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# **Employee welfare, social capital, and IPO firm survival \***

Shima Amini

*Leeds University Business School*

Sofia Johan

*Florida Atlantic University and*

*University of Aberdeen*

Eilnaz Kashefi Pour

*Birmingham Business School*

Abdulkadir Mohamed

*Leeds University Business School*

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Contact address of authors: Shima Amini: Accounting and Finance Division, Leeds University Business School, Moorland Road, Leeds LS2 9JT (United Kingdom), email: S.Amini@lubs.leeds.ac.uk; Sofia Johan, College of Business, Florida Atlantic University (United States) and Chair in Entrepreneurial Finance, University of Aberdeen Business School (United Kingdom), email: Sjohan@fau.edu; Eilnaz Kashefi Pour, The Department of Finance, Birmingham Business School, Edgbaston Park Road, Birmingham, B15 2TT (United Kingdom), email: E.Kashefipour@bham.ac.uk; Abdul Mohamed: Accounting and Finance Division, Leeds University Business School, Moorland Road, Leeds LS2 9JT (United Kingdom), email: A.Mohamed@leeds.ac.uk.

# **Employee welfare, social capital, and IPO firm survival**

## **Abstract**

We examine the impact of employee welfare and social capital on the prospect of firms remaining quoted on a stock exchange. We analyze a panel sample of US-listed firms from 2000 to 2016 and track the outcome to the end 2021. We find that entrepreneurial firms remain listed longer when employee welfare is better, and firms are located in a better social capital region. We also find that employee welfare positively complements the impact of social capital on prolonging the likelihood of remaining quoted. Our results are robust to endogeneity, effects of financial crises and Covid-19, and various model specifications.

**Keywords:** IPO survival, employee welfare, social capital, firm exit, CSR, ESG.

## 1. Introduction

*“Treating employees benevolently shouldn’t be viewed as an added cost that cuts into profits, but as a powerful energizer that can grow the enterprise into something far greater than one leader could envision.”* Harold Schultz - founder and former CEO of Starbucks (Clifford, 2016).

Listing on the stock market allows a privately held firm to raise capital by offering equity stock to the general public. The funds raised at the time of listing will increase firms’ growth capital, and entrepreneurs are able to obtain an objective valuation of their firms. As such, quoting on the stock market is one of the most important milestones for entrepreneurs. Nevertheless, the transition from private to public has a significant impact on capital structure and affects decisions related to operations, resource allocation, and the probability of remaining as a quoted entity (i.e., survival) on the stock market. In many countries, policymakers recognize the economic importance and contribution of newly listed firms. For instance, the United States (US) government passed the 2012 JOBS Act (the Act) to encourage funding for small businesses and ease many of the country's securities regulations to facilitate listing on the stock market (i.e., Initial Public Offerings (IPOs)). The main objective of the Act was to promote employment and allow entrepreneurial firms with growth potential to raise growth capital from the market.

While it is undeniable that the initial listing is important, we believe that remaining as a quoted entity is even more crucial. Espenlaub et al. (2012) find that being listed is important for firms but exiting from the market has even more implications for stakeholders. For instance, stakeholders of firms such as executives, board members, underwriters, brokers, accountants, and auditors are affected by the prospect of remaining or exiting the stock market. Balcaen et al. (2012) document that exit may have implications for creditors, shareholders, lenders, employees, customers, suppliers, government, and the economy as a whole. From the stock

market regulators' perspective, a firm remaining quoted on the market is a measure of the success of the rules imposed on the firms seeking listing. In the context of the current economic climate, questions as to what drives firms to remain on or exit from the stock market are timely and relevant.<sup>1</sup>

There is a strong body of research linking the creation of new firms to the length of time that the same firms survive from a performance, financial, and industry or organizational perspective, but not many look directly at IPO firms' survival from a human capital perspective (Cefis et al., 2021; Josefy et al., 2017). A few papers such as Fischer and Pollock (2004) and Jain and Kini (2000) consider human and social capital in the management and investor networks of IPO firms, while Gimeno et al. (1997) and Gounopoulos and Pham (2018) determine IPO firm survival from entrepreneurs' human capital. Little is known from the employee perspective, or rather how employee welfare and/or social capital contribute to the prospect of entrepreneurial firms remaining quoted or exiting from the stock market post listing. We seek to address this gap in the literature.

Previous studies document that employee welfare is an important factor affecting a firm's performance. Huselid (1995) finds that better employee welfare improves productivity and cash flow, while Edmans (2011; 2012) show that employee well-being leads to higher firm value. Khoury et al. (2013) report that the total number of employees prior to listing on the stock market has a positive impact on firm proceeds at the time of listing. Ghaly et al. (2015) show policies that protect employee welfare are likely to enhance employee enthusiasm, strengthen employee relations and engagements, and motivate their commitment to overcome difficulties and challenges facing firms. Furthermore, better employee welfare motivates employees to be cooperative, productive and enhances firms' operational and financial

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<sup>1</sup> For detailed discussion of exit types for mature and economically distressed firms see Balcaen et al. (2012).

performance (e.g., Edmans, 2011; Faleye and Trahan, 2011; Chen et al., 2001a, Chen et al., 2001b; Fauver et al., 2018; Darrrough et al., 2019).

Extant research also documents that ethical and socially responsible behavior of firms positively impacts employees' job satisfaction (Koh and El'fred, 2004; Koh and Boo, 2001) and firm financial performance (Orlitzky et al., 2003; Joyner and Payne, 2002). Payne and Joyner's (2006) study indicates that the ethics and values stakeholders either explicitly or implicitly acknowledge are in general similar to those of their society. Jha and Chen (2015) also suggest that shared social capital fosters greater trust over time among social network members and encourages cooperation. Social capital may also motivate employees to be cooperative and productive, and enhance the operational and financial performance of firms. In fact, social capital is associated with affective bonds and connections between individuals and leads to positive effects in raising resources and building trust in the organization (Adler and Kwon, 2002; Guiso, 2008). It facilitates the discovery of opportunities and the allocation of scarce resources within the organization (Greene and Brown, 1997). For instance, Gupta et al. (2018) find that managers located in a better social capital region are less likely to take self-interest actions and investors tend to require a lower rate of return.

The relevance of employee welfare and/or social capital to entrepreneurial firm survival (i.e. as a quoted entity) or exiting from the stock market is an essential consideration not only for entrepreneurs and investors, but also regulators keen to know whether their efforts are successful. Listed firms are subject to an unstable business environment with high levels of uncertainty; therefore, a better understanding of the role of employee welfare and social capital post-listing should be of interest to academics and practitioners (Chahine and Goergen, 2013). Arthurs et al. (2009) argue that given the uncertainty and the organizational transition occurring in IPO ventures, properly governed firm-specific human capital resources aimed to increase employee welfare are likely to be critical to the success of IPO firms. More importantly, as

firms redirect their capital to employee rewards or compensation programs, it is important to explore if social capital serves as a complement or substitute for employee welfare. Our paper investigates whether entrepreneurs should be concerned about employee welfare and/or social capital, which potentially influence the behavior of employees when assessing the prospect of their firms remaining quoted or exiting from the stock market.

We begin by exploring the relationship between employee welfare, social capital, and the probability of remaining as a quoted entity on the stock market. Next, we test for possible endogeneity concerns related to our analysis. Finally, we investigate whether the effect of employee welfare on the prospect of remaining quoted or exiting from the market complements or substitutes the impact of social capital. We examine how and in what way employee welfare and social capital influence the likelihood of remaining quoted using a panel sample of newly listed firms in the US between 2000 and 2016. We use the survival analysis model to examine the time a firm remains quoted or exits from the stock market. We note that exits from the stock market are associated with various reasons and not all exits destroy the value of the firm. Balcaen et al. (2012) document the importance of distinguishing between multiple exit types, as different exits may have different economic consequences for stakeholders. Hence, we investigate the impact of employee welfare and social capital for different exit types (i.e., merger and acquisitions (M&As), failure to comply with listing requirements, moving to a different exchange, bankruptcy, and voluntary exit).

Our results show that a unit increase in employee welfare lengthens the average time to remain quoted by 35%, while a unit increase in social capital increases the time by 80%. This is respectively equivalent to an additional two and four years firms remain quoted on the stock market. We also explore the source of the positive impact of employee welfare and social capital. We find that the positive effect of employee welfare is due to employee involvement and firm efforts to promote diversity, while for social capital it is mainly driven by the number

of charity organizations in the county of the entrepreneurial firm. It appears that employees' involvement and contributions to the community should not be considered as wasting resources, but instead as valuable intangible assets to the entrepreneurial firms. Our results remained robust and consistent controlling for endogeneity using the two-stage IV model and entropy balancing method.

We further investigate whether better employee welfare and social capital jointly enhance the prospect of remaining quoted on the stock market. We find that the influence of employee welfare is stronger within a better social capital environment even during financial crisis or Covid-19 pandemic. We find that employee welfare and social capital decrease exits from the stock market through bankruptcy, unfavorable M&A<sup>2</sup>, and other negative exit reasons. Better employee welfare and social capital enhance the chances of favorable M&A exits from the stock market. Previous studies show that venture capital involvement, audit quality, CEO gender, internationalization, and product life cycle enhance firms' likelihood of remaining quoted (Jain and Kini, 2000; Fischer and Pollock, 2004; Jain and Martin, 2005; Gounopoulos and Pham, 2018). We find that controlling for these factors does not preclude the positive impact of employee welfare and/or social capital on remaining quoted on the stock market. Our results are robust using CSR and political leaning as alternative measures of employee welfare and social capital, respectively.

Our study makes important contributions to the literature in several respects. There is increasing interest among researchers in understanding the firm-society interface. Terminologies such as environmental, social and governance (ESG) activity, corporate social responsibility (CSR), and corporate sustainability may be used interchangeably to identify this interface. While other studies determine how such interface may lead to increasing or

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<sup>2</sup> We define M&As as favorable if the profit in the year prior to acquisition is higher than the median profit of the sample, and unfavorable otherwise.



decreasing firm performance as measured by accounting, market performance and operational success/failure, our paper advances the “business case” of this interface by analyzing the likelihood of entrepreneurial firms remaining quoted on a stock exchange as a measure of performance (Carroll and Shabana, 2010). We further contribute to the existing literature related to this interface and to the entrepreneurship literature on social capital as well as employee welfare. We offer large-scale evidence that enhances our understanding of whether and in what ways the dynamic nature of employee welfare and social capital affect the prospect of entrepreneurial firms remaining quoted on the stock market. As we know that firms undertake activities or policies for instrumental reasons to motivate an outcome, our findings provide an essential lesson to entrepreneurs about the tangible values of commitment to employee well-being. However, investors may react negatively as firms prioritize employee welfare and allocate resources to organization-based compensation programs (Welbourne and Andrews, 1996). Our research identifies the role played by factors other than firms’ characteristics, that is locational social capital, and this affirms the importance of firms taking advantage of better social capital environments before or after the listing. Further, we analyze the moderating, positive complementary effect of social capital and employee welfare, which we believe has not been explored in the literature. Our findings may suggest a middle ground for a popular discourse as to balancing shareholder returns and the use of firm resources to increase stakeholder (employee) welfare, as they suggest that the firm will benefit from increased interface.

Our study also contributes to a body of work on IPOs (Kashefi Pour and Lasfer, 2013; Charitou et al., 2007; Fan et al., 2007; Feng et al., 2020; and Amini and Keasey, 2013) by providing strong empirical evidence of the importance of employee welfare and social capital for the prospect of remaining quoted on the stock market. Finally, we complement the study

by Balcaen et al. (2012) by showing that employee welfare and social capital have differential impacts on exit types.

Our results are useful to entrepreneurs and firms as they allocate limited resources and govern firm-specific resources to ensure remaining quoted on the stock market. They are also useful to the regulators concerned about promoting entrepreneurial finance and a successful IPO market. Finally, our results will help investors and fund managers, such as hedge fund managers, who are concerned about firm exit versus remaining quoted on the stock exchange.

The rest of the paper proceeds as follows. Section 2 discusses the theoretical framework and development of our hypotheses. Section 3 discusses our data and methodology. Section 4 discusses the main empirical results and robustness tests, while section 5 presents the conclusion.

## **2. Theoretical framework and development of the hypotheses**

### **2.1 IPO survival**

Prior literature on IPOs mainly investigates the impact of various characteristics of firms and managers on IPO survival. For example, one of the earlier studies of IPO survival by Hensler et al. (1997) investigates the relationship between survival time and IPO firm characteristics. The authors find that IPO survival time is positively related to IPO firm age and size, IPO initial return, and insider ownership. Jain and Kini (1999) find that firm size at the time of the IPO, pre-IPO operating performance and investment bankers' prestige positively influence the probability of IPO survival. Similarly, Jain and Martin (2005) and Demers and Joos (2007) find that profitability, size, R&D expenditure, and audit quality enhance IPO survival. Jain and Kini (2000) examine whether venture capital (VC) involvement improves the survival profile of IPO firms. Their findings indicate that the probability of post IPO survival is influenced positively by the prestige of the investment bank, underwriting syndicate, and VC involvement. On the other hand, Cyr et al. (2000) find that while VC-backed IPOs

approach human resource management more strategically and are more likely to have a vice president of human resources, their performance is not affected by the presence of the manager responsible for human resources. The recent study by Michala (2019) shows that VC-backed IPOs have a low failure rate, while the failure rates of IPOs backed and unbacked by private equity firms are not different. Howton (2006) and Jain and Tabak (2008) find that CEO ownership, the presence of founder CEO, the proportion of outside versus inside board members, and board tenure influence IPO survival.<sup>3</sup> Rahnamay Roodposhti and Zandi (2020) find that IPO firms with specialist CEOs have a lower probability of failure and a longer survival time post listing.

In addition to firms' traits, Feng et al. (2020) find that market and entrepreneurial orientations improve IPO survival. Anagnostopoulou et al. (2021) examine the effect of earnings management on IPO survival post listing. The authors find that shifting income-decreasing expenses from core to special items (classification shifting) has a negative impact on IPO survival. The authors argue that classification shifting sends a negative signal on a firm's future profitability resulting in lower survival time.

While IPO survival studies are mainly US-dominated, in the United Kingdom, Ahmad and Jelic (2014) find evidence of a positive relationship between survival rates and lock-up periods of IPO firms. Espenlaub et al. (2012) find that on the UK Alternative Investment Market (AIM), the survival time of IPO firms is higher when they are associated with reputable nominated advisors (NOMAD). We add to the existing literature by examining an area that is less explored, which is human capital, more specifically the impact of employee welfare and social capital on IPO survival. We use panel data setting to capture the dynamic effects of these factors over time. In the following section, we discuss our hypotheses.

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<sup>3</sup> See Baluja (2019) for an IPO survival review documenting that corporate governance measured by board size, board independence, ownership concentration, and dual leadership structure are important determinants of IPO survival.

## 2.2 Employee welfare

It is well documented in the stakeholder theory literature that non-financial stakeholders, including employees, influence firms' financial policy. Much attention has been devoted to employee well-being as a key corporate variable. In this vein, Cornell and Shapiro (1987) report that honoring promises to employees, such as working conditions, benefits, career progression, and job security, is crucial. Nonetheless, maintaining employee welfare is highly sensitive to a firm's financial health. Failure to adopt and maintain employee-friendly practices might not have financial implications for the firm, but dissatisfied workers could potentially increase the risk of high employee turnover and possibly a loss of reputation in the labor market (Shapiro and Titman, 1986).

Ben-Nasr and Ghouma (2018) argue that firms seem committed to providing superior employment benefits and enhancing workforce loyalty to improve firm productivity. Also, well-managed firms and firms with employee-friendly environments are attractive to investors and admirably covered by the media, which enhances their reputations. Generally, a high reputation is translated into value creation to stockholders. Roberts and Dowling (2002) find that return on assets (ROA) is positively related to firms' reputation and this relationship persists over time. Similarly, Fombrun and Shanley (1990) and Shamsie (2003) find supporting evidence of a positive relationship between reputation and financial performance. Generally, layoffs reduce employee satisfaction, damage a firm's reputation (see Flanagan and O'Shaughnessy, 2005), and affect a firm's performance. Previous studies (e.g. Chen et al., 2001a; Chen et al., 2001b; Poudier et al., 1999) show a decline in the performance of firms in the years following a layoff.

Moreover, improving the working environment of employees might have a positive impact on stakeholders' perception of the firm and possibly enhance stock price stability. For instance, Edmans (2011) investigates the impact of better employee satisfaction on long-run stock returns. He finds that employee satisfaction is positively correlated with shareholder returns. Based on the findings of the prior studies, it is conceivable that managers might use employee satisfaction as a bridge to achieve a better reputation, with aims to enhance investors' engagement and consequently increase stock market stability (i.e., high survival). Furthermore, employee treatment is becoming an increasingly important non-financial factor for many firms, due to the changing nature of the firm and the rising importance of human capital for firms to remain competitive (Zingales, 2000). Thus, we test the following hypothesis:

*H1a: Better employee welfare increases the prospect of IPO firms remaining quoted on the market post listing.*

A number of previous studies find that employee treatment can be a manifestation of agency problems. Employee-friendly policies can affect labor investment efficiency in particular when managers are interested to expand their empire by over-hiring employees (e.g., Bertrand and Mullainathan, 2003; Atanassov and Kim, 2009; Cao and Rees, 2020). Furthermore, when managers have the intention of pursuing their personal goals by retaining excessive employees, they are likely to withhold information from investors and hide their misconduct. Their financial reporting is likely to be less transparent and opaque because of accumulated undisclosed information over time. Hence, such behavior might harm their firms' performance or success. For instance, Ben-Nasr and Ghouma (2018) show that high levels of employee welfare standards contribute significantly to stock price crash risk. Welbourne and Andrews (1996) also find that although firms that value their human resource and use organization-based compensation programs are more likely to survive, the market may still react negatively as firms redirect their capital to employee rewards or compensation programs.

In line with the agency theory, employee-friendly practices can harm performance, which leads us to formulate the following hypothesis:

*H1b: Better employee welfare reduces the prospect of IPO firms remaining quoted on the market post listing.*

### **2.3 Social capital**

Legitimacy theory suggests that firms should establish a resemblance between the social norms implied by organizational activities and the norms of the environment in which the firm is operating. Extant social capital research suggests that mutual trust and cooperative behavior are enhanced in a region with better social capital. Guiso et al. (2008, p. 297) define social capital as “the set of beliefs and values that foster cooperation.” Fukuyama (1997, p. 378) defines social capital “as the existence of a certain set of informal values or norms shared among members of a group that permits cooperation among them.” Jha and Chen (2015) also suggest that shared social norms foster greater trust over time among social network members and encourage cooperation. Similarly, Guiso et al. (2004, p. 528) argue that “high levels of social capital generate higher levels of trust toward others.” In this vein, Gupta et al. (2018) argue that managers are perceived to be more trustworthy in a region with better social capital and viewed as being more credible.

Prior research suggests that a firm’s culture is similar to the local culture because employees and managers reside closer to their workplace (Guiso et al., 2004; Jha and Cox, 2015). It can be argued that social capital could influence employee behavior, which subsequently affects the success of firms (Chircop et al., 2017). Empirical studies show that social capital serves as a societal monitoring mechanism that reduces managers’ opportunistic behavior. Habib and Hasan (2017) show in better social capital regions, managers hold less cash and are unlikely to behave opportunistically. Since agency costs are less pronounced in better social capital regions, managers have less incentive to hold excessive cash. Another

related study by Gupta et al. (2018) argues that social capital serves as an incremental monitoring mechanism and hence firms located in a better social capital region have lower costs of equity. Similarly, Haung and Shang (2019) find that managers based in better social capital regions are less likely to take actions that may harm investors. They find that firms' leverage and short-term debt ratios are negatively associated with social capital. Previous studies (Tian et al., 2011; Jha and Chen, 2015; Jha and Cox, 2015; Jha, 2019; Gupta et al., 2018; Huang and Shang, 2019) show that better social capital is likely to influence managers' behavior and ethics when making critical corporate decisions such as CEO selection, financial reporting, and audit fees. Evidence from previous studies indicates that social capital plays an important role in individual behavior. Hence, we hypothesize that better social capital could have a positive impact on employees' behavior and enhance their cooperation, communication, and commitment to the firm. By contrast, poor social capital environments could negatively affect employees' behavior by reducing their commitment to the firm and encouraging opportunistic behaviors, which maximize the agency costs (e.g., Schutjens and Völker, 2010; Gupta et al., 2018; Habib and Hasan, 2017; Haung and Shang, 2019) and adversely affect the firm's performance. We test the following hypothesis:

*H2: IPO firms located in counties with better social capital have a higher prospect of remaining quoted on the stock market post listing.*

## **2.4 The complementary vs substitution effect of employee welfare and social capital (Interaction)**

In the previous sections, we have justified the importance of understanding the effect of employee welfare and social capital on the prospect of remaining quoted on the stock market. Because of the relative importance and cost of administering employee welfare programs, and the potential significance of social capital, it is critical to assess the moderating effect of social capital on employee welfare and IPO survival.

The importance of human relations and how such relations affect performance in the workplace has been well studied (Roethlisberger and Dickson, 1939; Roy, 1952; Bewley, 1999). The existence of social ties between workers can be beneficial to firms' survival if socially tied workers are likely to cooperate and share information (Lazear, 1989; Ichniowski and Shaw, 2005). It is also likely that socially tied workers could be detrimental to the firm's success if they engage in collusive behavior against the firm (Tirole, 1986; Kofman and Lawarree, 1993). Social capital of entrepreneurs has also been suggested to be beneficial to their firms. For example, it is argued in the literature that social capital of the entrepreneurs gives them informational advantages (Seghers et al., 2012) and also enables them to mobilize necessary resources from their network partners (Grichnik et al., 2014). As such and without a doubt, social capital could potentially have an impact on all aspects of a firm's management including the prospect of remaining quoted on the market. It is also documented in the literature (Somers, 1995; Batt, 2002) that better treatment of employees is likely to encourage them to act in the best interest of their firms, enhance their commitments and lower the turnover rate. This is important for newly listed firms as the cost associated with training new employees could be high and impose additional costs. Edmans (2011) finds evidence that employee satisfaction is positively correlated with stock returns. This evidence indicates that better employee welfare would enhance the performance and success of firms.

However, the use of organization-based compensation programs to increase employee welfare is costly to implement. On one hand, employee welfare represents an incentive for the workers and, on the other hand, social capital influences individual behaviors. Hence, the benefits or costs of the interplay between employee welfare and/or social capital are not clear. Given that better employee welfare enhances the commitments of employees and better social capital favorably improves the social ties between the workers, we expect better employee welfare and social capital to have a significant impact on the prospect of firms remaining



quoted on the stock market. By contrast, it can be argued that the positive effect of better employee welfare on firms' survival could be hindered in regions associated with poor social capital. This is based on the fact that poor social capital lowers social ties between workers and is likely to adversely affect the prospect of remaining quoted on the stock market (Lazear, 1989; Ichniowski and Shaw, 2005). To test our complementary versus substitution hypothesis we use an interaction term between employee welfare and social capital. If employee welfare complements social capital, we expect better employee welfare to dominate the adverse effect of employees' behavior due to being in a poor social capital region. Similarly, the positive effect of social capital because of a better environment is likely to reduce the negative impact of poor employee welfare. Hence, the interaction term is likely to have a significant positive impact on the prospect of remaining quoted on the stock market. However, if employee welfare is a substitute for social capital, better welfare for employees is unlikely to offset the adverse effect of being in a poor social capital and vice versa. Based on the above arguments, we formulate the following hypothesis:

*H3: Employee welfare and social capital have a complementary positive impact on IPO firms remaining quoted on the stock market.*

## **2.5 The impact of employee welfare and social capital on exit**

As mentioned earlier, we also investigate whether the effect of employee welfare complements or substitutes the impact of social capital in cases of firms exiting the stock market. We do this as the length of time firms remain quoted on the stock exchange (i.e., survival) may not necessarily be the only measure of performance as not all exits from the stock market destroy the value of the firm. The importance of distinguishing the different exits due to the potentially favorable and unfavorable economic consequences for stakeholders has been well documented by Balcaen et al. (2012).

It is suggested in the literature that providing better employment benefits enhances workforce loyalty and improves firm productivity (Ben-Nasr and Ghouma 2018). It can be argued that better employee welfare is likely to decrease the likelihood of bankruptcy, arguably an unsuccessful exit, and increase the probability of successful exits such as M&As for IPOs. Berk et al. (2010) argue that the cost borne by employees is potentially the single most important indirect cost of bankruptcy. Firms with an interest in employee well-being are therefore likely to reduce the chance of bankruptcy, compared to firms with lower interest in employee well-being. In this vein, Verwijmeren and Derwall (2010) find that firms reduce the probability of bankruptcy by adopting lower debt ratios given financial distress occurs when firms cannot satisfy their debt payments. They also report that firms with better employee relations have better credit ratings, which results in having a lower likelihood of financial distress. Furthermore, firms with employee-friendly environments are attractive to investors, favorably covered by the media, and have enhanced firm reputations (Ben-Nasr and Ghouma 2018). These firms are less likely to damage their reputation with an unsuccessful exit.

Similarly, the level of social capital can affect a firm exit from the market. Buzzelli (2005) documents that exit is influenced by factors such as population density and immigration rates, and socioeconomic factors such as income, unemployment, and home ownership. In a similar vein in relation to socioeconomic environmental conditions, Camacho and Rodriguez (2013) study the manufacturing firms in Columbia and find that higher rates of business exits were in the municipalities experiencing higher rates of armed conflict. This indicates that social and economic unrest discourages firms from staying in the market (Cefis et al., 2021).

Regarding the relevance of social capital on performance, Putnam (2000) reports that social capital creates positive externalities for education, health, and public service performance. It also strengthens a community's social networks and shapes the community's attitudes toward certain socioeconomic behaviors. Exiting through bankruptcy is not

considered favorable behavior and is also costlier in high social capital communities (Agarwal et al., 2011). Its consequences include loss of social status, trust in the group, and limited employment prospects. From a firm's perspective, the social costs associated with bankruptcy can be higher than the financial benefits of filing for bankruptcy. Hence, we expect better employee welfare and social capital to mitigate various types of unfavorable exits from the stock market. This includes unfavorable M&A exits where the profitability of the firm deteriorates prior to the acquisition, bankruptcy, voluntary exits, and other negative reasons for exits. Based on the above discussion we formulate the following hypothesis.

*H4: IPO firms with better employee welfare and social capital have lower chances of exiting from the stock market through unfavorable exit routes.*

Better employee welfare provides intangible benefits to firms such as efficiency gains and a reduction in risks and enhances the prospect of attracting reputable investors (Cox et al., 2004). It is well documented in the literature (see Fama and French, 2004) that exit from the stock market is common, especially for IPO firms. There are various methods of exit from the stock market and some of the exits are value-creating, while others destroy firm value. It is also likely that IPO firms might find exits as an optimal outcome rather than continue listing in the stock market. Among the exit types, M&A could be a method with a higher potential of maximizing stakeholders' value. For instance, Balcaen et al. (2011) document that M&A exits partially preserve operations and benefits of outside stakeholders. This is likely to be more pronounced for favorable M&A exits and create additional wealth to the stakeholders. This assumption is based on the findings of the previous studies that show outperforming target firms tend to earn positive returns, while acquirers generate positive (Bradley et al., 1988; Humphery-Jenner and Powell, 2011) or negative returns (Antoniou et al., 2008; Walker, 2000) during M&A activities. Nevertheless, there is a consensus in the M&A literature that target

firms earn positive returns. This suggests that firms' exit from the market through M&A could be an optimal outcome for the shareholders. Similarly, previous studies (see Mead, 1967; Huang and Shang, 2019) report that social capital influences managers to take less value-destroying actions and encourages them to be more concerned about reputation loss before taking value-destroying actions. If the social capital environment discourages managers to take actions that are detrimental to stakeholders, it is likely that managers of IPO firms located in a better social capital will exit from the stock market using an optimal method such as M&A. In the context of VC literature, Devigne et al. (2016) argue that some of the firms engaged in M&A activities (i.e., trade sale) are sold at a discount price (i.e., fire sale). The authors document the importance of differentiating between favorable M&As from unfavorable ones. Since M&A exit is more desirable for employees than other exits, we expect a significant impact of employee welfare on favorable M&A exits. Given that employee welfare and social capital are valuable to IPO firms, we expect better employee welfare and social capital to enhance the likelihood of favorable M&A exits. Therefore, we test the following hypothesis:

*H5: Better employee welfare and social capital increase the likelihood of favorable M&A exit from the stock market.*

### **3. Data and Methodology**

#### **3.1 Data**

Our sample of IPOs in the US is collected from the SDC Platinum New Issue database, Worldscope, and Thomson One from January 1, 2000 to December 31, 2016.<sup>4</sup> Information on exit dates (delisting dates from the stock exchange) and reasons are collected from Compustat. The missing information on exits for the firms in our sample is hand-collected. To be included in the sample, we impose the following four restrictions consistent with previous studies: (1)

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<sup>4</sup> We exclude international IPOs headquartered in the US.

The offer price is at least \$1 a share (e.g., Lin et al., 2013); (2) The IPO is not a spin-off, privatization, an American Depositary Receipt (ADR), a leveraged buyout (LBO), a Real Estate Investment Trust (REIT), a unit offering, a rights issue, a limited partnership, a closed-end fund, or a financial institution (e.g., Gounopoulos and Pham, 2018); (3) We exclude cross-listed firms as they are likely to be affected by the legal requirements of more than one country (e.g., Espenlaub et al., 2016); (4) For each firm, data should be available on Compustat and/or DataStream. We require both accounting data (e.g., total assets, earnings, sales, and debt level) and market data (first-day price and market capitalization) to be available. After imposing these restrictions, our final sample consists of 1144 IPOs with complete data. In line with previous studies (e.g., Kashefi Pour and Lasfer, 2013), we track each IPO firm from the IPO date to the exit date or the end of 2021 (whichever is earlier). We define survival as firms that continue to trade on the stock market from the IPO date to the end of 2021. We measure employee welfare using the traditional KLD STATS (Statistical Tool for Analysing Trends in Social & Environmental Performance) database. We calculate the welfare by considering identified strengths and concerns included in the “employee relations” for each year provided in the KLD database. Next, we subtract the average identified concerns from the average identified strength. The strength includes union relation strength, cash profit sharing, employee involvement, retirement benefits strength, and work/life benefits. The concerns consist of union relations concerns, health and safety concerns, workforce reductions, retirement benefits, and other concerns. A positive value suggests that the firm is associated with better employee welfare. Our method is similar to Ghaly et al. (2015), Faleye and Trahan (2011) and Verwijmeren and Derwall (2010). The region’s social capital is computed using county-level social capital index data, collected from the Northeast Regional Center for Rural Development (NRCRD) at the Pennsylvania State University. The index measures the confluence of effects from two variants of social norms (i.e., census mail response rate and votes cast in presidential

elections) and two measures of networks (numbers of associations and number of non-profit organizations). Next, we follow Habib and Hasan (2017) and use principal component analysis to construct an index for social capital.<sup>5</sup> The firm-specific variables used in the analysis are defined in Appendix 1A.

### **3.2. Methodology**

We use the Accelerated Failure Time (AFT) model to examine the effect of employee welfare and social capital on survival times. The model is common and has been used by several previous studies. The AFT model allows us to measure the impact of the independent variables on time to survive. Since the dependent variable is the logarithm of time, the standard OLS model is not appropriate in our setting, hence we use the AFT model. We define time to exit as the time that elapses between the IPO date and the exit date (date in which an IPO is delisted from the market for any reason). IPOs that are not exited by the end of 2021 are classified as censored IPOs. In the AFT model,  $\exp(\beta_i X_i)$  is an “acceleration factor”. The effect of a covariate is to extend or shrink the length of time to survive by a constant relative amount  $\exp(\beta_i X_i)$ . If  $\exp(\beta_i X_i) > 1$  time to survive is increased, and if  $\exp(\beta_i X_i) < 1$ , it is decreased (Bradburn et al., 2003). The AFT model allows for the possibility that the impact of the covariates on survival time may be particularly pronounced in the period soon after the IPO and less so in the longer term. Unlike other previous studies, we use the AFT in panel settings rather than cross-section to measure the dynamic effect of the variables over time. The panel data allow us to measure the covariates up to the exit or censored, whichever occurs first.

The AFT model is expressed in terms of a log-linear function with respect to time (see e.g., Hensler et al., 1997; Bradburn et al., 2003)

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<sup>5</sup> Appendix 2A provides a detailed discussion on how social capital and employee welfare are constructed.

$$\ln(T_{jt}) = \beta_0 + \beta_1 X_{1t} + \dots + \beta_p X_{pt} + \varepsilon_{jt}$$

As the AFT is a parametric model, it is necessary to specify the distribution of the baseline survival function. We use the likelihood ratio or Wald tests to determine the appropriate distribution for our data. These distributions include exponential, weibull, gamma log-normal, and log-logistic distributions. Next, we use the Akaike Information Criterion (AIC) test to choose the best-fitting model in the case of non-nested models such as between the log-logistic and the log-normal distribution. Based on the AIC test, we use the log-logistic distribution for our AFT model. Our choice of control variables specific to IPO firms is consistent with the previous studies (e.g., Espenlaub et al., 2012; Hensler et al., 1997). Following Espenlaub et al. (2015), we use a competing risk model to assess the hazard rates of various exit reasons including favorable and unfavorable exits.

## 4. Results

### 4.1 Univariate analysis

Table 1 Panel A shows the descriptive statistics for the full sample of IPOs at the time of listing, while Panel B shows the statistics for the panel sample of IPOs, which are tracked to the end of 2021. The table reports the mean, median, and standard deviation values. The descriptive statistics between the sample of IPOs at the time of listing and for the panel are not statistically different. Given that our study focuses on the panel sample, we discuss in detail the descriptive statistics for the panel sample reported in Panel B.<sup>6</sup> The mean (median) employee welfare (*Employee welfare*) is -0.141 (0.000), while the mean (median) social capital (*Social capital*) is 1.245 (1.281). The logarithm of the average market value (*Ln market value*) is 6.491 and a median of 6.638. The average (median) profitability (*Ln profit*) is 10.910

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<sup>6</sup> We report the distribution of IPOs by year and industry in Table 4A in the appendix.

(11.067), while the mean leverage (*Leverage*) is 17.50% (14.50%). The mean growth opportunity as measured by the market to book (*MTB*) is 1.397 and the median of 1.355. The average stock return volatility (*Volatility*) is 2.5%, while the median value is 1.6%. The average logarithm of capital expenditure (*Ln Capex*) is 10.052 and the mean insider ownership (*Ownership*) is 29.9690%. The market liquidity (*Marker liquidity*) and hotness (*Market hotness*) as measured by the average initial returns over the past three months prior to the IPO year are 2.248% and 23.60, respectively.

Table 2 shows the number of firms that exited and remained quoted on the stock market during our sample period. Column 2 shows the number of exits and remaining quoted from the date of listing to the end of the sample period, while column 4 shows the numbers to five years after the listing. The percentage of firms that exit from the stock market due to favorable M&A is 11.45% compared to 39.69% for unfavorable M&A exits. We classify M&A as favorable when the profit in the year prior to acquisition is higher than the median profit of the sample. The bankruptcy exits are 4.11% during our sample period while voluntary exits are 2.80%. Exchange and regulation exits are under 1% during our sample period. In our sample, 41% remained quoted on the stock market by the end of December 2021. We observe similar trends when we track the firms over a fixed window of five years. The distribution of firms that exited and remained quoted on the stock market is similar to other IPO studies (see Gounopoulos and Pham, 2018; Anagnostopoulou et al., 2021). Table 3 reports the correlation matrix for all variables of interest. The correlations seem low except between capital expenditure and profitability, which is relatively high.<sup>7</sup> Overall, the correlation table does not seem to suggest any concerns over multicollinearity problems.

**[Tables 1, 2 & 3 here]**

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<sup>7</sup> We have used variation inflation factor (VIF) using OLS to assess the possible impact of multicollinearity. The VIFs are below conventional thresholds indicating that multicollinearity is not a concern. We have not reported the results for brevity but they are available from the authors on request.



## 4.2. Multivariate analysis of IPO survival times

This section reports the multivariate analysis of IPO survival times. Table 4 reports the results of the impact of employee welfare on survival time (i.e., remaining quoted on the market). Model 1 reports the effect of employee welfare and social capital on survival time. It is evident from the table that both (employee welfare and social capital) increase the time IPOs remain quoted on the stock market. Although the magnitudes of the coefficients are higher for social capital than for employee welfare, we cannot infer that social capital is more important than employee welfare due to different units of measurement. These results are consistent with our hypotheses *H1* that better employee welfare enhances the prospect of remaining quoted, *H2* on the importance of location, and *H3* on the complementary effects of employee welfare and social capital. We examine the source of positive impacts of employee welfare and social capital on survival as a quoted firm. Model 2 reports the results for each of the components related to employee welfare and Model 3 for social capital. The results show that IPO firms with better social capital and employee welfare index have a higher likelihood of remaining quoted on the market than their peers. Nonetheless, social capital and employee welfare index are influenced by various provisions. To investigate the channels of a positive impact of social capital or employee welfare, we examine the impact of these provisions on survival times separately. Model 2 shows that the positive impact of employee welfare on survival time is driven by employee involvement (*Employee involvement*) and diversity provisions (*Diversity*). Alternatively stated, IPOs that are engaged with their employees and promote diversity enhance their survival times significantly after listing. This supports research that suggests “culturally diverse workforces create competitive advantage through better decisions” (Cox and Blake, 1991, p. 51). Model 3 shows that the positive effect of social capital on survival time is driven by the number of charity organizations (*NCCA*) in the county. The higher the number of charity organizations in the region, the higher the

chances that the entrepreneurial firms will remain quoted on the market. Possibly, this is because it is more likely that firm employees and managers are involved in jointly promoting the efforts of proximate charitable organizations, tend to provide voluntary support to these organizations, and potentially help minimize their operational costs while promoting organizational efforts. These same goals could be transferred to firm operations as higher social capital leads to a willingness for stakeholders to devote increased effort to the firm and improve survival. Our results also support recent findings by Ko et al. (2021) that suggest that for younger firms, the benefits of employee identification with a collective (family) may mitigate the negative impact of bio-demographic diversity. Overall, the results of Table 4 show that employee welfare is an important determinant of a firm remaining quoted on the stock market. This is consistent with the stakeholder theory, which suggests that high-quality employee welfare has a positive impact on firms' performance and mitigates the risk of stock failure. Similarly, an entrepreneurial firm located in a region with better social capital is likely to remain quoted on the market. This evidence is in line with Lins et al. (2017) who find that high social capital leads to better performance as measured by high stock returns.<sup>8</sup> In unreported results, we find that our results are robust using Cox proportional hazard model instead of AFT.

**[Table 4 here]**

### **4.3 Endogeneity**

Our measure of employee welfare might be endogenously determined. In other words, firms with a higher chance of survival might have a natural tendency to invest in intangible assets, including better employee welfare. To test the robustness of our results and mitigate endogeneity as a concern, we use the control function approach, which is appropriate for the

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<sup>8</sup> Other elements of social capital and/or employee welfare are not significant and hence not reported but available on request from the authors.

survival analysis framework. This involves a two-stage approach that offers an efficient way to account for potential endogeneity and is typically used to evaluate whether endogeneity influences the estimates from survival models (Aghion et al., 2009; Patel et al., 2020; Wooldridge, 2015). In the first stage, we use the generalized linear model where the dependent variable is employee welfare. We control for all firm and market characteristics including our instrument, which is measured as an industry average employee welfare.<sup>9</sup> In the second stage of the main survival models, we use the residuals from the first stage as a predictor instead of employee welfare. The results of the first stage and second stage are reported in Table 5. It is evident from the second stage results that the instrumental variable has a positive and significant impact on survival consistent with the results reported in Table 4 Models 1 and 3. The size of the coefficients for the employee welfare index in Table 4 are quantitatively similar to Table 5 when using the instrument. There is a slight improvement in the fitness of the model, but overall, the results are broadly consistent and suggest that endogeneity does not drive our results. Next, we control for observable endogeneity using the entropy balancing method.

**[Table 5 here]**

It is possible that the impact of employee welfare and social capital is influenced by the characteristics of firms that remain quoted on the market. In other words, firms with higher survival may be associated with better employee welfare and located in a better social capital environment. Hence, the positive associations between employee welfare, social capital, and survival might not be a causal effect. To disentangle the reverse causality of employee welfare and social capital from firm characteristics, we use the entropy balancing method. The entropy balancing allows us to test whether the impact of employee welfare and social capital is

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<sup>9</sup> We thank the anonymous referee for suggesting an instrument for employee welfare consistent with industry practice.

explained by observable differences in characteristics between failed and surviving IPOs. Typically, entropy balancing provides a balanced covariate between surviving (treatment) and failed (control) IPOs along with several determinants. The entropy method works by first determining the distributional properties (i.e., mean and variance) of the treatment observations. These distributional properties become the target distributional properties of the post-weighting control sample (known as “*balance conditions*”). The algorithm proceeds by first assigning possible weights to control observations and then testing whether the balancing conditions have been satisfied (distributional properties of treatment and post-weighted control observations are identical). This process is repeated over multiple iterations until a set of weights that satisfy the balance conditions for control observations are satisfied. The attractiveness of the entropy balancing technique is that it preserves the full sample and ensures a covariate balance between treatment and control observations by re-weighting observations such that the post-weighting mean and variance for treatment and control groups are identical based on the firm characteristics. In addition to these benefits, entropy balancing also has higher model efficiency and less first-stage model dependency than PSM (Hainmueller, 2012). If employee welfare or social capital does not influence IPO survival, we do not expect a positive and significant impact in the matched sample. Nevertheless, if the effect is positive and significant, we can infer that employee welfare and social capital drive IPO survival. Table 6 reports the results of the matched sample using entropy balancing. It is evident from the table that our variables of interest (*Employee welfare* and *Social capital*) remain quantitatively consistent with our main results.<sup>10</sup>

**[Table 6 here]**

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<sup>10</sup> To the best of our knowledge, we are not aware of endogeneity tests such as relevant test or exclusion criteria available for survival analysis models.

In unreported results, we explore the interaction effect between employee welfare and social capital on survival. Specifically, we examine how employee welfare and social capital moderate the negative effects of the financial crisis of 2007/2008 and the Covid-19 pandemic of 2020/2021. We find that both the financial crisis and the Covid-19 pandemic reduce the chances of remaining quoted on the stock market. Nevertheless, the interaction terms are positive and statistically significant, suggesting that although the crisis and pandemic have a negative impact on survival, employee welfare and social capital attenuate the negative effects (see the interaction results in Appendix Figure 1).

#### **4.4 Competing risk model**

We use a competing risk model proposed by Fine and Gray (1999) to examine the effects of our explanatory variables on the choice between various exits. We aim to provide further insights into the extent to which employee welfare and social capital influence various exits from the stock market. In a competing risk model, it is possible to measure the effects of the control variables between different exits. Table 7 reports the results of the competing risk model. The estimated coefficients in the competing risk model have different interpretations from the standard hazard model. For instance, a positive sign indicates a greater hazard, and hence quicker exits, relative to the competing event. The negative effect reported in Table 7 Model 1 for employee welfare and social capital suggests that better employee welfare and social capital delay bankruptcy relative to favorable M&A exits. Both Models 2 and 3 show that employee welfare and social capital delay respectively unfavorable M&A exits and all exits (i.e., unfavorable M&A, bankruptcy, voluntary, regulation, and market exchange exits) relative to favorable M&A exits. This complements Balcaen et al. (2012), which shows that large-sized firms are less likely to exit through bankruptcy.<sup>11</sup> This also indicates that both

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<sup>11</sup> We also find, but not reported, that employee welfare and social capital increase the chances of favorable M&A exits relative to other stock market exits.

employee welfare and social capital promote value-creating exits. Overall, the results support hypotheses 4 and 5 and indicate that employee welfare and social capital mitigate exits from the stock market due to bankruptcy, unfavorable M&A and other exits, but also promote value-creating exits such as favorable M&A exit<sup>12</sup>

[Table 7 here]

#### 4.5 The impact of additional control variables

Previous studies document that VC involvement with IPO firms enhances their survival times post listing. Jain and Kini (2000) indicate that the involvement of VCs in the IPO process improves the survival profiles of IPO firms. They also document that IPO firms audited by high-quality accounting firms survive longer in the following years. Therefore, we add a dummy for VC presence (*VC-dummy*) and auditors' quality (*Auditors-Quality*). Furthermore, prior studies suggest that internationalizations affect firm survival although their results are equivocal (see Yan and Williams, 2021). We add international intensity (*International intensity*) and the age at international entry (*Age (international entry)*) to control for internationalizations. We also include several observable executive characteristics such as CEO gender (*CEO-gender*) and CEO age (*CEO-age*). In addition, the literature shows that firm survival is explained in product-life-cycle models. For example, Agarwal and Gort (2002) argue that hazard rates are different across phases of the product life cycle. They show that higher rates occur in the later phases, due to market maturity and increased competitiveness. Based on the previous studies, we include R&D expenditure (*Ln R&D*) and a dummy for patents at the time of listing (*Patent*) to control for the intensity of innovation and technical changes in the industry.

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<sup>12</sup> We thank the editor for suggesting to use a competing risk model to analyze the effect of different exit types.

Model 1 in Table 8 shows the results for employee welfare and social capital and the interaction effect. A unit increase in the employee welfare index increases the average survival times of IPO firms as a quoted entity by 37%, while a unit increase in the social capital increases the survival time by 79% controlling for various characteristics. In Model 3, we use CSR instead of employee welfare, since employee welfare is one of the components of CSR and including it in the same model would bias the results. The results of Model 3 show that a unit increase in the social capital index lengthens the average survival times of IPO firms as a quoted entity by 41% compared to 11% for CSR. This suggests that social capital has a far stronger impact on IPO survival as a quoted firm than CSR. As political leaning and social capital are highly correlated (Jha et al., 2018), we use political leaning instead of social capital in Model 4 and the results remain consistent.

We also explore whether our results are robust by tracking firms in our sample over the same period. Since firms in our sample are tracked over different periods based on their listing date, it is possible that our results might be biased. Following Demers and Joos (2007), we track each IPO for five years and classify them as remaining quoted or exiting from the stock market. The results are consistent but are not reported for brevity and are available from the authors on request.

Table 8 also reports Ramsey's (1969) test for omitted variables, and the  $p$ -values are not significant at any conventional level, suggesting that all models are correctly specified and omitted variable is not a concern.<sup>13</sup> Overall, the results suggest that employee welfare has an incremental effect on IPO survival that is not explained by international intensity, VC involvement, auditors' quality, or CEO characteristics. Furthermore, the effect of social capital on remaining quoted on the stock exchange is stronger than CSR.

**[Table 8 here]**

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<sup>13</sup> Oster (2019) test is not available for survival analysis and instead we use Ramsey's test.

## 5. Conclusion

In the last decade, there has been a growing interest in how non-firm characteristics affect entrepreneurial and organizational success. Previous literature has generally focused on firm characteristics, while the impact of human capital, more specifically employee welfare and social capital on firm survival remains unexplored. Understanding the extent to which employee welfare and social capital could potentially affect the future outcome of entrepreneurial firms is important for all stakeholders. Among the important milestones for most firms is listing on the stock market. It provides benefits to firms in terms of raising capital to finance their growth potential and also to build their reputation. However, the transition from private to public is associated with a significant risk that affects the structure, decisions related to the operation, optimal resource allocation and, most importantly, remaining quoted on the stock market. Moreover, post-IPO exits involve economic and social welfare costs and decrease the attractiveness of the equity market (Bhattacharya et al., 2015). Therefore, the question of what determines a firm to remain quoted or exit from the stock market has been an interesting question for academics and practitioners. It has implications for several involved parties such as stakeholders, issuers, policymakers, and the economy as a whole. This study examines the impact of employee welfare and social capital on firms remaining quoted on the stock market using panel data to capture the dynamic effects over time. Given the uncertainty and the organizational transition occurring in IPO firms, it is understandable that properly governed firm-specific human capital resources are likely to be critical to the success of firms. While firms that value their human resource and use organization-based compensation programs are more likely to survive, it is possible that the market may react negatively as firms redirect their capital to employee rewards or compensation programs (Welbourne and Andrews, 1996). It is therefore important to understand the role played by factors other than



firms' characteristics that influence the prospect of newly listed firms to remain quoted or exit from the stock market post listing.

Our results show that survival (i.e., remaining as a quoted entity on the stock market) or exit is positively influenced by social capital and/or employee welfare. More specifically, we find that entrepreneurial firms located in a better social capital region and offering better employee welfare remain quoted on the stock market longer after listing. Further analysis shows that the source of positive effect on employee welfare is due to employee involvement and the firm's efforts to promote diversity within the organization. In addition, the positive impact of social capital is driven by the number of charity organizations in the county. Our results show that entrepreneurial firms should consider the potential of taking advantage of social capital while allocating resources. Our study shows that employee welfare and social capital mitigate the negative impact of the financial crisis and the Covid-19 pandemic on the prospect of remaining quoted on the stock market. We show the tangible values of commitment to employee well-being and the importance of a better social capital environment for the firms after listing.

We contribute to a broader literature on IPOs on the importance of employee welfare and social capital. For instance, previous studies show that capital raising (Kashefi Pour and Lasfer, 2013), VC backing (Jain and Kini, 2000), audit quality (Jain and Martin, 2005), board effectiveness (Charitou et al., 2007), politically connected CEOs (Fan et al., 2007), CEOs' work experience (specialist CEOs) (Gounopoulos and Pham, 2018), firms strategy-making practices (market and entrepreneurial orientations) (Feng et al., 2020), and spatial proximity to financial centers (Amini and Keasey, 2013) influence IPO firms' survival. Our study complements these previous studies by providing strong empirical evidence on the importance of employee welfare and social capital to the likelihood of firms remaining quoted on the stock market. Using a competing risk model to examine the impact of employee welfare and social

capital on the choice between various exits, the results show that employee welfare and social capital make favorable M&A more likely, but they delay the probability of exits through bankruptcy, unfavorable M&A, and other negative exit reasons. Our findings complement previous empirical studies (e.g., Bhattacharjee et al., 2009; Balcaen et al., 2012) which investigate exits, by investigating the impact of firms' tendency to invest in intangible assets such as employee welfare as well as social capital environments. An implication of our study is for the managers of entrepreneurial firms to value investment in non-financial stakeholders such as employees. Similarly, investors should view the presence of a high-quality and employee-friendly environment as a positive signal when they invest in the quoted firms. The implications of our results are not only limited to entrepreneurs and firms allocating and governing firm-specific resources to increase employee welfare and improve the prospects of their success in the competitive market, but also useful to the regulators concerned about promoting a successful IPO market. We provide evidence that policymakers could influence societal objectives to enhance the prospect of entrepreneurial firms remaining quoted on the market.

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**Table1. Descriptive statistics**

<b>Panel A</b>	N	<b>Cross-sectional Sample</b>		
		Mean	Median	STD
Employee welfare	1144	-0.018	0.000	0.156
Social capital	1144	1.166	1.242	0.806
Ln market value	1144	6.331	6.406	1.247
Ln profit	1144	10.466	10.504	1.519
Leverage	1144	0.175	0.137	0.176
MTB	1144	1.579	1.530	0.612
Volatility	1144	0.031	0.018	0.067
Ln Capx	1144	9.526	9.502	1.767
Ownership	1144	53.496	51.809	10.867
Market liquidity	1144	2.222	1.604	2.319
Market hotness	1144	0.179	0.090	0.165
<b>Panel B</b>	N	<b>Panel Sample</b>		
		Mean	Median	STD
Employee welfare	6507	-0.141	0.000	0.165
Social capital	6507	1.245	1.281	0.773
Ln market value	6507	6.491	6.638	1.310
Ln profit	6507	10.910	11.067	1.509
Leverage	6507	0.175	0.145	0.174
MTB	6507	1.397	1.355	0.649
Volatility	6507	0.025	0.016	0.056
Ln Capx	6507	10.052	10.163	1.823
Ownership	6507	29.990	32.26	9.671
Market liquidity	6507	2.248	1.750	1.973
Market hotness	6507	0.236	0.105	0.211
Time to failure (years)	6507	6.382	5.000	4.474

This table provides descriptive statistics for all variables for the full sample of panel data of IPOs listed from 2000 to 2016. The variables are reported by mean, median, and standard deviations. Panel A shows the statistics at the IPO, while Panel B shows for the panel sample. All the variables are as defined in Appendix Table 1A.

**Table 2. Distribution of exits and survival as quoted firms**

	<i>From the IPO date to December 2021</i>		<i>From the IPO date to five years after the listing</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Favorable M&A	131	11.45	76	6.64
Unfavorable M&A	454	39.69	302	26.4
Bankruptcy	47	4.11	38	3.32
Voluntary	32	2.80	25	2.19
Exchange	7	0.61	5	0.44
Regulations	3	0.26	3	0.26
Remained quoted	470	41.08	695	60.75
<b>Total</b>	<b>1144</b>	<b>100.00</b>	<b>1144</b>	<b>100.00</b>

This table provides the distribution of firms that exited and remained quoted from the date of listing to the end of the sample period or five years after listing. All the variables are as defined in Appendix Table 1A.

**Table 3: Pearson Correlation Coefficients**

Variables	Employee welfare	Social capital	Ln market value	Ln profit	Leverage	MTB	Volatility	Ln Capx	Ownership	Market liquidity	Market hotness
Employee welfare	1										
Social capital	0.0253	1									
Ln market value	0.0985	0.0776	1								
Ln profit	0.0406	-0.0098	0.4703	1							
Leverage	0.0235	-0.0979	0.151	0.3232	1						
MTB	0.0732	0.0131	0.3662	0.031	-0.0018	1					
Volatility	-0.0336	-0.0177	-0.1919	-0.0295	-0.0368	-0.0285	1				
Ln Capx	0.0485	-0.0401	0.4101	0.6049	0.3617	-0.0451	-0.0873	1			
Ownership	-0.148	-0.1071	-0.2759	-0.0806	-0.0479	-0.0842	0.0875	-0.0836	1		
Market liquidity	0.0252	0.037	0.2427	0.162	-0.1524	0.1339	0.101	0.1709	-0.2471	1	
Market hotness	0.002	0.0004	-0.0218	0.0094	-0.0085	-0.0084	0.0016	-0.0374	-0.0152	-0.0178	1

This table shows the correlation coefficients for all the variables used in this study. All variables are defined in Appendix Table 1A.

**Table 4: The impact of employee welfare and social capital on survival as a quoted firm**

Variables	Model 1		Model 2		Model 3	
	Coeff	p-value	Coeff	p-value	Coeff	p-value
Employee involvement			0.281**	(0.019)		
Diversity			0.433**	(0.031)		
NCCA					0.034***	(0.000)
Employee welfare	0.185**	(0.024)				
Social capital	0.525***	(0.000)				
Ln market value	0.172***	(0.000)	0.225***	(0.000)	0.152***	(0.000)
Ln Profit	0.078***	(0.001)	0.022	(0.389)	0.034***	(0.007)
leverage	0.041	(0.313)	0.026	(0.134)	0.018	(0.685)
MTB	-0.274***	(0.000)	-0.541***	(0.000)	-0.514***	(0.000)
Volatility	-0.016	(0.218)	-0.011	(0.570)	-0.018	(0.242)
Ln Capx	0.163***	(0.000)	0.085***	(0.002)	0.127***	(0.000)
Ownership	0.245***	(0.000)	0.225***	(0.000)	0.299***	(0.000)
Market liquidity	-0.046***	(0.000)	-0.150**	(0.016)	-0.140***	(0.000)
Market hotness	-0.0145	(0.366)	-0.168**	(0.013)	-0.154**	(0.019)
Industry & Year & Cons	Y		Y		Y	
Cluster SE (county)	Y		Y		Y	
No of obs	6507		6507		6507	
Pseudo R-sq	0.223		0.210		0.212	

This table shows the estimation results of Accelerated Failure Time (AFT) models on the effect of employee welfare and Social Capital on survival times. The dependent variable is the logarithm of time to delisting defined as the time that elapses between the IPO date and the date in which an IPO is delisted from the market for any reason. Model 1 shows the impact of employee welfare and social capital on survival time. Model 2 reports the impact of employee involvement (this indicator identifies companies that encourage worker involvement via generous employee stock ownership plans (ESOPs) or employee stock purchase plans (ESPPs) and diversity provisions (this indicator is designed to assess a firm's efforts to promote diversity in its workforce) on IPO survival times. Model 3 shows the impact of the number of charity organizations in the county (NCCA) on IPO survival times. We also include industry dummies based on the Fama-French 12 industry classifications as well as year dummies in all the specifications. Standard errors are clustered at the county level. All variables are defined in Appendix Table 1A. \*\*\*, \*\*, \* indicate 1%, 5%, and 10% significance levels.

**Table 5: The two-stage model for endogeneity**

Variables	Stage I		Stage II			
	Model 1		Model 2		Model 3	
	Coeff	p-value	Coeff	p-value	Coeff	p-value
Industry average employee welfare	0.465****	(0.000)				
Employee welfare (Instrument)			0.286**	(0.033)	0.198**	(0.033)
Social capital					0.529***	(0.000)
Ln market value	0.1341***	(0.000)	0.181***	(0.000)	0.178***	(0.000)
Ln profit	0.051**	(0.021)	0.065***	(0.001)	0.072***	(0.000)
Leverage	0.008	(0.384)	-0.035	(0.714)	-0.046	(0.305)
MTB	-0.135***	(0.000)	-0.288***	(0.000)	-0.282***	(0.000)
Volatility	0.002	(0.311)	-0.022	(0.165)	-0.014	(0.227)
Ln Capx	-0.032*	(0.066)	0.170***	(0.000)	0.168***	(0.000)
Ownership	0.107**	(0.028)	0.293***	(0.000)	0.257***	(0.000)
Market liquidity	0.102**	(0.041)	-0.091***	(0.000)	-0.088***	(0.000)
Market hotness	-0.045*	(0.088)	-0.078	(0.167)	-0.059	(0.411)
Industry&Year& Cons	Y		Y		Y	
Cluster SE (county)	Y		Y		Y	
Durbin-Wu-Huasman Test			1.211		1.167	
No of obs	6507		6507		6507	
Pseudo R-sq	0.211		0.252		0.249	

To test the robustness of our results, we control for endogeneity using the two-stage IV regression. In the first, stage, we regress the employee welfare index on all characteristics including our instrument (*Industry average employee welfare*) using the GMM estimation. In the second stage, we use the survival model and the residual from stage I instead of employee welfare to control for possible endogeneity issues. In stage II, we first include the residual from stage I instead of employee welfare in Model 2 and we then add social capital in Model 3. We also include industry dummies based on the Fama-French 12 industry classifications as well as year dummies in all the specifications. Standard errors are clustered at the county level. All variables are defined in Appendix Table 1A. \*\*\*, \*\*, \* indicate 1%, 5%, and 10% significance levels.

**Table 6: Entropy balancing method**

Variables	Model 1		Model 2		Model 3	
	Coeff	p-value	Coeff	p-value	Coeff	p-value
Social capital	0.466***	(0.000)			0.441***	(0.022)
Employee welfare			0.341**	(0.018)	0.291**	(0.028)
Ln market value	0.121*	(0.082)	0.110*	(0.069)	0.124*	(0.066)
Ln profit	0.056*	(0.085)	0.050*	(0.091)	0.046*	(0.087)
Leverage	0.014	(0.340)	0.016	(0.402)	0.011	(0.622)
MTB	-0.121*	(0.064)	-0.111*	(0.088)	-0.121*	(0.064)
Volatility	-0.002	(0.191)	-0.002	(0.182)	-0.002	(0.411)
Ln Capx	0.141**	(0.024)	0.112**	(0.032)	0.136**	(0.031)
Ownership	-0.221**	(0.027)	-0.221**	(0.035)	-0.226**	(0.039)
Market liquidity	-0.081*	(0.071)	-0.071*	(0.083)	-0.066*	(0.078)
Market hotness	-0.020	(0.154)	-0.023	(0.171)	-0.025	(0.187)
International intensity	0.071*	(0.067)	0.072*	(0.061)	0.081**	(0.035)
Age (international entry)	0.021	(0.214)	0.018	(0.211)	0.017	(0.255)
Underpricing	0.024	(0.228)	0.028	(0.255)	0.021	(0.266)
Industry & Year& Cons	Y		Y		Y	
Cluster SE (county)	Y		Y		Y	
No of obs	6507		6507		6507	
Pseudo R-sq	0.172		0.186		0.220	

This table shows the estimation results of AFT models for the matched survived with non-survived (failed) IPO firms using the Entropy Balancing method. The dependent variable is the logarithm of *Time to delisting*. Model 1 examines the effect of social capital, Model 2 examines the effect of employee welfare, and Model 3 examines the joint effect of social capital and employee welfare. We also include industry dummies based on the Fama-French 12 industry classifications as well as year dummies in all the specifications. Standard errors are clustered at the county level. All variables are defined in Appendix Table 1A. \*\*\*, \*\*, \* indicate 1%, 5%, and 10% significance levels.

**Table 7: Competing risk model**

Variables	Bankruptcy vs M&A exit (favorable)		M&A exit (unfavorable) vs M&A exit (favorable)		All exits vs M&A exit (favorable)	
	Coeff	p-value	Coeff	p-value	Coeff	p-value
	Model 1		Model 2		Model 3	
Employee welfare	-0.294**	(0.021)	-0.238**	(0.031)	-0.261**	(0.026)
Employee welfare*Social capital	-0.274***	(0.000)	-0.244***	(0.000)	-0.266***	(0.000)
Social capital	-0.427**	(0.000)	-0.366**	(0.011)	-0.397***	(0.000)
Ln market value	-0.101***	(0.000)	-0.116***	(0.000)	-0.164***	(0.000)
Ln profit	-0.081**	(0.029)	-0.066**	(0.031)	-0.074**	(0.025)
Leverage	0.032*	(0.089)	0.020	(0.178)	0.024	(0.128)
MTB	-0.168**	(0.021)	-0.196**	(0.015)	-0.187**	(0.025)
Volatility	0.066*	(0.078)	0.052*	(0.057)	0.062*	(0.066)
Ln Capx	-0.026**	(0.021)	-0.034**	(0.036)	-0.038**	(0.037)
Ownership	-0.534***	(0.000)	-0.421***	(0.000)	-0.464***	(0.000)
Market liquidity	0.101*	(0.066)	0.124**	(0.033)	0.132*	(0.026)
Market hotness	-0.012	(0.514)	-0.019	(0.398)	-0.016	(0.281)
Industry & Year & Cons	Y		Y		Y	
Cluster SE (county)	Y		Y		Y	
No of obs	6507		6507		6507	
Pseudo R-sq	0.226		0.222		0.242	

This table presents the results for competing risk models. Models 1, 2, and 3 show the results for Bankruptcy vs favorable M&A exit, unfavorable M&A exit vs favorable M&A exit, and all exits (excluding exchange) vs favorable M&A exit, respectively. We also include industry dummies based on the Fama-French 12 industry classifications as well as year dummies in all the specifications. Standard errors are clustered at the county level. Ramsey test for omitted variables is reported. All variables are defined in Appendix Table 1A. \*\*\*, \*\*, \* indicate 1%, 5%, and 10% significance levels.



**Table 8: The impact of additional control variables**

Variables	Model 1		Model 2		Model 3		Model 4	
	Coeff	p-value	Coeff	p-value	Coeff	p-value	Coeff	p-value
Employee welfare*Social capital	0.296***	(0.000)						
Employee welfare	0.321***	(0.000)	0.348***	(0.000)			0.501***	(0.000)
Social capital	0.587***	(0.000)	0.611**	(0.013)	0.350***	(0.00)		
CSR					0.106***	(0.00)		
Ln (Political leaning)							0.184***	(0.000)
CEO-gender	0.722	(0.416)	0.721	(0.325)	0.752	(0.415)	0.711	(0.341)
CEO-age	0.252***	(0.000)	0.265***	(0.000)	0.263**	(0.000)	0.366***	(0.00)
VC-dummy	0.147*	(0.072)	0.156*	(0.083)	0.181*	(0.062)	0.208*	(0.059)
Auditors-Quality	0.367**	(0.028)	0.374**	(0.039)	0.396**	(0.031)	0.388**	(0.035)
Ln GDP (counties)	0.144*	(0.061)	0.141*	(0.074)	0.113*	(0.065)	0.106*	(0.081)
Ln Percapita income (counties)	0.204*	(0.072)	0.204*	(0.081)	0.175*	(0.083)	0.204*	(0.077)
Ln Populations (counties)	0.052	(0.334)	0.061	(0.415)	0.051	(0.351)	0.063	(0.291)
International intensity	0.163***	(0.000)	0.156***	(0.000)	0.177***	(0.000)	0.181***	(0.000)
Age (international entry)	0.027	(0.185)	0.031	(0.167)	0.038	(0.188)	0.033	(0.152)
Patent	0.001	(0.448)	0.002	(0.411)	0.002	(0.432)	0.002	(0.441)
Ln R&D	0.021*	(0.074)	0.021*	(0.081)	0.024*	(0.079)	0.031*	(0.066)
Underpricing	0.017	(0.314)	0.018	(0.297)	0.020	(0.288)	0.019	(0.310)
Ln market value	0.105	(0.245)	0.102	(0.233)	0.087	(0.261)	0.077	(0.391)
Ln profit	0.067*	(0.064)	0.065*	(0.059)	0.078*	(0.061)	0.082*	(0.075)
Leverage	0.112	(0.174)	0.108	(0.181)	0.098	(0.206)	0.023	(0.289)
MTB	-0.126*	(0.080)	-0.128*	(0.069)	-0.131*	(0.061)	-0.166**	(0.038)
Volatility	-0.013*	(0.065)	-0.012*	(0.078)	-0.014*	(0.068)	-0.012*	(0.077)
Ln Capx	0.117**	(0.033)	0.116**	(0.039)	0.136**	(0.027)	0.127**	(0.019)
Ownership	0.107**	(0.030)	0.105**	(0.021)	0.109***	(0.032)	0.121**	(0.030)
Market liquidity	-0.037*	(0.060)	-0.039*	(0.079)	-0.046*	(0.064)	-0.066**	(0.041)
Market hotness	-0.128*	(0.058)	-0.128*	(0.073)	-0.097*	(0.084)	-0.117*	(0.074)
Industry & Year& Cons	Y		Y		Y		Y	
Cluster SE (county)	Y		Y		Y		Y	
No of obs	3893		3893		3893		3893	
Pseudo R-sq	0.216		0.214		0.201		0.211	
Omitted variable test (Ramsey test) p-value	0.156		0.145		0.155		0.166	

This table controls for some related variables that are shown to affect IPOs' survival to ensure that our results are not biased because of omitted variables. Model 1 shows the joint impact of employee welfare and social capital controlling for various firm and market characteristics. Model 2 shows the stand-alone impact of employee welfare and social capital. Model 3 shows the results of corporate social responsibility (CSR) replacing the employee welfare variable. Model 4 presents the results for political leaning replacing the social capital variable. We also include industry dummies based on the Fama-French 12 industry classifications as well as year dummies in all the specifications. Standard errors are clustered at the county level Ramsey test for omitted variables is reported. All variables are defined in Appendix Table 1A. \*\*\*, \*\*, \* indicate 1%, 5%, and 10% significance levels.

**Appendix Table 1A: Variables definitions**

Variables	Descriptions	Source
<b>Panel A: Main control variables</b>		
Employee welfare	Employee Welfare Index is the average of the identified concerns subtracted from the average of identified strengths in the “Employee Relations” dimension. The details are in Appendix 2A.	Authors’ calculation based on data from KLD database
Social capital	Social capital index. The details are in Appendix 2A.	Authors’ calculation based on data from Northeast Regional Center for Rural Development (NRCRD)
Ln market value	Natural log of share price multiplied by the number of ordinary shares in issue	Compustat
Ln profit	Natural log of earnings before interest and taxes	Compustat
Leverage	Total debt/total assets	Compustat
MTB	Market capitalisations over book value of equity	Compustat
Volatility	Garch model	Compustat
Ln Capx	Natural log of capital expenditure which represents the funds used to acquire fixed assets	Compustat
Ownership	Insider’ ownership/outstanding shares	Compustat
Market liquidity	Volume/outstanding shares	Compustat
Market hotness	Average initial returns of IPOs issued during the three months prior to the month of the IPO	
Time to exit (years)	Years between IPO date and exit (delisting date from the stock exchange)	Compustat
<b>Panel B: Robustness control variables</b>		
CSR	We scale the strengths (concerns) for each category by dividing the number of strengths (concerns) for each firm-year by the maximum number of strengths (concerns) possible for that category in that year. This procedure yields strength and concern indices that range from zero to one for each category-year (employee relations, environment, community, diversity, human rights, product quality and safety, and corporate governance).	Authors’ calculation is based on data from the KLD database
Ln (Political leaning)	Natural logarithms of the ratio of votes cast for a Democrat presidential candidate to the votes cast for the Republican candidate	Dave Leip’s Atlas of U.S. Presidential Elections. <a href="http://uselectionatlas.org">http://uselectionatlas.org</a>
CEO-gender	Dummy variable taking 1 if the CEO is male and 0 if the CEO is female	US Securities and Exchange Commission’s Edgar database
CEO-age	Age of the CEO	US Securities and Exchange Commission’s Edgar database
VC-dummy	Dummy variable taking 1 if the IPO is VC-backed and 0 otherwise	SDC Platinum
Auditors-Quality	Dummy variable taking 1 if the IPO auditors are one of the Big4 and 0 otherwise	SDC Platinum
Ln GDP (counties)	Natural log of GDP in a county	The Bureau of Economic Analysis (BEA)
Ln Percapita income (counties)	Natural log of income per capita in a county	The Bureau of Economic Analysis (BEA)
Ln Populations (counties)	Natural log of populations in a county	The Bureau of Economic Analysis (BEA)
Internation Intensity	Firm international sales as a percentage of total sales	Compustat
Age (international entry)	It is measured as Ln (1+Age at international). Age at international is the difference between firm age at the time of initial international entry and year of founding	Compustat

Patent	A dummy for patents at the time of listing	Patent data collected from: <a href="https://github.com/KPSS2017/Technological-Innovation-Resource-Allocation-and-Growth-Extended-Data/tree/update_2020">https://github.com/KPSS2017/Technological-Innovation-Resource-Allocation-and-Growth-Extended-Data/tree/update_2020</a>
Ln R&D	Natural logarithms of R&D expenditure	Compustat
Underpricing	First-day return of IPOs	CRSP
Financial crisis (dum)	Dummy variable taking 1 for 2007 and 2008	Authors calculation
Covid-19 (dum)	Dummy variable taking 1 for 2020 and 2021	Authors calculation

This table defines all control variables used in this study using a panel sample of IPOs listed in the US from 2000 through 2016. Panel A shows the key control variables and Panel B shows the control variables for robustness checks. All variables are in US dollars. We have winsorized all the firm-level control variables at 1% and 99% levels to control for outliers.

## **Appendix 2A: Construction of social capital and employee welfare**

We construct social capital based on the data from the Northeast Regional Center for Rural Development (NRCRD) at the Pennsylvania State University. This social capital data captures the confluence of effects from two variants of social norms and two measures of networks (Rupasingha & Goetz, 2008). The two measures of norms are the census mail response rate (RESPN) and the votes cast in presidential elections (PVOTE). The two measures of networks are the number of associations (ASSN) and the number of non-profit organizations (NCC). Using these four indicators, we conducted a principal component analysis for each year (1997, 2005, 2009, and 2014) and used the first component for each year as the social capital index. We use NRCRD data to estimate the social capital index for four years in 1997, 2005, 2009, and 2014 for which NRCRS provides data for all US counties. Following prior studies (Hasan et al., 2017a; Jha and Chen, 2015; Jha and Cox, 2015), we use linearly interpolated social capital to fill the missing SC value in the years 2000 to 2004; and 2006 to 2008, 2010 to 2013, and 2015 to 2021).

To measure employee welfare we use the KLD STATS (Statistical Tool for Analyzing Trends in Social & Environmental Performance) database. Following corporate finance studies (Ghaly et al., 2015; Faleye and Trahan, 2011; Verwijmeren and Derwall, 2010) we calculate employee welfare by considering identified strengths and identified concerns included in the “employee relations” dimension in a given year. More specifically, the average of the identified concerns is subtracted from the average of identified strengths.<sup>14</sup> Below are the components of our index as described by the KLD.

### *Strengths:*

1. Union relations strength: the firm has taken exceptional steps to treat its unionized workforce fairly.
2. Cash profit sharing: the firm has a cash profit-sharing program through which it has recently made distributions to a majority of its workforce.
3. Employee involvement: the firm strongly encourages worker involvement and/or ownership through stock options available to a majority of its employees; gain sharing, stock ownership, sharing of financial information, or participation in management decision making.

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<sup>14</sup> In the KLD database, each of the categories receives a rating of either 0 or 1. However, retirement benefits strength and concerns have been discontinued after 2009. Therefore, to arrive at our employee welfare index, we average the KLD components of the five “strength” categories and subtract the average of the five components of the “concern” categories, creating an index ranging from – 1 to 1. By construction, higher values of the index indicate better employee welfare.

4. Retirement benefits strength: the firm has a notably strong retirement benefits program.
5. Work/life benefits: the firm has outstanding employee benefits or other programs addressing work/family concerns (e.g., childcare, elder care, or flextime).

*Concerns:*

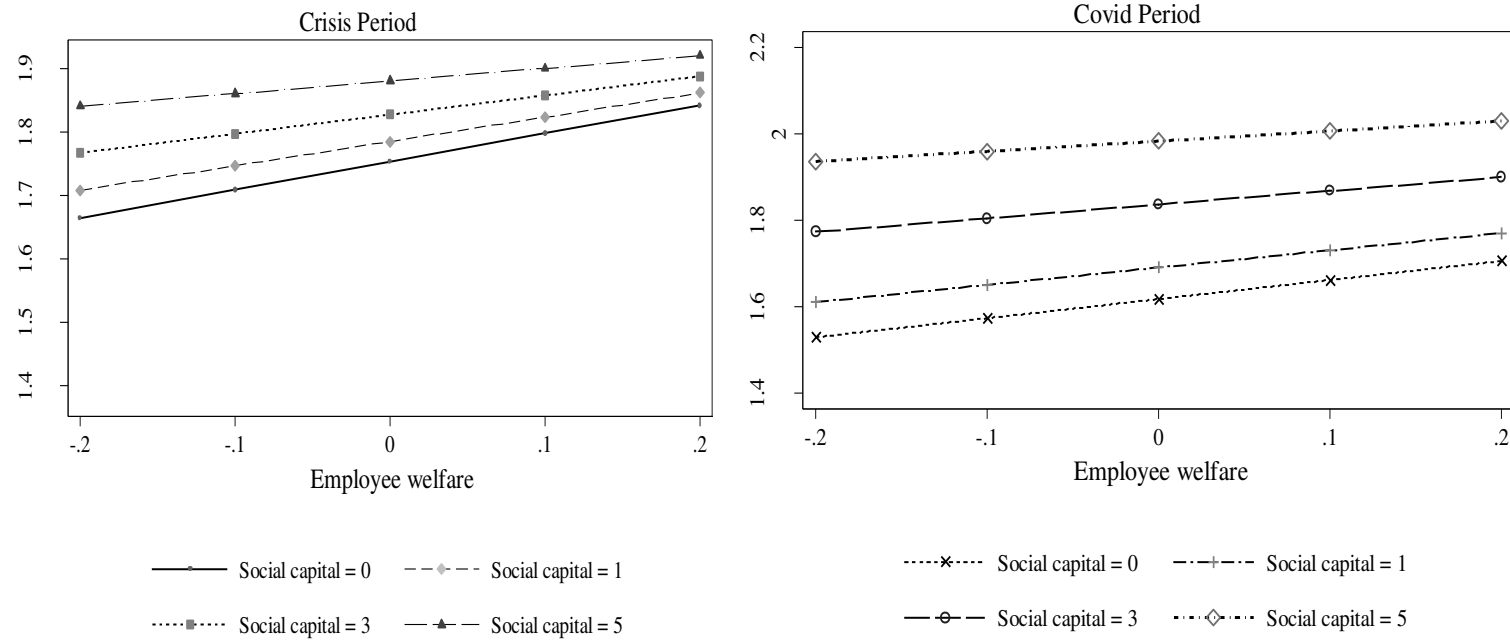
1. Union relations concern: the firm has a history of notably poor union relations.
2. Health and safety concern: the firm recently has either paid substantial fines or civil penalties for willful violations of employee health and safety standards, or has been otherwise involved in major health and safety controversies.
3. Workforce reductions: the firm has made significant reductions in its workforce in recent years.
4. Retirement benefits concern: the firm has either a substantially underfunded defined benefit pension plan, or an inadequate retirement benefits program.
5. Other concern: the firm is involved in an employee relations controversy that is not covered by other KLD ratings.

**Appendix Table 3A: Descriptive statistics of the matched sample**

<b>Variables</b>	<i>Remain quoted on the stock market</i>		<i>Exited from the stock market</i>	
	Mean	Variance	Mean	Variance
Ln market value	5.982	2.944	5.883	2.944
Ln profit	10.780	2.275	9.980	2.283
Leverage	0.154	0.03025	0.154	0.03025
MTB	1.299	0.5719	1.299	0.5719
Volatility	13.350	76.78	13.350	76.78
Ln Capx	11.000	3.307	8.000	3.315
Ownership	3.273	0.7509	3.112	0.7512
Market liquidity	-1.490	3.45	-1.490	3.453
Market hotness	0.115	0.03263	0.115	0.03264
International intensity	0.392	0.316	0.387	0.316
Age (international entry)	16.550	4.221	16.141	4.241
Underpricing	0.177	0.121	0.1761	0.120

The table shows the descriptive statistics for all variables by means and variance for the treatment (survived) and control (failure) groups post-entropy balancing.

**Appendix Figure 1:** The figure shows the effects of the interaction terms between employee welfare, social capital, and crisis/covid



**Appendix Table 4A: Distribution of IPOs by year and industry**

<b>Panel A</b>		
<b>IPO Year</b>	<b>No of IPOs</b>	<b>% Of IPOs</b>
2000	205	17.92
2001	43	3.77
2002	36	3.11
2003	34	2.97
2004	93	8.16
2005	86	7.50
2006	85	7.40
2007	86	7.50
2008	11	0.99
2009	22	1.93
2010	49	4.29
2011	44	3.82
2012	50	4.38
2013	85	7.45
2014	111	9.71
2015	64	5.56
2016	40	3.54

<b>Panel B</b>		
<b>Fama and French Industry Classifications</b>		
Non-durable consumer	37	3.24
Durable consumer	25	2.22
Manufacturing	65	5.72
Energy	77	6.74
Chemicals	24	2.13
Business Equipment	364	31.83
Telecommunication	36	3.16
Wholesales and retails	118	10.32
Health care	243	21.25
Others	153	13.40

This table shows the distribution of IPOs by year in Panel A and Fama and French industry classifications in Panel B.