Navigating Turbulence in the UK: How Gender Shapes Self-employed Social Engagement During Crises?

Abstract:

Purpose: This study examines the dynamic relationship between UK entrepreneurs' engagement with society and the economic climate surrounding the 2008 financial crisis—before, during, and after it. We investigate whether such crises strengthen or weaken the connections between entrepreneurship and society, considering gender differences.

Design: We employ individual-level data from the British Household Panel Survey and the UK Longitudinal Study to assess changes in entrepreneurs' social engagement during crises. We use panel logit and Poisson regressions to estimate trends in social engagement over time and in response to economic turmoil.

Findings: We discover that entrepreneurs are more likely to join social organisations during economic turmoil. This engagement varies by gender, with female entrepreneurs more inclined to engage with social organisations than males. This suggests that female entrepreneurs perceive crisis risks differently, seeking support to navigate uncertainty. Additionally, we find evidence supporting the idea that female entrepreneurs take longer to recover from major economic shocks than their male counterparts.

Originality: Entrepreneur behaviour during crises remains understudied. The role of social ties and networks in aiding entrepreneurs during systemic crises is particularly unexplored. This study addresses this gap, highlighting gender-based behavioural differences during crises and paving the way for further research. It represents a crucial step in integrating crisis literature into entrepreneurship studies.

Keywords: entrepreneurship, social impact, social networks, gender, women entrepreneurs, social engagement, crisis.

Introduction

The prevalence of uncertainty is widely recognised due to contemporary crises such as terrorism, financial collapses, natural disasters, and pandemics. While entrepreneurship during crises has garnered attention (Grube and Storr, 2018), it remains relatively underexplored in the broader crisis literature (Doern et al., 2019), with limited focus on entrepreneurial behaviours and their impact on venture performance.

Previous entrepreneurship research has primarily concentrated on scrutinising entrepreneurs' strategies to mitigate crisis impacts. For example, Smallbone et al. (2012) delved into entrepreneurs' adaptive actions in areas like employment, sales, and marketing in response to crises. Runyan (2006) examined macro-level factors influencing small businesses' disaster responses, including infrastructure, federal aid, and financial considerations like fund accessibility. These studies collectively investigate if entrepreneurs respond to crises and, if so, the intricacies of their responses, considering factors such as experience, business stage, resource utilisation, business type, and the crisis's nature (Doern et al., 2019). We offer a novel perspective within the field by investigating the influence of social ties and networks on entrepreneurs' crisis navigation, with a specific focus on gender disparities. We seek to comprehend the evolving interplay between UK entrepreneurs' societal involvement and the economic landscape following the late 2000s financial crisis. Our primary goal is to probe whether economic disruptions strengthen or weaken the relationship between entrepreneurship and broader society, and whether this dynamic differs based on gender. Therefore, our paper posits that social engagement hinges on social networks. Entrepreneurs with robust and diverse connections can effectively harness resources and opportunities during tumultuous periods. Building relationships with various network constituents, including social clubs, communities,

and fellow entrepreneurs, is unquestionably critical for navigating through turbulent environments.

Entrepreneurs' networks serve as a valuable and mobilisable resource, conferring upon them a competitive advantage when required. Social networks make substantial contributions to social and economic development and are pivotal in achieving success (Putnam, 2015), particularly when their utilisation is demanded. Network members gain access to a broader array of information, encounter diverse experiences, and interact with a varied pool of skills and capabilities (Burt, 2004). Hence, networking becomes an indispensable facet of entrepreneurial success (Nijkamp, 2003). Although prior studies (i.e., Cooper et al., 1995; Hanson and Blake, 2009; Wasim et al., 2023), have acknowledged the significance of social networks for entrepreneurs in domains like labour, finance generation, skills development, opportunity identification, and resource recognition, none have comprehensively examined how entrepreneurs leverage their social networks during turbulent periods.

We argue that in times of collective crisis impact, entrepreneurs often exhibit an increased inclination to seek support from their social networks and actively engage with social organisations. When confronted with crises that resonate throughout society, entrepreneurs frequently feel compelled to intensify their efforts in soliciting support from their social networks and collaborating proactively with these external entities, such as organisations and clubs. These strategic manoeuvres serve as vital means to effectively leverage their networking resources, with the aim of transforming adverse conditions into potential opportunities. Entrepreneurs utilise their social networks as navigational tools to successfully navigate and overcome the ongoing crisis. This reliance on social networks and external engagement during crises aligns with the perspective that social capital plays a pivotal role in entrepreneurship,

especially during challenging times (Lin, 1999). Entrepreneurs, conscious of the value of their social connections, mobilise their network ties and assets not only to withstand the storm but also to identify new prospects and avenues for growth. Thus, this approach underscores a nuanced understanding of entrepreneurship within crisis contexts, highlighting the multifaceted role of social networks in facilitating resilience and adaptation.

Entrepreneurs' choice of social ties is significantly influenced by their individual characteristics, with gender emerging as a particularly influential factor. Men and women display distinct behaviours across various business domains, leading to disparate outcomes. Furthermore, it's evident that society often holds different perceptions and expectations for women compared to men. Women are frequently associated with motherhood and are seen as pivotal for family-building activities, factors that can influence the pursuits they engage in based on their social roles (Urbano et al., 2016). While women are fully capable of initiating and running their own businesses, research suggests that they often rely to a greater extent on their immediate informal social networks compared to their male counterparts. Women entrepreneurs tend to seek collaboration and support from their family members, particularly their husbands or partners, when establishing their enterprises. The emotional support derived from their social networks is crucial, aiding women in interpreting and coping with the crisis. This support may manifest as encouragement, empathy, familiarity, closeness, and other forms of emotional assistance. Williams (2020) argues that during the pandemic, the need for emotional support increased among entrepreneurs, along with the necessity to establish a cohesive community. Building on the perception that women are often seen as more sensitive and human-oriented, we propose that women are more inclined to engage in social networks during crises, seeking the necessary

support. However, it remains uncertain whether this form of support is the most pertinent and impactful during crisis situations, as it ultimately influences the recovery process from the crisis.

In our paper, we start with a comprehensive review of relevant literature to set the context of entrepreneurship and highlight the importance of social networks. This review helps us identify research gaps and forms the basis of our study. We then introduce crises and examine their connection with entrepreneurship. We explore how entrepreneurs respond to crises, with a focus on the role of social networks. We subsequently detail our study's methodology, explaining the research design and data collection methods. We also outline the analytical framework used to examine the data and validate hypotheses, ensuring transparency and research rigor. Next, we present our analysis findings and discuss their implications, specifically the role of social networks in supporting entrepreneurs during crises, and gender differences. We explore the complexities of our findings, considering practical and theoretical significance within entrepreneurship. Finally, we conclude our paper by summarising our contributions to entrepreneurship and social network literature in crisis contexts, emphasising novel insights and empirical evidence, and suggesting future research directions. In essence, our paper aims to improve understanding of social network roles in entrepreneurship during crises and enrich scholarly discourse.

Literature review and hypotheses

Entrepreneurship and society

In today's global landscape, recurrent socio-economic and environmental crises pose persistent challenges for economies worldwide. Responding to these crises, policymakers, organisations, and businesses are increasingly shifting their focus toward social value gains and reformative policies. Entrepreneurship's definition has evolved significantly from its origins within

economics to a standalone domain of research, highlighting its crucial role in economic development. Initially conceptualised by Cantillon as operating within uncertainty, this notion has shifted over centuries towards an emphasis on innovation and creativity (Pittaway, 2012). Despite its historical depth, British and neo-classical economic thoughts largely overlooked entrepreneurship, a gap later filled by Austrian economists who recognised the centrality of risk and uncertainty, aligning somewhat with Cantillon's original perspective (Ricketts, 1987). Schumpeter's introduction of entrepreneurship as a force of market creation and disruption further advanced the discourse, focusing on innovation's role in economic dynamics (Schumpeter, 1934). This view contrasts earlier models by emphasising entrepreneurship's capacity to innovate and transform markets. Sarasvathy & Venkataraman (2011) argue for understanding entrepreneurship as a complex, context-driven process, integral to problem-solving and social evolution. This perspective is supported by the recognition of entrepreneurship's inherent chaos and non-linearity, where business evolution and social interactions co-create new opportunities (Neck and Greene, 2011). The term "entrepreneuring" captures this ongoing, dynamic process, underscoring entrepreneurship's adaptability, and contextual sensitivity (Steyaert, 2007). This adaptability is crucial, given entrepreneurship's role in navigating economic systems' uncertainties and the impact of various social constructs on entrepreneurial activities. Entrepreneurship, thus, emerges as a behaviour-driven process, influencing and being influenced by the surrounding socio-economic context (Welter and Smallbone, 2011). Despite its broad applicability, spanning from intrapreneurship within firms to public sector innovation, entrepreneurship challenges a singular definition due to its multifaceted nature. This complexity underlines the importance of understanding entrepreneurship beyond venture creation, focusing instead on the behaviours, and contexts shaping entrepreneurial

efforts. Entrepreneurship, renowned for its capacity to drive societal change (Ghazali et al., 2021), has long been acknowledged as a catalyst for such transformation. Entrepreneurship involves identifying opportunities that maximise social value creation (Montessori, 2016) by addressing both business and social challenges. It encompasses the evaluation of sustainable business models and the pursuit of innovative and profitable solutions. In the post-pandemic landscape, there's a heightened emphasis on social entrepreneurship. Oberoi et al. (2021) examined the role of social entrepreneurial leadership during the Covid crisis, dissecting the challenges it posed and potential solutions within social entrepreneurship. Social entrepreneurship, driven by its commitment to social impact and adaptability, has excelled in the pandemic era, particularly in healthcare. It has demonstrated remarkable agility in addressing emerging needs, employing a community-centric approach that leverages local resources for tailored solutions (Oberoi et al., 2021). Entrepreneurs, in contrast to traditional commercial organisations, often pursue a dual objective: generating financial gains while contributing to society (Bacq and Eddleston, 2018). In our discussion, we use "social entrepreneurship" interchangeably with "for-profit entrepreneurship," a perspective with several merits. At its core, entrepreneurship serves as a social driver, involving the identification and exploitation of business opportunities to maximise social value creation (Ghazali et al., 2021). This fundamental aspect transcends the boundaries between for-profit and non-profit ventures. Entrepreneurs, whether operating for profit or with a social mission, share common ground in exploring entrepreneurial opportunities, driven by the desire to create societal value. Non-profit entrepreneurship primarily addresses societal needs without a primary focus on profit generation. Conversely, for-profit entrepreneurship centres on business objectives and financial gains, with social change often seen as a secondary outcome. However, the shared entrepreneurial essence

lies in both identifying opportunities, willingness to take risks, and commitment to innovative solutions.

In entrepreneurship, the particulars of networks, described by Borgatti and Foster (2003: 992) as "a set of actors connected by a set of ties," serve as essential for navigating the entrepreneurial landscape. This assertion is grounded in scholarly work, which suggests that networks, by their very nature, constitute a fundamental component for entrepreneurial success (Jack, 2010; Street and Cameron, 2007). Networks are split into formal (e.g., professionals, fellow entrepreneurs, etc.) and informal ties (e.g., friends, family etc.), where the former holds more rewards than the latter due to the absence of weak ties and structural holes (Watson, 2012)

The scholarly consensus stresses that social networks are not merely ancillary; they are central to the entrepreneurial journey. They facilitate the identification of opportunities (Roberts and Sterling, 2012), streamline the access and utilisation of resources (Freiburg and Grichnik, 2012), foster innovation (Leyden et al., 2014), and aid in the internationalisation of activities (Ellis, 2000). Also, networks equip entrepreneurs with the resilience to withstand and adapt to external shocks (Pollack et al., 2012). This resilience is exemplified even in contested settings marked by governmental decentralisation, where the fabric of social ties proves to be an asset for entrepreneurs (Busch and Mudida, 2023). The dialogue around networks and social ties reveals a spectrum of benefits that extend beyond the mere transactional exchange of resources. Within this framework, formal networks are instrumental in bridging the gap between entrepreneurs and essential resources, including knowledge, funding, and strategic partnerships. These networks act as a catalyst, not only for opportunity identification but also for the development of social capital, a critical element in navigating the competitive and often volatile entrepreneurial ecosystem. On the other hand, the value of informal networks lies in their ability to provide

psychological support, foster trust, and stimulate a sense of belonging among entrepreneurs. This emotional and moral support is pivotal during the tumultuous early stages of venture development, where external affirmation and resources may be scarce.

Greve and Salaff (2003) argue about the foundational role of social networks in entrepreneurship, suggesting that these networks frequently originate from family ties, providing crucial support during the formative stages of the entrepreneurial journey. Beyond the sphere of familial relationships, connections with fellow entrepreneurs emerge as vital, facilitating the identification of opportunities and the surmounting of challenges. The landscape of resource mobilisation, a cornerstone of organisational functionality, is often flawed by limitations and inefficiencies. Entrepreneurs, therefore, find themselves at the nexus of striving for social objectives while ensuring the sustainability of their ventures (Jones et al., 2019). This delicate equilibrium demands adept navigation through the realms of internal collaboration, forging inter-organisational ties, and cultivating robust communication channels. Moreover, a deep-seated comprehension of the myriad external forces—spanning political, social, and economic domains—is indispensable for entrepreneurial success. The strategic exploitation of co-operative resources stands as a testament to this, significantly enhancing entrepreneurial outcomes (Maseno and Wanyoike, 2022). Thus, the scholarly discourse unites around the pivotal importance of social connections in bolstering entrepreneurial performance. Despite the critical role of social ties, research gaps persist, especially in understanding their significance during crises. This highlights the need for further exploration of the role of social relationships in entrepreneurial resilience.

Crisis

The 2007-2009 financial crisis offers a chance to examine the complex link between entrepreneurship and society. The heightened uncertainty and a shift from mutual trust to mutual distrust (Den Butter, 2012) exacerbated the crisis. Trading activities came to a standstill, stock markets experienced significant declines, and economies worldwide plunged into a severe recession. The far-reaching consequences of the financial crisis had a profound impact on societies and economies globally, with the United Kingdom bearing a heavy burden.

Economic recessions, unlike market or industry downturns, have a broad impact, posing a significant threat to firms' profitability and survival (Mascarenhas and Aaker, 1989). Entrepreneurship, recognised as crucial for economic growth and prosperity, gains greater importance in uncertain times. It expedites recovery by promoting innovation, social empowerment, and job creation (Mustapha and Subramanian, 2016). However, despite its significance, entrepreneurship remains relatively understudied in the context of crisis literature (Doern et al., 2019). While there's a growing body of research investigating the impact of crises, particularly pandemics, on entrepreneurship, limited attention has been devoted to comprehending entrepreneurs' behaviour during crises and its potential ramifications on venture performance (Weaver, 2023). The most pronounced shock to entrepreneurship during the pandemic has been financial, primarily manifesting as cash flow problems. Consequently, studies have focused on the repercussions of the crisis on entrepreneurship, often proposing strategies for resilience. Giones et al. (2020), for instance, advocate for more agile business planning in an ever-changing environment, along with the development of support structures for employees. Others, such as Weaver (2023), highlight the importance of establishing resource-agile enterprises as sustainable tools for mitigating problems and ensuring resilience in times of crisis.

Relational capabilities, which encompass social connections facilitating resource access and exchange (Williams et al., 2017), prove particularly crucial in shaping immediate responses and bolstering resilience when facing adversity. Creating communities, fostering collaborative environments, and prioritising people have been integral aspects of the agile manifesto, especially in the aftermath of external shocks like pandemics (Dogaru et al., 2023). Entrepreneurs often exhibit a positive outlook in challenging circumstances (Markman et al., 2005) and display adaptability to shifting environments (Ebben and Johnson, 2005). They also tend to manifest compassion and a willingness to engage in ventures that alleviate others' suffering. Crises can present new opportunities for entrepreneurs, as adverse situations can stimulate innovation in terms of products, services, networking, and processes. Such turbulent environments foster improvisational capabilities, the tailoring of procedures to address constraints, experimentation, and the maximisation of existing resources, all of which benefit entrepreneurs (Crupi et al., 2021). By harnessing their relational capabilities and tapping into their social networks, entrepreneurs can navigate crises, identify potential growth avenues, and formulate strategies to surmount challenges. Investigating the behaviour and strategies of entrepreneurs during crises not only offers insights into their resilience and adaptability but also illuminates the potential for innovative and socially impactful entrepreneurship in challenging contexts. Dogaru et al. (2023) contend that crisis response strategies are indispensable for an organisation's future and long-term survival. They underscore the significance of specific strategies, collaborative endeavours, and support systems in mitigating the impact of crises and promoting organisational continuity.

Crises affect entrepreneurs differently, with some benefiting and others facing significant challenges that can lead to business failure and job losses in communities. Crises prompt

entrepreneurs to reassess their perceptions and enhance self-awareness, often stimulating action (Pittaway and Thorpe, 2012). While crises offer entrepreneurial opportunities, they also threaten core values and impose time constraints on decision-making, potentially diverting focus from societal benefits. Therefore, cultivating social relationships and active engagement in the social environment become essential as sources of support during challenging times (Williams et al., 2017). While Crupi et al. (2021) emphasise the significance of social bricolage in leveraging local resources to navigate crises, particularly in the context of Covid-19, they argue that this approach fosters creativity and innovation by involving various stakeholders from the entrepreneur's broader network. This collaboration enables faster responses and effective resource utilisation within limited timeframes (Crupi et al., 2021). Solo entrepreneurs, often lacking extensive social networks, tend to be heavily vested in their ventures. During major crises, they may face significant constraints in allocating resources beyond safeguarding and stabilising their own businesses. This constraint underscores the importance of expanding social networks for solo entrepreneurs, as a robust network not only enhances their crisis resilience but also enables them to positively contribute to broader societal needs during challenging times. Silva et al. (2021) argue that the pandemic prompted an unprecedented level of mutual assistance and social responsibility in Portugal, uniting private institutions, entrepreneurs, citizens, and government agencies to collectively address common problems, thereby enhancing resilience. Entrepreneurs with larger and more diverse networks are better positioned to endure turbulent times (Stam and Elfring, 2008). In the face of resource mobilisation challenges, entrepreneurs with extensive social ties possess advantageous capabilities and adaptability, enabling them to marshal resources effectively in adverse conditions.

Hence, we propose the following hypothesis:

Hypothesis 1: Entrepreneurs are more likely to engage in social networks during crisis times.

Women vs. men entrepreneurs during crisis

Entrepreneurship has traditionally been perceived as a predominantly male domain (Bird and Brush, 2002). However, research examining the role of gender in entrepreneurship has experienced significant growth in recent years. Notably, the focus has shifted from questioning whether gender matters in entrepreneurship to exploring how it makes a difference in research (Carter and Shaw, 2006). According to the Global Entrepreneurship Monitor, there are currently more than 252 million women entrepreneurs worldwide, however, it remains evident that male entrepreneurs tend to outnumber their female counterparts. For instance, in 2022, Total Early-Stage Entrepreneurial Activity in the United Kingdom surpassed 15% for men, while it stood at around 10% for women (GEM, 2022). While gender's role in entrepreneurship garners attention, much research often treats it as a control variable or disproportionately focuses on motivations and performance (Villanueva-Flores et al., 2021). However, women entrepreneurs exhibit distinct traits in personality, investment behaviour, education, motivations, and sector preferences (Carranza et al., 2018). Female entrepreneurs frequently rely on social networks, particularly family connections, with family members engaged in entrepreneurship serving as significant motivators for them to start their businesses (Alexandre and Kharabsheh, 2019). Women's societal roles often confine them to domestic spheres rather than entrepreneurial endeavours, with marital and social status exerting substantial influence over their choices (Haugh and Talwar, 2016). As a result, women entrepreneurs frequently rely on their social networks to initiate businesses, seek assistance during their entrepreneurial journey, and secure collective support to surmount substantial challenges. This support predominantly takes the form of emotional aid, serving as a counterbalance to familial responsibilities. This informal network

can alleviate some adverse consequences of crises and shape individual performance through mechanisms such as catalysing positivity, enhancing capabilities, buffering negativity, and sometimes exacerbating challenges (Williams, 2020). During times of crisis, women entrepreneurs prioritise seeking collective assistance to navigate challenges. They often perceive their businesses as integral components of a cooperative network, differentiating their approach from their male counterparts, who typically view their enterprises as distinct economic entities (Brush, 2009). This perspective guides the behaviour of women entrepreneurs during turbulent and uncertain periods, focusing on social aspects like parenthood, childcare, and family welfare, alongside economic considerations. Hence, we argue that:

Hypothesis 2: Women entrepreneurs are more likely to engage in social networks during crisis times as opposed to their men counterparts.

Women entrepreneurs rely more on informal social and familial networks, whereas men prioritise formal professional connections (Alexandre and Kharabsheh, 2019). This preference influences the type of support they seek during challenging times. Men establish diverse networks through previous professional experiences, including professionals such as bankers, solicitors, and accountants (Lalanne and Seabright, 2011). In contrast, women often prioritise personal and family networks, which can sometimes hinder entrepreneurial success (Robinson and Stubberud, 2009). Familial obligations frequently limit women's participation in formal networks (Rosenbaum, 2017). Informal networks, favoured by women, rely on relationships and word-of-mouth, reducing marketing costs (Roomi, 2009). However, their effectiveness diminishes during uncertainty. On the other hand, male-dominated formal networks offer professional and objective support, making them more suitable for facing adversity (Fielden and Hunt, 2011).

Familial contributions extend to providing moral and emotional backing, with nurturing and selfless behaviours positively affecting entrepreneurial pursuits (Prasad et al., 2013). Female entrepreneurs notably benefit from the psychological support offered by their families, aiding them in overcoming business challenges. The presence of both financial and moral support undeniably influences performance (Chang et al., 2009). Female entrepreneurs often find themselves stereotyped as primary caregivers, with their entrepreneurial endeavours seen as secondary to their family responsibilities (Thebaud, 2015). This perception leads many women to be drawn into entrepreneurship, seeking greater flexibility to balance family and professional obligations (Santos et al., 2018). These dynamics have a profound impact on how society, financial providers, stakeholders, and women entrepreneurs themselves perceive their roles (Ahl, 2006; Halkias et al., 2011). It is widely acknowledged that women entrepreneurs encounter more challenges compared to their male counterparts (Kogut and Mejri, 2022).

Traditionally, women have faced challenges securing financing, especially compared to men. This disparity worsens during economic adversity, like the 2008 financial crisis, when funding favours established businesses. Investors often show a bias toward male entrepreneurs in terms of leadership and trustworthiness (Huang, 2020). During crises, especially liquidity crises, financial providers may hesitate to lend to small businesses, especially those led by women, due to concerns about their track record. They prefer established, traditionally masculine enterprises. Additionally, family financial support becomes scarcer as it's redirected to survival needs, leaving little for women-led businesses, often seen as secondary to family care duties. Women entrepreneurs tend to be more risk-averse and less inclined to engage in high-uncertainty situations like crises. They also have a lower propensity for growth-oriented strategies (Sexton and Bowman-Upton, 1990). In contrast, male entrepreneurs are characterised by traits like profit-

seeking, risk-taking, boldness, efficiency, and a strong business orientation, which are vital during crises. Hence, we propose:

Hypothesis 3: Women entrepreneurs take more time to recover from crisis as opposed to their men counterparts.

Methodology

Sample and data.

We use data from the British Household Panel Survey (BHPS) and its successor, the United Kingdom Longitudinal Study (UKLS). These datasets offer comprehensive insights into the UK population, spanning from 1991 onwards. They are nationally representative, annually surveying more than 5,500 households and 10,000 individuals and are highly regarded as vital tools for assessing social changes in Britain, providing invaluable information for policymakers and the academic community. Moreover, their credibility and applicability have been rigorously tested in various fields of study, including labour-economics (Marè, 2006). While 'self-employment' encompasses individuals working for themselves in various capacities, 'entrepreneurship' is distinguished by the pursuit of opportunity beyond the resources currently controlled, embodying innovation and market expansion. However, there is consistent reporting of variables that asks respondents whether they are employed or self-employed in their first and second job. We use these to create a binary variable that denote self-employment. This captures all forms of entrepreneurship – start-ups and existing firms, which is in line with prior studies (e.g., BJØRNSKOV and Foss, 2013; Hussein and Haj Youssef, 2023).

Our BHPS/UKHLS dataset contains several variables that indicate whether the respondent is a member of a particular socially oriented organisation. Such a measure is recognised as a valid proxy for social or civic engagement (ONS, 2017). As previously discussed, social networks

refer to the web of relationships an individual or entity maintains, which can facilitate 'social engagement'—the active participation or involvement within these networks. However, while intertwined, social engagement denotes the depth of interaction within these networks, in other words the reliance on these networks. These responses are periodically recorded throughout our period of interest, displaying consistent patterns that allow us to monitor changes in response to economic crises. To gauge an entrepreneur's level of social engagement, we consolidate these variables into a binary dependent variable. It is coded as 1 if the respondent is a member of at least one social organisation and 0 if not. We consider this binary measure appropriate because respondents typically limit their memberships to a single organisation (the sample median is one). The organisations we include in this variable encompass political, parents', tenants', religious, voluntary, women's institute, women's group, pensioners, Scouts/Guides, and any other social or community group. These final categories will include important UK social organisations such as the Rotary and Lions club that respondents are not asked about directly. The proportion of membership by gender for each group can be seen in Figure A1 in the Appendix. There are gender differences in terms of membership of religious, voluntary, social and parent's organisation. Over 12% of male entrepreneurs are members of social organisations compared to less than 5% of female as these organisations include Working Men's clubs such a difference is not surprising. Conversely, 20% of female entrepreneurs are members of a religious organisation - nearly double that of men. Overall, about 42% of male and 54% of female entrepreneurs in our sample are members of a social organisation, the first indication of a gender difference in social engagement.

The information about social engagement is not collected in every wave of the survey with the latest round being wave 12. This data covers the years from 1991 to 2020. Although our

focus is the effects and after-effects of the 2007/8 financial crisis, we include all the most recent data. This includes periods marked by other crises in the United Kingdom: most notably the 2016 vote to leave the European Union and its long aftershocks. During 2020 the Covid-19 pandemic caused major disruption in all sections of society. We would expect that such an all-encompassing crisis to have some impact on the areas we investigate. However, the lack of observations recorded in the wake of the pandemic prevent any detailed analysis on engagement with social organisations at this time. However, we can consider the initial implications of Covid in our testing of H3.

Brexit has been found to have increased uncertainty in firms' decision making and reduced investment (Bloom *et al*., 2019) which may have knock on effects for how entrepreneurs engage with social organisation. Unlike the financial crisis it is not clear how to mark the onset of this shock to the economy. There are many key events ranging from the date of the referendum in June 2016 to the official exit from the European Union in January 2020. This complicates how to assess the role Brexit plays in encouraging entrepreneur engagement with social organisations. Our main area of interest remains the financial crisis, but we attempt to understand any implications of Brexit in our findings. Further, in the online appendix we repeat the analysis restricting our sample to before the Brexit vote. Our overall findings remain consistent with what we report here.

As independent explanatory variables we use the observed socio-economic and demographic characteristics of entrepreneurs as summarised in Table I and are as follows:

- Individual demographic characteristics: gender, ethnicity, country of origin (UK or migrant), mother tongue language (English or non-English), age and disability.

- Work nature: industry levels, nature of self-employment (full time or part-time jobs) and if has second paid job.
- Household characteristics: marital status, spouse/partner's employment status (spouse/partner employed and not employed), children (have kids, if responsible for dependent children under the age of 16, and care for other household members)

Table I about here

Econometric models

As noted, our main dependent variable is binary which present challenges when using the standard Ordinary Least Squares regression. Most notably, it is possible that predicted probabilities of the dependent variable may be outside the bounds of 0 and 1 – clearly nonsense results (Cameron and Trivedi, 2005). To avoid this our analysis relies solely on logistic regression.

H1 is directly related to how entrepreneurs engage with social organisations in a time of crisis. Our sample allows for observation of this engagement across time from 1991 to 2020. We therefore begin by analysing how the average membership of social organisations varies by year hoping to capture any change during periods of economic turmoil. We assume that membership of a social organisation is determined by the linear latent variable model,

$$y_{it}^{*} = \beta_0 + \sum_{n=1992}^{2020} \beta_n \gamma_t + \boldsymbol{X}_{it} + \epsilon_{it}.$$

where y_{it}^{*} is not directly observable, γ_t are year dummies and $\boldsymbol{X}_{it}$ is a vector of individual level control variables and the industry the entrepreneur work within. Instead of y^{*} we observe y which we define as,

$$y = \begin{cases} 1 \; if \; y^{*} > 0, \\ 0 \; if \; y^{*} \leq 0. \end{cases}$$

The threshold of 0 is a standard normalisation (Cameron & Trevedi, 2005). When respondents' level of $y^*$is above 0, they will join a social organisation. Based on this we estimate the following model

$$P(y_{it} = 1|\gamma_t, \boldsymbol{X}_{it}) = \Lambda\left(\beta_0 + \sum_{n=1992}^{2020} \beta_n \gamma_t + \boldsymbol{X}_{it}\right), \quad (1)$$

Following this estimate we calculate the average predicated probability that each self-employed worker in our sample is a member of a social organisation for each observed year, accounting for individual level characteristics.

To assess H2 in a similar manner we adapt the specification above adding an interaction with the year dummies and a female dummy variable:

$$P(y_{it} = 1|\gamma_t, \boldsymbol{X}_{it}, female_i)$$

$$= \Lambda\left(\beta_0 + female_i + \sum_{n=1991}^{2020} \beta_n \gamma_t + \sum_{n=1991}^{2020} \alpha_{it}(\gamma_t \times female_i) + \boldsymbol{X}_{it}\right). \quad (2)$$

While informative, this initial analysis only reveals social membership changes over time. Other concurrent events, apart from economic crises, might be influencing these changes. To address this, we introduce a key economic variable closely linked to economic crises – Gross Domestic Product (GDP) growth rate. We obtain annual figures from the Office for National Statistics (ONS, 2024). Measured at current market prices, GDP growth is a vital indicator of economic health, suitable for testing the relationship between social engagement and economic crises.

Because GDP can be a lagging indicator, with signs of economic turmoil taking time to manifest in individuals' behaviour, we assess this relationship on four separate occasions: yearly

GDP growth (GDP_t), 1-year lagged (GDP_{t-1}), 2-year lagged (GDP_{t-2}) and 3-year lagged (GDP_{t-3}).

There may also be individual level variation within our sample that may be driving social engagement. To account for this, we run panel logit regressions of the following specification:

$$P(y_{it} = 1|a_i, \boldsymbol{X}_{it}, GDP_t, GDP_{t-1}, GDP_{t-2}) = \Lambda(a_i + \beta_1 GDP_t + \beta_2 GDP_{t-1} + \beta_3 GDP_{t-2} + \beta_4 GDP_{t-3} + \boldsymbol{X}_{it}), \quad (3)$$

If any of our estimates of coefficient $\beta_1 - \beta_4$ are significant this suggests a relationship between wider economic conditions and entrepreneurs' engagement with social organisations. a_i is the unobserved individual-specific heterogeneity which is assumed to be fixed across time. If not accounted for our estimates may be biased. Both random effects and fixed effects regression deal with this potential bias (Wooldridge, 2010). However, the consistency of the random effect regression is violated if is correlated with our independent variables. In this case fixed effect is the preferred regression. When using logistic regression, it is difficult to test this exogeneity assumption with confidence. Use of the Hausman (1978) test suggest fixed effects as the preferred specification. However, given the limits of this test we report the result for both types of regression.

We do not control for time varying unobserved variables via time fixed effects as they would be colinear with our GDP growth variable and so may introduce bias (Kropko & Kubinec, 2020). However, it is important to understand whether such time-varying factors serve as a channel by which this relationship is facilitated. Government policy may react to an economic downturn by providing extra support for social organisations which are involved with business

activities. Such a policy could influence social organisation engagement.[1] To account for potential omitted variable bias we construct a variable, that indicates the party of government in charge at the time that respondents are interviewed. This is done at the country level and so captures the different parties and policies found throughout the United Kingdom. We include indicators for the Conservatives, Labour and Scottish National Parties as well as any coalitions in power. This proxy variable should account for any policy influence on our outcomes of interest. To assess the impact of policy we report the results of our preferred fixed effects specification with and without this variable.

We also test H2 using the same independent variable interacting the various GDP terms with the female dummy variable:

$$P(y_{it} = 1) = \Lambda\left(a_i + \sum_{j=0}^{3} (\beta_{1j} GDP_{t-j} + \beta_{2j}\, GDP_{t-j} \times female_i) + \boldsymbol{X}_{it} \right). (4)$$

Our coefficients of interest are the $\beta_{2j}s$ which reports any difference in the association between GDP and social organisation membership by gender.

The non-linear nature of panel logistic regression complicates the economic interpretation of coefficients, especially when fixed effects are present but not directly estimated (Cameron and Trivedi, 2005). As a result, the standard method of calculating marginal effects is not applicable. However, Kitazawa (2012) has shown that we can consistently estimate semi-elasticities. Therefore, we can report results that estimate the percentage change in the average probability of social group membership following a 1 percentage point change in yearly GDP growth. We calculate this using the Stata command "aextlogit" (Kemp and Sanros Sila, 2016) to interpret our preferred specification.

[1] We are grateful to an anonymous reviewer for this insight.

H3 investigates gender differences in recovering from crisis. Unfortunately, the dataset lacks consistent individual financial return data on a yearly basis, making it impossible to conduct survival analysis to determine if female-run enterprises return to pre-crisis growth more swiftly. Instead, we utilise hiring behaviour as an indicator reflecting a firm's post-crisis recovery level. This information is collected in each wave of the survey and so we can include data from the post-pandemic period. Whilst the number of observations is smaller for the post-Covid analysis it should, at a minimum, allow us to consider if there are any similarities in patterns after both the financial and Covid crises.[2] We examine five periods: pre-financial crisis (2003-2006), during the financial crisis (2007-2010), and two post-financial crisis periods (2011-2015) & (2016-2020) and a post-Covid period recorded from June 2020 onwards.[3]

We compare hiring behaviour variations across these periods and gender. Our variable of interest is the reported number of employees, excluding the entrepreneur themselves. Consequently, the data exhibits a significant left skew with many zero values, representing sole enterprises. Therefore, Ordinary Least Squares regression is inappropriate, and we opt for panel data Poisson regression (Cameron and Trivedi, 2005) with the following specification:

$$y_{it} = \exp\left(\beta_0 + Female_i + \sum_{k=2}^{5} \beta_k \gamma_k + \sum_{k=2}^{5} \alpha_k (\gamma_k \times Female_i) + \boldsymbol{X}_{it}\right), \qquad (5)$$

where γ_k is a categorical variable that denotes the three periods with 2007-2010 as the baseline period. Our main coefficients of interest are $\beta_3, \beta_4, \beta_5, \alpha_3, \alpha_4$ and α_5 – a significant coefficient estimate gives evidence of both an entrepreneurs' reaction to and recovery from the financial crisis and of any gender difference in this effect.

[2] Answers regarding full time and second job status were not collected in the most recent wave of UKHLS so are excluded as controls in this analysis.

[3] After June 2020 the United Kingdom had begun to open up from lockdown so we choose this as the beginning of the post-Covid period. We find similar results when we use later definitions of post-Covid.

For statistical inference we account for the clustered nature of the panel data. As we observe the same individual over many time periods there is a risk that the error term in our models, ϵ_{it}, is correlated over time (Angrist and Pishcke, 2009). To account for this in all regressions, we report cluster robust standard errors.

Findings

We now considered the results on our empirical tests of each hypothesis.

H1

Figure 1 Predicted probability of entrepreneurs being members of a social organisation.

Figure 1 about here

Figure 1a) plots the average predicted probabilities of social organisation membership by entrepreneurs for each available year. The shaded area denotes the 95% confidence intervals. There are two clear peak periods for social organisation membership: 1991-3 and 2011 onwards. These peaks coincide with the aftereffects of the two greatest periods of economic turmoil in the period of the sample: the early 1990s recession and the aftermath of the Global Financial Crisis or Great Recession. Between these periods there was an uncharacteristically extended period of economic calm with no recessions recorded.

During this period, from the mid-nineties to just before the financial crisis, a clear downward trend in social organisation membership can be seen. This could be due to a reduced demand on average from entrepreneurs for membership of social organisation as the recession fades into the past. This appears to be due to a compositional change in entrepreneurs. In our sample, whilst the number of entrepreneurs who are members of a social organisation remains relatively stable during this period, they make up a smaller part of a larger whole as the total number of entrepreneurs increases. New entrepreneurs who set up their businesses in the late 90s

or early 00s have not done so in a period of economic turmoil and on average do not appear to feel the same spur to join social organisations. This, combined with the retirement of older entrepreneurs, would serve to reduce the average level of social organisation membership over time as we see in Figure 1.

From the low in 2007, the financial crisis then spurs a sharp increase in membership to approximately 60%. The trend in the post-crisis era differs from that seen in the 1990s. Rather than a consistent downwards trend, membership is maintained at the higher level. What could explain the difference between these two trends? One explanation is that the financial crisis was a more systemic shock than the 1990s recession: its aftereffects lasted longer incentivising entrepreneurs to remain members of social organisation for a longer period. However, it is possible the sustained higher level that we see may also be a result of the prolonged chaos brought on by the Brexit referendum. Brexit has been a process rather than a single event and the uncertainty for business on the outcome has arguably provided a spur for entrepreneurs to maintain contact with social organisation even during a period of relative stable growth. It is possible that in the absence of Brexit we may have seen the downwards trend in social organisation membership. Yet we do not have the data to empirically test these propositions, but understanding how social engagement changes in the wake of crisis will be an important area of future research to bring clarity to such questions.

Overall, Figure 1 provides some persuasive descriptive evidence of a correlation between such social engagement and periods of economic disturbance in the United Kingdom.

Table II about here

Building on this we turn to our results from specification (2). Panel A of Table II reports the point estimates of the coefficient of the GDP growth variables for both random effects (column 1) and fixed effects regression both as logit point estimate (column 2) and as semi-elasticity (columns 3 and 4). For the random effect model there is a persistent negative association between membership of a social organisation and the growth rate of GDP across the three lagged measures. As growth turns negative entrepreneurs are more likely to be members of such organisation – the very story implied in Figure 1a). It appears that it can take some time for the overall economic situation to feed through into entrepreneur behaviour – the effects are at their strongest when considering the 3-year lagged variables. Considering individual-level unobserved heterogeneity in the fixed effect model reduces the strength and precision of some of the coefficients but a significant negative effect persists when considering the 2- and 3-year lagged variables. We estimate the semi-elasticity of the association between 2-year lagged GDP and our dependent variable to be -0.034. This means that, holding all other variables constant, an increase in the growth rate by one percentage point is associated with the average probability of social group membership increasing by 3.4%, a result which is statistically significant at the 99% confidence interval. When the growth rate is falling engagement with social organisations appears to increase. There is evidence that this effect persists into the third of lagging, although the strength of the relationship is weaker with a semi-elasticity of -0.020 significant at the 90% confidence level. Taken together with figure 1 this analysis provides some strong evidence in support of H1.

Column 4 reports the results when we control for the governing parties - our proxy for policy that may influence social engagement. Accounting for this weakens the association with only the 2-year lag estimate retaining significance with a smaller semi-elasticity of -0.025. It is

important note to infer too much from this difference as our proxy measure is quite a blunt instrument. However, this is suggestive that policy may be an important driver in encouraging membership of social organisations suggesting that formal routes can prove effective. The fact that evidence of an association persists even when accounting for government type indicates that economic hardship is a spur for entrepreneurs to increase their engagement with social organisations even if policy is not directed in that area.

H2

We now look at how these effects differ between male and female entrepreneurs. Returning to the effects over time in figure 1b) we again plot the predicted probabilities for each year, this time showing how the trends differ for male and female entrepreneurs. The pattern of probability of membership tracks that seen in figure 1a) – a leap in the probability of engagement for both male and female entrepreneurs after the financial crisis. Prior to this leap the trend of male and female engagement is similar with a great deal of overlap of the confidence intervals for the estimate in each year. This is true for both male and female entrepreneurs – at the lowest point in 2007 the average is slightly smaller for females although this difference is not significant at the 95% confidence level. It is only in the aftermath of the global financial crisis that we find a significant difference between men and women at the 95% confidence interval. In 2011, women entrepreneurs are around 10% percentage points more likely to be members of a social organisation compared to their male counterparts This gap persists in 2014 and even begins to increase in the wake of 2016 with female entrepreneurs' probability of membership increasing at a faster rate than males. There is slightly less precision here in the estimate, but it remains clear that the period after the financial crisis differs markedly from what came before in terms of the gender make up of social organisation membership. The same trend of a sustained higher level as

seen in Figure 1a) can still be seen for both male and female entrepreneurs. However, female engagement is maintained at a higher level than males. Whether the cause of this sustained engagement is the fallout from the financial crisis or the tumult of Brexit the impact can be seen to differ by gender.

Bringing in the GDP growth variables, the results for specification (4) in Panel B of Table II provide further evidence of significant gender difference in the wake of economic crises. Considering male entrepreneurs first, with our preferred fixed effect specification we estimate consistent negative coefficients, but they are imprecisely measured with all estimates narrowly outside the 10% confidence interval. The interpretation of the coefficients of the interaction between GDP growth and our female indicator are the gender difference in the association between social membership and the level of GDP growth. A negative sign on the estimate indicates that female entrepreneurs engage with social groups to a greater extent on average than males. Looking at the interaction estimate for the coefficient on the 2-year lagged GDP growth we see a semi-elasticity of -0.039 which is significant at the 10% confidence level. On average female entrepreneurs in our sample are 3.9% more likely to be members of a social organisation than males if lagged 2-year GDP growth had fallen by one percentage point. It appears that a negative economic climate induces stronger engagement with social organisations amongst female entrepreneurs and it is female engagement that is driving the strong aggregate effects identified in Panel A. This difference does not appear to widen in the third year where we estimate a coefficient close to zero with no significant association. The different effects in terms of lags of GDP growth suggests that the channel by which economic turmoil promotes engagement with social organisation may differ by gender. This is a consistent level of

engagement across lags amongst male entrepreneurs whilst it takes longer for female entrepreneurs to engage.

We see more evidence for this gender difference in the results in column 4. After accounting for the type of government, we see small and insignificant association between GDP growth and membership for male entrepreneurs. The fall in the magnitude of the point estimate for each lag suggests that accounting for the type of government seems to control for most of the relation between economic hardship and social organisation membership. This suggests that, for male entrepreneurs, government action is a successful channel for driving social engagement during times of economic crisis. Notably, the gender difference persists when we account for government type with a very similar semi-elasticity for the interaction of 2-year lagged GDP-growth and female entrepreneurs. The point estimate of -0.038 is only marginally outside the 10% confidence level.

The gender difference here is quite striking. If our model of policy as the channel for engagement is correct, then these results suggest that female entrepreneurs use a separate channel to engage with social organisations compared to males. It may also be the case that any implemented policy is not working to help female entrepreneurs engage. If true, this suggests policy makers may have more work to do in reaching female entrepreneurs in time of economic turmoil. Again, these results are only suggestive but do point towards interest areas of research in the future.

Overall, our results here provide strong support for H2. Interestingly, it appears most of this association is driven by pre-Brexit activity. Table AII, in the online appendix reports the results when we restrict our analysis to 2014. We find virtually the same estimate of the semi-

elasticity of -0.037 although it is less precisely estimated. This provides more support for the ideas that these changes in membership are linked to the fallout from the global financial crisis.

H3

Finally, we assess the evidence for any gender difference in entrepreneurs' recovery from the global financial crisis. Table III summarises the results for specification (5). As before the point estimates are not open to a simple linear interpretation – to assess magnitude, we focus on the Incidence Rate Ratio (IRR) reported in square brackets. The period coefficients can be interpreted as the difference in the number of workers males' entrepreneurs employ compared to the baseline period of 2007-2010 – the heart of the financial crisis. We again focus on our preferred fixed effects specification.

The result, in column 2, for 2003-2006 is both small and shows no statistical difference from the baseline period, suggesting stability in the average number of hires across these periods. In the post-crisis period of 2011-2015 we find a positive effect of 0.066, (an IRR of 1.068) that is significant at the 90% confidence level. This means that, holding all else equal, the average number of employees employed by male entrepreneurs increased by 6.8% compared to 2007-2010. The effect does not appear to be persistent as whilst there is a similar association found in the 2016-2020 period it is not significantly different from the baseline period. This period captures most of the Brexit-era but does not appear to be associated with either negative or positive changing in hiring activity.

The strongest association is found in the post-Covid period where the average number of employees employed by male entrepreneurs is 17% higher compared to 2007-2010. This is 10 percentage points higher than the insignificant effect found for the previous period suggesting

that there was significant increase in hiring activity for male entrepreneurs in the wake of the pandemic.

Looking at the fixed effects interaction terms for female's pre-crisis ($2003 - 2006 \times Female$), the coefficient is small and statistically insignificant. However, in the aftermath of the crisis (2011-2015) there is a quite a large negative coefficient for female entrepreneurs, which is highly statistically significant. Considering the estimate as an Incident Rate Ratio (IRR) we can quantify the magnitude of this point estimate as reflected a 13% decline in the average number of hires by compared to male entrepreneurs in 2011-2015 preceding period. Overall, this suggest that female entrepreneurs see a fall in average number of hires in the immediate post-crisis period.

This provides evidence that female entrepreneurs' hiring decisions seem to decline as the recovery progresses in comparison to the recovery amongst male entrepreneurs giving support to H3. Again, this post-crisis effect does not persist: the coefficient for the interaction with 2016-2020 and the female variable is small and statistically insignificant, suggesting a recovery in the gender gap in hiring as we move away from the global financial crisis.[4]

In the post-Covid period we estimate a point estimate for the marginal change in hiring amongst female entrepreneurs like that found from 2011-2015. However, we cannot be sure that the true effect is statistically different from zero. This lack of precision can be partially explained by the smaller number of observations in the Covid period (2,257 compared to 14,482 between 2011 and 2015). Given this disparity the Covid findings can only be exploratory. Even accepting that the result shows no change for female entrepreneurs from the previous period it remains the

[4] There is some concern that these results are driven by the presence of firms where the entrepreneur is the sole employee. However, when we restrict the sample to firms with at least one employee there are no significant difference in the results.

case that we again see a divergence in recovery by gender with male entrepreneurs holding the advantage. This suggests our hypothesis has validity beyond the case of the financial crisis providing more positive confirmation of H3.

In column 3 we report the results for our fixed effects specification when we include the government type variable. The results are robust to the inclusion of this variable which suggests that government type and policy does not have appear to have a strong influence in business hiring decisions.

Discussion

Existing research has highlighted various barriers women face, including limited access to finance, resources, markets, and networks (Henry et al., 2022). Studies have documented that female entrepreneurs often grapple with work-family conflicts, which can drive their engagement in professional networks (Jennings and Brush, 2013; Marlow and McAdam, 2013). Nonetheless, our unique approach, demonstrating that female entrepreneurs are more likely to engage in social networks during crisis periods, contradicts some aspects of the literature, which suggests that women tend to participate less in networks overall (Brush, 2009). It's crucial to consider that the type of network being referred to may vary. Women entrepreneurs often exhibit a preference for unstructured and informal networks that offer emotional support over formal networks. Hence, future research could further explore the distinctions between formal and informal social networks in supporting female entrepreneurs during times of crisis. And when do these informal and formal networks payoff depending on the types of crises faced. This avenue of inquiry could yield valuable insights into the nuanced roles of different network types in supporting female entrepreneurs.

Our work highlights the significance of social networks, often referred to as the social capital of the entrepreneur, in the entrepreneurial landscape, especially during times of crisis. This in line with the literature that highlights the critical role that social networks play in fostering entrepreneurial success (Brush, 2018). The notion that social capital serves as a competitive advantage for entrepreneurs (Burt, 2004; Putnam, 2015) is particularly pertinent in crisis scenarios, where resource mobilisation and resilience are paramount. Moreover, our research suggests that entrepreneurs are more inclined to engage with social networks during post-crisis periods, such as the aftermath of the 2008/9 financial crisis. This finding resonates with arguments presented in the literature that entrepreneurs, particularly female entrepreneurs, may seek support and resources from their social networks when facing adversity (Marlow & McAdam, 2013). However, it is noteworthy that the nature and composition of these social networks remain unexplored due to data limitations, emphasising the need for future research to delve deeper into the dynamics of these connections. Hence, we contribute to the understanding of how social networks and social capital intersect with entrepreneurship, shedding light on their heightened importance during turbulent times, and calls for further exploration of the nuanced characteristics of these networks in the context of crises.

Our research demonstrates a significant divergence in male and female engagement in social networks during a crisis and offers a valuable contribution to the dynamic field of gender and entrepreneurship research. As outlined in previous scholarship, much attention has been dedicated to understanding gender differences in demographic characteristics and personality traits among entrepreneurs (Santos et al., 2018). Some studies have probed into the entrepreneurial intentions and orientations of men and women entrepreneurs and their subsequent effects on performance (Alexandre and Kharabsheh, 2019; Wasim et al., 2024).

Additionally, gender has often been employed as a control variable in entrepreneurial investigations (Villanueva-Flores et al., 2021). However, our work opens a new avenue of inquiry by addressing a critical gap in our understanding: how gender shapes entrepreneurial responses during times of crisis, particularly through social networks. The finding that women entrepreneurs are more inclined to seek membership in social organisations during a crisis suggests a distinctive perception of crisis severity and a distinct approach to coping compared to their male counterparts. This aligns with the existing body of literature, which often highlights women's proclivity for building social capital and seeking social support (Brush, 2009). Nonetheless, as highlighted by our study, the underlying motivations driving this increased engagement in social networks warrant further exploration. To comprehensively grasp the implications of such behaviour, future research should attempt to investigate the intentions behind women entrepreneurs' participation in these networks.

The insights presented in our paper provide a valuable perspective on the intricate interplay between gender, network participation, crisis recovery, and entrepreneurial endeavours. Building upon existing gender and entrepreneurship literature, which has often emphasised women's preference for informal networks due to their ability to provide emotional support (Fielden and Hunt, 2011), this discussion deepens our understanding of how these network dynamics might influence recovery trajectories during times of uncertainty. The argument put forth, drawing from Rosenbaum's (2017) assertion that familial obligations can limit women's engagement in professional networks, offers a compelling rationale for the observed gendered patterns in network participation. Indeed, women often juggle multiple roles, including business ownership and caregiving, which may affect their choices in seeking support and advice. Moreover, Roomi's (2009) perspective on the importance of relational ties and informal networks

during the early stages of a business venture resonates with the notion that women entrepreneurs may initially prioritise these networks for their trust and collaborative potential. However, as this discussion highlights, the adaptability of such networks during uncertain times, like crises, may be limited, prompting a shift towards more formal, male-dominated networks that can offer professional guidance and support. The finding that female entrepreneurs potentially experience longer recovery periods than their male counterparts is a pivotal point, underlining the practical implications of these network dynamics. While the hypothesis regarding the impact of balancing business and family responsibilities on recovery times is plausible, it also highlights the multifaceted nature of this phenomenon.

This discussion bridges the study's findings with the broader gender and entrepreneurship literature, offering a comprehensive understanding of how gendered network choices can shape crisis recovery experiences. It emphasises the need for tailored support and policies that acknowledge and accommodate the distinct challenges faced by women entrepreneurs in managing their diverse roles and navigating crises effectively. Therefore, our study has important policy implications as policymakers play a crucial role in empowering female entrepreneurs to build robust social networks which can be helpful during times of crisis, as shown in our findings. Policymakers can design and initiate targeted programs and policies that facilitate networking opportunities. For instance, providing funding and resources for women led and focused entrepreneurial organisations and networks. Such networking fosters a sense of community and collaborating among female enterprises which is essential to build a strong resource base (Brush and Cooper, 2012). Another form of support can be through mentorship and coaching initiatives, as this can connect experienced entrepreneurs with emerging female leaders, enabling knowledge transfer and relationship building (Henry et al., 2022). The creation

of such formal support system can positively contribute to how female entrepreneurs face uncertain and turbulent times. Lastly, policymaker should promote, in line with the United Nations SDGs, a more inclusive entrepreneurial ecosystem (Marlow and McAdam, 2013) by adopting a gender sensitive approach that recognises the differences between entrepreneurs based on gender and develop supportive environments where women can readily access networking events, government support, workshops and conferences. This can be through incentives and schemes that encourages female entrepreneurs to join or form professional associations, networks and cooperatives that can later offer collective resources, advocacy, support and help when needed. By implementing these approaches, policymakers can empower female entrepreneurs to overcome challenging times and contribute to economic and social development of their surroundings.

Conclusion

This study investigates the role of social networks in supporting entrepreneurs during turbulent times, highlighting the intricate relationship between entrepreneurship and society. We find that entrepreneurs increase their social network engagement during crises, with gender playing a significant role. Specifically, female entrepreneurs are more inclined to connect with social networks during crises, reflecting the well-documented challenges they face in areas like finance, market access, and networking compared to their male counterparts. Furthermore, our research indicates that female entrepreneurs take longer to recover from crises, aligning with broader gender literature. This work opens new avenues for exploring gender-specific entrepreneurial behaviours in stable and turbulent environments, bridging the gap between crisis and entrepreneurship research. Future investigations could delve deeper into the motivations driving

female entrepreneurs' increased engagement with social networks during crises, offering valuable insights into this phenomenon.

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