an incoming recovery. Moreover, policymakers in many countries are introducing several financial instruments to repair the economic and social damages caused by the Covid-19, and Member states of the European Union are also implementing massive and coordinated interventions.

All the efforts governments are making to give first financial aids to firms and people and stimulate the economy are crucial for the recovery but may not be sufficient in particular for self-employed and small and medium enterprises (SMEs). It is certain that flu pandemic and other extreme events such as severe natural events, global credit crunch, or terrorism expose companies to the high level of uncertainty (Sullivan-Taylor & Wilson, 2009) and might even impact

Department of Industrial and Information Engineering & Economics, University of L'Aquila, L'Aquila Italy

e-mail: cristina.distefano@univaq.it; luciano.fratocchi@univaq.it

C. Di Stefano (⋈) · L. Fratocchi

organizations' survival. Businesses need to increase their adaptability and resilience to changing contexts (Veil, 2011) since the frequency of those events is increasing (Ingirige et al., 2008) and managing a crisis is a complex process that needs to be prepared in a sound economic period. The literature focused on businesses reactions to uncertain events is vast (Wenzel et al., 2021) and recognizes that companies' ability to overcome periods of crises strongly depends on circumstances (Buchanan & Denyer, 2013), firm size and internal financial and material resources (Adian et al., 2020); however, most of the studies are focused on large companies while limited authors have analyzed other types of organizations (Sullivan-Taylor & Branicki, 2011).

Currently, there is not a clear understanding on how companies and entrepreneurs are responding to the Covid-19 crisis, but it is certain that SMEs are the ones who are suffering the most due to their lack of planning for crises (Paton et al., 2010), limited internal resources and narrow customer base (Smallbone et al., 2012) that reduce their resilience (Battisti & Deakins, 2012; Ingirige et al., 2008).

Also the analysis of differences in terms of managers/owners' gender deserves attention since this characteristic has a significant impact on managerial/entrepreneurial behavior, for instance, in terms of risk-taking and propensity to innovation and investments (Mukhtar, 1998). However, to the best of our knowledge, the ability of women-owned/led businesses to cope with periods of the economic crisis has been scarcely analyzed by authors (Cesaroni et al., 2015). As far as the Covid-19 pandemic concerns, the Mastercard Index of Women Entrepreneurs (Mastercard, 2020) clearly showed that women-owned businesses are generally more concentrated in sectors that are highly impacted by the Covid-19 crisis than men-owned businesses. More specifically, authors found that "SMEs with under 20 employees have been hardest hit, with women-led businesses particularly harder hit as they are more likely to own newer and smaller businesses" (Mastercard, 2020, 69). At the same time, Martinez Dy and Jayawarna (2020) and US Chamber of Commerce (2020) refer to similar effects respectively in the UK and the USA. Moreover, Badel and Robison (2020) focusing on the US context indicate that small female-led businesses present greater financial concerns connected with the Covid-19 than male-led ones due to their lower capitalization and funding. Finally, in terms of sectors of activity, companies managed by women mostly operate in health services, personal care and education that have been mainly impacted by the closures during the first wave of the pandemic and consequently suffered a harder economic downturn (Bartik et al., 2020).

The present study addresses the underexplored topic of women-led companies' reaction to an economic crisis; in particular, we adopted an exploratory approach and focused on companies that implemented a proactive strategy to cope with threats and opportunities linked to the pandemic. The attention was focused on companies that decided to (at least partially) convert their production processes to realize Personal Protective Equipment (PPE) and hand sanitizers and disinfectants that were particularly scarce during the first wave of the pandemic because of a huge increase in demand from healthcare institutions and the general public that was aggravated by

the interruption of supply from China. We analyzed 378 Italian companies, of which 72 are women-led ones.

Our preliminary findings clearly show that female-led businesses present some differences from men-owned ones in terms of geographical distribution, firm's size and sector of activity.

The rest of the paper is organized as follows: the next section introduces the methodology adopted, Sect. 3 presents and discusses findings, the last section identifies practical implications of the analysis and recognizes limitations and directions for future research.

2 Research Methodology

In this paper, we focused on Italian companies that in the first three months after the outbreak of the pandemic in Italy (i.e., from March to May 2020), adopted a proactive strategic response to the severe reduction of their revenues caused by the interruption of every non-essential productions activity following the outbreak of the Covid-19 pandemic. More specifically, we searched for articles published in newspapers and magazines (also on-line ones) through selected keywords (riconversione/ aziende riconvertite/riconversione delle attività produttive AND covid-19/coronavirus/pandemia), and we built a database of companies that partially or totally converted their production lines to realize PPE (masks, shoe covers, head covers, lab coats and face visors) or hard-surface disinfectants and hand sanitizers. We relied on secondary data extracted from newspapers and magazines since they have been considered particularly useful by academic literature when, as in our case, no other sources of data are available (Cowton, 1998; Franzosi, 1987; Mazzola & Perrone, 2013). Then, we followed a standard content-analysis procedure (Krippendorff, 2004): each observation was reviewed by two independent researchers to avoid misinterpretation of the text and, in case of different positions, to validate the observation, a third researcher was involved (Jacobson et al., 2012).

We identified 378 companies, and we assessed their ownership and management structure basing on two different sources: for corporation, we relied on the information contained in the dataset AIDA, provided by Bureau van Dijk that deliver balance sheets and detailed legal and account information of Italian corporations, and for sole proprietorship and partnership we counted on data of the Commercial Register (i.e., Registro delle Imprese). We defined women-owned/led businesses as the companies in which female participation is greater than 50%, considering both shares owned and positions assumed. More specifically, following the "Report on female entrepreneurship" published by Unioncamere (2020), we identified female-led companies as:

- Sole proprietorships owned by women or managed by women.
- Partnerships in which the majority of members are female.

Table 1 Converted companies by gender

	Female-led firms	Male-led firms	Total
Converted firms	72	306	378

- Corporations in which the majority of the shares are owned by women, or in which the majority of offices are attributed to women or companies in which the average between the shares of the ownership and the offices attributed to women is greater than 50%.
- Cooperatives in which the majority of the members are female.

The resulting dataset is the following (Table 1):

Out of 378 total companies, there are 306 are male-led ones, of which 239 do not have any female presence on the board or among the shareholders, while in 67 of them, there is a limited female presence in the management or in the ownership structure. We have found a strong female presence in 72 companies, and in 30 of these firms, a woman is the sole administrator.

Then, we conducted an explorative analysis through a two-level comparison:

- (a) Between male and female companies included in our dataset.
- (b) Between female companies in our dataset and national data on female-led companies presented by Unioncamere (2020) and updated to 2019.

Within our dataset, we analyzed:

- (a) Type of products realized after the production conversion.
- (b) Any type of partnership with other companies and/or private or public institutions declared by the company that was implemented to convert the production.
- (c) Activities of Corporate Social Responsibility (CSR) declared by companies that followed the conversion of the production.

Moreover, both comparisons focused on:

- (a) Company size dividing between micro and small companies (companies with less than 50 employees), and medium and large ones (companies with at least 50 employees).
- (b) Industry, focusing on manufacturing and grouping sectors on the basis of their NACE code.
- (c) Geographical distribution, dividing Italy into two macro areas: North and Center, and South and Islands.
- (d) Legal form of the company, distinguishing between sole proprietorships and partnership, corporations and other forms.

3 Findings and Discussion

Almost all the female companies (97% of the total) converted their production lines to realize PPE (Table 2), a figure that only slightly differs from that of male-led businesses. This result is strongly connected with the severe shortage of this particularly relevant equipment during the first pandemic period. China, that is the world's largest manufacturer of PPE, imposed export restriction and difficulties in importing from China summed to a large surge in demand all over the world.

Focusing the attention on companies' size (Table 3), it emerged that female converted companies are smaller than male ones (81% of the women-led converted firms are small and micro versus 69% of male-led ones). However, companies in our subset are larger than female-led companies in Italy; in fact, at country level only 0.3% of female firms are medium or large. This is coherent with the literature that indicates bigger companies as more adaptable and resilient to extreme events than smaller ones and more reactive to opportunities even in difficult situations (Brzozowski et al., 2019).

The analysis of the distribution by sector (Table 4) only considers companies operating in the manufacturing industry that are 315 of the 378 converted firms included in our dataset. The remain companies mostly realize professional, scientific, and technical activities, but their number is not sufficient for an unbiased comparison with the distribution of companies at a national level. The analysis by sector indicates some differences between man and female-led businesses in our subset: male-led companies that converted the production are widespread in different sectors

	Converted firms— Female-led	Converted firms— Male-led	Total converted firms
PPE—Personal Protective	97.2%	95.1%	95.5%
Equipment			
Hard-surface disinfectants and	2.8%	4.9%	4.5%
hand sanitizers			

100%

100%

100%

Table 2 Production realized after the conversion

Table 3 Companies dimension

Total

	Converted firms— Female-led	Converted firms—Male- led	Total converted firms	Female-led firms in Italy	Male-led firms in Italy	Total Italian firms
Medium and Large	19%	31%	29%	0.3%	0.7%	0.6%
Small and Micro	81%	69%	71%	99.7%	99.3%	99.4%
Total	100%	100%	100%	100%	100%	100%

	-					
Manufacturing	Converted firms— Female-	Converted firms—	Total converted	Female-	Male- led firms in	Total Italian
industry	led	Male-led	firms	in Italy	Italy	firms
Food products, beverages, and tobacco	_	3%	2%	16.4%	53.2%	49.6%
Textiles, wearing apparel and leather	78.3%	58.8%	62.5%	36.2%	7.0%	9.9%
Wood and furniture	_	5.1%	4.1%	5.7%	6.3%	6.3%
Paper and Printing	5.0%	9.0%	8.3%	4.7%	2.4%	2.6%
Chemicals and phar- maceutical products and oil	5.0%	3.9%	4.1%	3.6%	2.2%	2.4%
Non-metal products	5.0%	5.5%	5.4%	4.2%	2.7%	2.9%
Metal products, motor vehicles and other transport equipment	3.3%	6.7%	6.0%	15.5%	16.0%	15.9%
Electrical, electronic, and optical products	_	2.0%	1.6%	3.4%	2.5%	2.6%
Other manufacturing	3.3%	6.3%	5.7%	10.3%	7.5%	7.8%
Total Manufacturing	100%	100%	100%	100%	100%	100%

Table 4 Female and male-led companies by sector

while female-led ones are more concentrated in the "Textiles, wearing apparel and leather" sector (in this sector are present 78% of female companies versus less than 60% of male ones). This concentration is coherent with the type of production realized after the conversion (i.e., mostly PPE) and with the distribution among different industries by gender at a national level; the apparel industry is one of the manufacturing industries in which female presence is stronger at the entrepreneurial and workforce level, and this applies for Italy as for the rest of the world (OECD, 2020). However, this may be not the only explanation: this result may indicate a reduced propensity of the female entrepreneurs/managers in taking the risk of starting a new activity in which they feel not sufficiently prepared and confirms the literature that identifies a reduced inclination to take risks among women (Carranza et al., 2018) that is also present, even if mitigated, among female entrepreneurs (Lago et al., 2018).

With respect to the geographical distribution of the companies, female-led converted firms (Table 5) are strongly concentrated in the Center and North of the country; only 22% of them are based in the South or in the Islands. Female converted companies located in the North of Italy are also bigger than those operating in the other area of the country and operate in a widespread number of industrial sectors. They are more geographically concentrated than both male-led converted companies and female-led companies in Italy. In general, our data suggest that companies located in the Center-North of the country have adopted a proactive approach to

	Converted firms— Female-led	Converted firms—Male-led	Total converted firms	Female-led firms in Italy	Male-led firms in Italy	Total Italian firms
Center and North	77.8%	72.2%	76.7%	63.7%	67.1%	66.4%
South and Islands	22.2%	27.8%	23.3%	36.3%	32.9%	33.6%
Total	100.0%	100.0%	100.0%	100%	100%	100%

Table 5 Geographic distribution

Table 6 Legal form

	Converted firms— Female-led	Converted firms— Male-led	Total converted firms	Female- led firms in Italy	Male-led firms in Italy	Total Italian firms
Sole proprietor- ship and Partnership	16.7%	8.2%	9.8%	74.0%	65.8%	67.6%
Corporation	79.2%	90.8%	88.6%	23.2%	30.6%	28.9%
Other forms	4.2%	1.0%	1.6%	2.9%	3.6%	3.5%
Total	100%	100%	100%	100%	100%	100%

the crisis more than that located in the South; this finding is consistent with results obtained by Lagravinese (2015) and Odoardi and Muratore (2019) who analyzed the recessive period after 2009 in Italy and identified the greater difficulty of the southern regions of the country in reacting to the crisis.

Regarding the legal form of the converted companies (Table 6), almost all the male-led ones are corporations, while there are more than 15% of sole proprietorships or partnerships among the female-led firms. The comparison with female companies in Italy indicates a greater presence of corporations among the converted ones; this is not surprising and is consistent with the literature that identifies a higher reactivity to economic shock in more structured companies and a reduced resilience of smaller firms (Sheehan, 2013).

Almost the same proportion of male and female companies declared to have established a partnership with other firms, research institutes and universities to realize their conversion project (Table 7). Female companies that established a partnership are small and medium ones and operate in the Textile, wearing apparel and leather industry. Thus, female companies seem to have the same networking capacities of male ones. Moreover, if we focus the attention on SMEs, the proportion of partnerships among female companies is greater than that among male ones. This finding is particularly relevant since, in the uncertain context we face, networking is crucial for SMEs to identify new businesses solutions and new markets and, in general, to exploit new opportunities and grow (Elfring & Hulsink, 2003; Schoonjans et al., 2013).

	Converted firms—Female-led	Converted firms—Male-led	Total converted firms
Partnerships with other companies, research institutes and universities	12.5%	14.1%	13.8%

 Table 7
 Partnerships implemented

Table 8 CSR activities

	Converted firms—Female-led	Converted firms—Male- led	Total converted firms
CSR activities	67.3%	77.8%	69.3%

Lastly, we analyzed the CRS activities declared by the converted companies included in our dataset (Table 8). These activities mainly consist in the donation of part of the production of PPE or sanitizers to hospitals, nursing homes, Red Cross, Civil Protection, police, firefighters or to the municipalities and the entire population. Almost 78% of female-led companies have declared CRS activities, and this percentage is ten points higher than that of male-led ones. It is a long-standing idea that women have a higher propensity to care about moral and social issues, but also the literature suggests that having more women in the boardroom leads to better corporate social responsibility (CSR) performance (Eunjung et al., 2016; Hyun et al., 2016).

4 Conclusion

It seems confirmed that women-led converted businesses have some specific characteristics: they are smaller than male ones, are concentrated in the Center and North of the country, and mostly produce Textiles and wearing apparel products. It emerges as particularly interesting the finding on collaboration and CSR: female converted firms have established a partnership with other companies almost in the same proportion of male ones proving to be well integrated into the production system of the country; moreover, they are more engaged in CSR activities connected with the civil society in general. Comparisons with data referred to female companies in Italy indicate that converted companies are bigger than the average and mostly adopt the legal form of the corporation even if in Italy is stronger the presence of sole proprietorship and partnership among women-led companies.

This article investigated an unexplored issue, which is the reaction of female-led companies to a crisis. In fact, it is recognized that woman participation in economic activities is essential for their personal empowerment and the reduction of gender inequality, and at a country level, it is necessary to increase economic growth and long-term competitiveness. In any case, the attention to women in businesses is still

limited and also, public policies tend to be "men oriented" and usually do not take into account the specific needs of women entrepreneurs. In this respect, this paper sheds light on the peculiarities of female companies and increases the understanding of the role of women entrepreneurs in the economy. This, in turn, provides information for policy makers to identify policies and programs to support women's participation in economic activities and to encourage women's entrepreneurship.

Of course, this study presents some limitations. It is an exploratory study, and it investigates a short period of time (three months) after the outbreak of the pandemic. Data have been collected in only one country (Italy), and the number of evidence is not sufficient to generalize results. Future research should further examine this issue. In this respect, it would be useful to extend the time period of the analysis, investigate the topic in more than one country and take into count the other proactive strategic decisions that women-owned businesses have adopted to react to Covid-19, i.e., product/process innovation or product line extension.

Acknowledgments Funding: This study was supported by Territori Aperti, a project funded by the Fondo Territori Lavoro e Conoscenza of the Confederazione Generale Italiana del Lavoro, the Confederazione Italiana Sindacati Lavoratori, and the Unione Italiana del Lavoro.

References

- Adian, I., Doumbia, D., Gregory, N., Ragoussis, A., Reddy, A., & Timmis, J. (2020). Small and medium enterprises in the pandemic: Impact, responses and the role of development finance. Policy Research Working Paper; No. 9414. World Bank, Washington, DC.
- Bartik, A. W., Bertrand, M., Lin, F., Rothstein, J., & Unrath, M. (2020). Measuring the labor market at the onset of the COVID-19 crisis. *National Bureau of Economic Research*.
- Battisti, B. M., & Deakins, D. (2012). Perspectives from New Zealand small firms: crisis management and the impact of the Canterbury earthquakes. In *BusinesSMEasure* (pp. 1–41). New Zealand Centre for Small Medium Enterprise Research.
- Brzozowski, J., Cucculelli, M., & Peruzzi, V. (2019). Firms' Proactiveness during the Crisis: Evidence from European data. *Entrepreneurship Research Journal*, 9(3), 1–14.
- Buchanan, D. A., & Denyer, D. (2013). Researching tomorrow's crisis: Methodological innovations and wider implications. *International Journal of Management Reviews*, 15(2), 205–224.
- Carranza, E., Dhakal, C., & Love, I. (2018). Female entrepreneurs: How and why are they different? World Bank.
- Cesaroni, F. M., Sentuti, A., & Buratti, A. (2015). Same crisis, different strategies? Italian men and women entrepreneurs in front of the economic recession. *Journal of Research in Gender Studies*, 5(2), 205–231.
- Cowton, C. J. (1998). The use of secondary data in business ethics research. *Journal of Business Ethics*, 17(4), 423–434.
- del Rio-Chanona, R. M., Mealy, P., Pichler, A., Lafond, F., & Doyne Farmer, J. (2020). Supply and demand shocks in the COVID-19 pandemic: An industry and occupation perspective. *Oxford Review of Economic Policy*, *36*, 94–137.
- Elfring, T., & Hulsink, W. (2003). Networks in entrepreneurship: The case of high-technology firms. *Small Business Economics*, 21(4), 409–422.
- Eunjung, H., Daegyu, Y., Hojin, J., & Kihoon, H. (2016). Women on Boards and Corporate Social Responsibility. *Sustainability*, 8(4), 1–26.

- Franzosi, R. (1987). The press as a source of socio-historical data: Issues in the methodology of data collection from newspapers. *Historical Methods*, 20(1), 5–16.
- Hyun, E., Yang, D., Jung, H., & Hong, K. (2016). Women on boards and corporate social responsibility. *Sustainability*, 8(4), 300.
- Ingirige, B., Jones, K., & Proverbs, D. (2008) Investigating SME resilience and their adaptive capacities to extreme weather events: A literature review and synthesis. CIB W89, Building Education and Research (BEAR), Sri Lanka.
- Jacobson, S. K., Langin, C., Carlton, J. S., & Kaid, L. L. (2012). Content analysis of newspaper coverage of the florida panther. *Conservation Biology*, 26(1), 171–179.
- Krippendorff, K. (2004). Reliability in content analysis. *Human Communication Research*, 30(3), 411–433.
- Lago, M., Delgado, C., & Castelo, B. M. (2018). Gender and propensity to risk in advanced countries: Comparison between entrepreneurs and non-entrepreneurs. PSU Research Review, 2(1), 24–34.
- Lagravinese, R. (2015). Economic crisis and rising gaps North-South: Evidence from the Italian regions. *Cambridge Journal of Regions, Economy and Society*, 8(2), 331–342.
- Martinez Dy, A., & Jayawarna, D. (2020). Bios, mythoi and women entrepreneurs: A Wynterian analysis of the intersectional impacts of the COVID-19 pandemic on self-employed women and women-owned businesses. *International Small Business Journal: Researching Entrepreneurship*, 38(5), 391–403.
- Mastercard. (2020) *The Mastercard Index of Women Entrepreneurs 2020.* https://www.mastercard.com/news/media/1ulpy5at/ma_miwe-report-2020.pdf
- Mazzola, E., & Perrone, G. (2013). A strategic needs perspective on operations outsourcing and other inter-firm relationships. *International Journal of Production Economics*, 144(1), 256–267.
- Mukhtar, S. M. (1998). Business characteristics of male and female small and medium enterprises in the UK: Implications for gender-based entrepreneurialism and business competence development. *British Journal of Management*, *9*(1), 41–51.
- Odoardi, I., & Muratore, F. (2019). The north–south divergence in Italy during the great recession. *Manchester School*, 87(1), 1–23.
- OECD. (2020). Forthcoming OECD policy brief: Women at the core of the fight against COVID-19. https://read.oecd-ilibrary.org/view/?ref=127_127000-awfnqj80metitle=Women-at-the-of-the-fight-against-COVID-19-crisis%0A; http://www.oecd.org/coronavirus/en/
- Paton, D., Bajek, R., Okada, N., & McIvor, D. (2010). Predicting community earthquake preparedness: A cross-cultural comparison of Japan and New Zealand. *Natural Hazards*, 54(3), 765–781.
- Schoonjans, B., Van Cauwenberge, P., & Vander Bauwhede, H. (2013). Formal business networking and SME growth. *Small Business Economics*, 41(1), 169–181.
- Sheehan, M. (2013). Human resource management and performance: Evidence from small and medium-sized firms. *International Small Business Journal*, 32(5), 1–26.
- Smallbone, D., Deakins, D., Battisti, M., & Kitching, J. (2012). Small business responses to a major economic downturn: Empirical perspectives from New Zealand and the United Kingdom. *International Small Business Journal*, 30(7), 754–777.
- Sullivan-Taylor, B., & Branicki, L. (2011). Creating resilient SMEs: Why one size might not fit all. International Journal of Production Research, 49(18), 5565–5579.
- Sullivan-Taylor, B., & Wilson, D. C. (2009). Managing the threat of terrorism in British Travel and Leisure organizations. *Organization Studies*, 30(2–3), 251–276.

- U.S. Chamber of Commerce. (2020). Special report on women-owned small businesses during COVID-19. https://www.uschamber.com/report/special-report-women-owned-small-businesses-during-covid-19
- Unioncamere. (2020). IV Rapporto Imprenditoria femminile 2020. https://www.imprenditoriafemminile.camcom.it/P42A0C321S410/Rapporti%2D%2Dstudi-e-ricerche-di-Unioncamere.htm
- Veil, S. R. (2011). Mindful learning in crisis management. Journal of Business Communication, 48(2), 116–147.
- Wenzel, M., Stanske, S., & Lieberman, M. B. (2021). Strategic responses to crisis. *Strategic Management Journal*, 42(2), 7–18.