**CEO Social Capital, Board Connectedness, and Anchor** 

A Study of Initial Public Offerings

**Abstract** 

Manuscript Type: Empirical

Research Question/Issue: This study investigates the role of CEO social capital, director

networks, and anchor investor participation in influencing the short and long-term performance

outcomes of initial public offerings (IPOs) in Hong Kong stock market.

Research Findings/Insights: Studying a sample of 1,155 IPOs listed in Hong Kong from 2004

to 2019, we find that highly connected CEOs and boards significantly enhance short term IPO

performance as measured by demand multiples. We find that anchor investors participations

strengthen the positive performance of the IPO firms. We show that the positive effects of CEO

and board networks are beyond the short-term outcomes and significantly contribute to

enhanced operating performance, higher market-adjusted returns, and higher survival rates

post-listing. These results are robust to endogeneity concerns and shed further light on the value

of social capital and anchor investors participation for IPO firms.

Theoretical/Academic Implications: This study advances corporate governance research by

highlighting the critical role of social capital in IPO success in particular for a well-regulated

market outside the US and Europe. It extends the literature on board and executive networks

by demonstrating their complementary relationship with institutional investors, such as anchor

investors, in enhancing both short- and long-term IPO outcomes.

Practitioner/Policy Implications: The findings underscore the importance of leveraging on

CEO and board networks alongside unique institutional (i.e., anchor) investors to boost IPO

success. Policymakers and stock exchanges regulators can draw on these insights to design

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regulatory frameworks that foster stakeholder collaboration, reduce information asymmetry, and promote better governance practices in IPO markets.

JEL Classification: G15; G32; G34; G40

*Keywords:* Corporate Governance; Social Capital; Social Networks; Initial Public Offering (IPOs); Anchor Investors; Demand Multiple

## INTRODUCTION

Social networks have become a central focus in the finance literature, particularly for their role in reducing information asymmetry and facilitating stakeholder engagement. Several studies show that social connections play a vital role in facilitating information exchange among stakeholders (e.g., Kim and Cannella Jr., 2008; Cohen, Frazzini, and Malloy, 2010; Cai and Sevilir, 2012; Engelberg, Gao, and Parsons, 2012; Faleye, Kovacs, and Venkateswaran, 2014; Fracassi, 2017; Fogel, Jandik, and McCumber, 2018; El-Khatib, Jandik, and Jandik, 2021; Zhao, 2021; among others). The information benefits arising from social connections become more pronounced in environments with high levels of information asymmetry, such as Initial Public Offerings (IPOs). In IPOs, social networks can help in attracting potential investors and enhancing the visibility of IPO firms, which might otherwise be limited in the absence of such networks (Feng, Song, Tian, 2019; Jandik, Jandik, and Xu, 2020).

Despite the popularity of social network studies, most previous studies focus on the US and European markets, with limited evidence from other regulatory and institutional contexts. Evidence from these studies can be used as a basis for examining the impact of social networks on markets outside the US and Europe. The strength of social networks in reducing information asymmetry can vary significantly depending on institutional factors. Social capital is expected to play a crucial role in countries with weak institutional environments. It can substitute formal governance mechanisms, providing investors with trust and reducing information asymmetry (Khwaja and Mian, 2005).

Exploring the impact of social capital networks outside the US and Europe requires a market with a better regulatory framework comparable to those of the US and the European stock markets. The Hong Kong IPO market offers a unique setting for examining the impact of social capital networks due to its regulatory framework, which closely mirrors that of the U.S. and U.K., while maintaining distinct ownership and governance structures. With a market

capitalization of around US\$5 trillion, it ranks among the top global financial markets. A key differentiator is the presence of anchor investors that commit to purchasing shares before the IPO, helping reduce risk and enhance credibility. These investors positively influence IPO outcomes by boosting post-listing earnings, increasing demand, encouraging institutional participation, and improving price discovery. Combined with the role of CEO and board connectedness, Hong Kong provides a valuable context for understanding how social capital and anchor investor mechanisms shape IPO performance.

The importance of anchor investors in the IPO market is evidenced by the increasing number of exchanges worldwide that promote the participation of anchor investors in public offerings. Issuers and underwriters are aware of the importance of reaching out to these investors and ensuring their commitment to subscribing to IPO shares before a public offering. Previous studies in the US and Europe have primarily focused on the impact of CEO connectedness on IPO outcomes. However, the role of anchor investor participation remains largely unexplored due to their limited presence in these markets. IPO firms often face significant uncertainties, and anchor investors play a crucial role in mitigating this risk by subscribing to a substantial number of shares before the listing. In contrast, highly connected CEOs help reduce information asymmetry through their networks, thereby enhancing credibility and investor confidence. The extent to which successful IPO listings depend on anchor investor participation, CEO network size, or both remains an open question in the IPO literature. If anchor investors and CEO networks serve the same purpose in improving the likelihood of a successful listing, firms could achieve favourable outcomes through either anchor investor involvement or CEO network size, suggesting a substitution effect. Conversely, if anchor investors and CEO networks perform distinct roles in mitigating uncertainty and enhancing the successful listing, their combined presence would be critical, indicating a complementary effect on IPO firms. Therefore, firms seeking to optimize their chances of a successful IPO should

consider leveraging both anchor investors and CEO or board networks to strengthen market confidence and improve listing prospects.

Understanding this relationship enables IPO firms to devise strategic approaches that maximize the likelihood of a successful listing. Furthermore, these insights provide valuable guidance for IPO investors and regulators by identifying key factors contributing to firm success and supporting more informed investment decisions. This study seeks to shed light on this critical question with the Hong Kong market serving as an optimal setting for such an investigation. Given its well-developed financial infrastructure and comparability to US and European stock markets, our findings can be generalized to broader financial contexts. Most importantly, IPO market participants in these regions will gain a deeper understanding of the distinct yet independent roles played by anchor investors, CEO and or board connections in influencing IPO outcomes.

Using a sample of 1155 IPOs listed on the Hong Kong Stock Exchange from 2004 through 2019, we examine the impact of CEO social capital, board networks and anchor investors participation on the demand multiple of the IPO firms. This study utilizes the demand multiple as it is a direct and better metric for evaluating short-term IPO success. This is different from previous research that predominantly relies on price revisions and under-pricing. As a first-order measure of IPO performance, the demand multiple enables a more accurate assessment of the impact of social networks and anchor investors participation on IPO outcomes. However, demand multiple data remains unavailable in many developed markets, including the US. As a result, prior studies have relied on price revisions or under-pricing as indirect measures of short-term IPO performance. These alternative measures are influenced by market sentiment and hype, rendering them second order choice in measuring short-term IPO performance. In contrast, the demand multiple offers a stable and well-informed evaluation of a company's fundamental value, reinforcing its relevance in the assessment of short-term

IPO performance. This rationale justifies our choice of using demand multiple over other metrics for evaluating IPO performance.<sup>1</sup>

We define CEO social capital as the size of the CEO's social network, which equals the total number of direct connections to other executives and board directors. These connections are a result of overlaps through employment, board directorships, other social activities, and education, as indicated by BoardEx database. To evaluate board connectedness, we compute each board member's social network size as the total number of direct connections to other executives and board directors, we then calculate the median of the board members' social network size. We find that highly connected CEOs and boards significantly enhance the demand multiple for IPO listings. This evidence is robust when controlling for IPO characteristics, underwriters' reputations, CEO personal characteristics, board characteristics and market conditions. Furthermore, our baseline results remain robust, controlling for CEO duality as a proxy for CEO power and we ensure that the results are not biased due to omitted variables.

Arguably, the observed relationship between CEO or board social networks and the IPO demand multiple could be driven by IPO characteristics rather than the CEO or board networks. To address this concern, we employ an entropy-balancing approach to match the characteristics of IPOs associated with high CEO (or board) networks with those associated with low CEO (or board) networks by CEO age, board size, IPO age, size, ownership, underwriters' reputation, growth, and syndicate size at the time of listing. Our entropy-balancing matching results are robust and consistent with our baseline results. This finding suggests that the IPO characteristics are unlikely to bias the results.

We further explore the incremental effects of CEO and board networks in the presence of anchor investors. We find that the demand multiple increases significantly for IPOs that attract anchor investors and are associated with highly connected CEOs and boards. These results

support the *complementary* (rather than *substitution*) effect of anchor investors in disseminating information related to the IPO and enhancing its credibility. However, the observed relationship between the CEO or board social networks, anchor investors participation and demand multiple could be attributable to possible endogeneity and reverse causality concerns. Anchor investors participation can boost IPO demand from other investors, suggesting that the impact of anchor investors on demand multiple may not strictly be exogenous. Similarly, the impact of CEO networks and board connectedness on the demand multiple could be endogenous. To address possible endogeneity concerns related to CEO network, board connectedness and the participation of anchor investors, we use a two-stage instrumental variable (IV) model. Overall, our results remain robust after controlling for possible endogeneity.

Finally, we investigate whether the effects of CEO, board networks and anchor investors participation on IPOs are limited to the time of listing or beyond the listing period. This is because networks can act as governance mechanisms to enhance the long-term success of IPOs by providing a stable investor base and promoting better governance (Chemmanur and Fulghieri, 1999). We measure the long-term success using (i) operating performance, (ii) buy-and-hold market-adjusted returns and (iii) survival analysis. The results of the long-term performance show that the effect of CEO and board networks and the participation of anchor investors is not limited to enhancing the demand multiple at the time of listing but also adds value to long-term IPO performance. These findings are interesting and contribute to the literature on long-term IPO performance by showing that CEO and board networks and anchor investors are critical for IPO firms (e.g., Chan et al., 2004).

This study makes several contributions to existing literature. First, we add to the growing body of research on the importance of social networks and extend this body of research to an international setting, specifically Hong Kong IPOs' market. Owing to the availability of data

on demand multiple for Hong Kong IPOs, we directly assess the impact of social networks on the IPOs' short-term success. We also explore how anchor investors participation and social capital alter the dynamics of social capital during the IPO process, advancing the understanding of how these governance mechanisms interact. Second, we extend the limited literature on the determinants of IPO demand multiple by showing that highly connected CEOs and boards boost the demand for IPO firms. This finding suggests that issuers with CEO network and or high board connectedness can opt to involve anchor investors to enhance the prospect of their successful listing. This unique feature (anchor investors participation) of the Hong Kong IPO market, allows to explore such relationships. Third, we show that CEO and board networks have a distinct positive impact on IPO demand when anchor investors are involved. Therefore, anchor investors do not preclude the importance of social capital. Finally, we demonstrate that the benefits of highly connected CEOs and boards are not limited to the demand multiple (short-term performance) at the time of listing but also improve long-term performance post listing. Overall, our results are useful for issuers and policymakers regarding the importance of CEO and board networks. By emphasizing the interplay between governance structures and social capital, we show that CEO and board networks significantly contribute to enhancing the successful listing of IPOs and are not just anchor investors, as documented in previous studies.

# RESEARCH BACKGROUND AND HYPOTHESES DEVELOPMENT Social Networks

Several studies on social connections (created through shared previous employment, education overlaps, common board directorship and common social activities) highlight the importance of these connections to firms' financial decision making and performance. The impact of social connections on analyst performance (Cohen et al., 2010), merger performance (Ellis, 2000; Cai and Sevilir, 2012; Ishii and Xuan, 2014; El-Khatib, Fogel, and Jandik, 2015; Jandik, Jandik, and Xu, 2024; El-Khatib, Jandik, and Jandik, 2025; Bhuyan, García-Feijóo, Javakhadze, and

Rajkovic, 2025), debt contracting (Engelberg et al., 2012; Chuluun, Prevost, and Puthenpurackal, 2014; Karolyi, 2018; Fogel et al., 2018; Qui, Su, Xiao, 2019; Tong, Wang, Xiang, and Zhang, 2025), bank risk (Fan, Jiang, Jin, and Mai, 2023; Amin, Mollah, Kamal, Zhao, and Simsek, 2024), corporate performance (Larcker, So, and Wang, 2013; Fracassi, 2017), corporate governance effectiveness (Stafsudd, 2009; Zhao, 2021), corporate efficiency (Duchin and Sosyura, 2013), corporate productivity (Hasan and Manfredonia, 2022), investments and corporate risk taking (Javakhadze, Ferris, and French, 2016; Ferris et al., 2017a, 2017b), and corporate innovation (Faleye et al., 2014) has been examined.

In the context of IPOs, Feng et al. (2019) show that board networks are important for IPOs at the time of listing and well-connected directors are likely to positively impact IPO pricing and media coverage compared with IPOs associated with less connected directors. Jandik et al. (2020) show that US IPOs headed by CEOs with high social capital are associated with higher under-pricing and a lower likelihood of positively affecting the wealth of pre-IPO investors. Chuluun (2015) shows that IPOs underwritten by more central underwriters are associated with a higher likelihood of price revisions. Cooney, Madureira, Singh, and Yang (2015) show that investment banks are likely to be included in IPO underwriting when the bankers have mutual social links with the IPO firm managers.

The benefits of social connections can vary significantly depending on the institutional context. Firms in developed countries with better governance and legal protection rely less on informal networks than those in less developed countries (Doidge, Karolyi, and Stulz, 2007). Although firms with stronger personal connections tend to perform better in emerging markets such as China (Jian and Wong, 2010), and social connections can be valuable in environments with weaker information channels (Khwaja and Mian, 2005).

# **Background of Hong Kong Market**

The Hong Kong market is highly ranked internationally in terms of market capitalisation (approximately US\$ 5 trillion as of June 2024). Despite China's influence, the Hong Kong market is yet considered unique and distinct in terms of its regulatory framework and ownership structure. Hence, the findings of US studies on the impact of social capital networks on IPOs provide a reasonable benchmark for Hong Kong IPOs. Another interesting feature of the Hong Kong market is the presence of anchor investors who enter into binding agreements with the IPO firm and its underwriters to buy a pre-agreed number of shares in the IPO at any price within a specified price range. By guaranteeing that a significant proportion of the shares on offer will be sold, these investors help de-risk offerings to issuers and underwriters (Espinasse, 2018). Their contractual commitment to the issuer, both in terms of size (Fuerst and Geiger, 2003; Espenlaub, Khurshed, Mohamed, and Saadouni, 2016) and duration of the lock-up period, suggests that anchor investors can provide credibility to the IPO firm and enhance its successful listing. Previous studies show that anchor investors enhance post-listing earnings growth (McGuinness, 2014); boost investor demand (Brockman, Cheng, and Leung, 2016; Bhattacharya, Chakrabarti, Ghosh, and Petrova, 2020), encourage bidding on hard-toprice issues by institutional investors (Bubna and Prabhala, 2014); and improve the timeliness of price discovery (Samdani, 2019). Also, the market serves as a crucial international hub, distinguished by its unique hybrid nature, combining both Eastern and Western business practices. Its foundation in Chinese business culture, where social networks significantly influence financial decision-making, contributes to its distinctive operational framework. The Hong Kong Stock Exchange (HKEX) holds global recognition for its exceptional performance in terms of market capitalisation and the volume of funds raised through Initial Public Offerings (IPOs). Between 2004 and 2019, HKEX achieved the top global ranking for gross IPO proceeds for eight years and maintained a position among the top five in other years (based on data from

Dealogic, Hong Kong Stock Exchange, Capital IQ, and KPMG). These achievements highlight its importance as a strategic platform within international capital markets. Hong Kong's IPO market is characterised by its diversity and dynamism, attracting a broad spectrum of firms. Notable participants include subsidiaries of Chinese corporations that strategically leverage Hong Kong's geographic proximity and international connectivity to access global capital. Additionally, stand-alone companies, particularly from sectors such as technology, healthcare, and consumer goods, form a significant portion of the IPO market. Private equity-backed IPOs are relatively less common within this landscape. In Hong Kong, CEOs of IPO companies are typically hired CEOs, although in certain cases they hold ownership stakes, particularly within family-owned businesses. Another distinctive feature of the Hong Kong market is the presence of anchor investors. Their involvements with the IPO companies are observed in at least onethird of IPOs and during the period between 2004 and 2019, their participation increased to approximately 46%. The comprehensive disclosure requirements of HKEX facilitate detailed insights into the identities of anchor investors, their committed investments, and allocated shares. Anchor investors commit to investing a predetermined amount of capital before the finalization of IPO pricing, ensuring them a guaranteed share allocation. This differs from regular institutional investors, who participate in the book-building process without such assurances. Additionally, anchor investors generally agree to a lock-up period, which helps maintain market stability and prevents immediate share sales for short-term gains. This requirement is not imposed on regular institutional investors. Furthermore, certain anchor investors may have direct affiliations with the company, offering strategic support that extends beyond financial investment. The broader literature from the US underscores the significance of CEO connectedness in enhancing IPO success. However, it remains to be explored whether fostering the presence of anchor investors within a market characterised by high CEO connectivity delivers comparable benefits. Investigating the interplay between anchor investors

and CEO connections in facilitating successful IPO listings provides valuable insights for firms seeking IPOs, stock market regulators, and investors. The Hong Kong market offers an exceptional context for studying such dynamics, with findings potentially generalisable to markets in the US and Europe, due to shared characteristics in regulatory standards and listing requirements.

# **Hypotheses Development**

One of the most important factors for the success of an IPO is the ability of the issuers to attract investors to subscribe to their shares. It is well documented that IPO firms tend to suffer from high information asymmetry (Rock, 1986). However, the literature on social networks suggest that these networks can be effective in reducing such information asymmetry (e.g., Cohen et al., 2010; Cai and Sevilir, 2012; Engelberg et al., 2012; Faleye et al., 2014; Fracassi, 2017; Fogel et al., 2018, Egginton and McCumber, 2019; Berkman, Koch, and Westerholm, 2020; El-Khatib et al., 2021). Social networks can be evaluated through CEO social networks, as CEOs are the key decision makers and their actions are likely to significantly impact firm performance (Chava, Livdan, and Purnanandam, 2009; Graham, Harvey, and Puri, 2013; Ferris et al., 2017a; Jandik, et al., 2020). CEOs with extensive social networks can leverage these connections to effectively communicate with investors, thereby reducing uncertainty and perceived risk (Ferris et al., 2017; Jandik et al., 2020). The social networks can also be evaluated by directors' networks in that directors can assist in alluring potential investors and promoting share offerings to reach a wider audience (Feng et al., 2019). Based on this expectation of the information advantages associated with social networks in IPOs, we posit that higher levels of CEO and board social capital are likely to attract more investors, resulting in a significantly higher demand multiple.

A parallel body of literature highlights the potential drawbacks of social connections, suggesting that highly connected CEOs tend to become more powerful and influential.<sup>2</sup> Hence,

they may leverage their position on the board to influence decisions that primarily benefit themselves at the expense of the firm. This indicates that CEOs with extensive networks are more likely to become entrenched and insulated from effective monitoring or market-disciplining mechanisms (e.g., Liu, 2010; Fracassi and Tate, 2012; Ishii and Xuan, 2014; El-Khatib et al., 2015; Cai, Walkling, and Yang, 2016; Fogel et al., 2018; among others). As a result, firms seeking listing on the stock market may appear less appealing to investors, adversely impacting the demand for shares and consequently the demand multiple.

While CEO and board networks can offer valuable information advantages that enhance investor confidence and increase demand multiples during IPOs, these benefits are not guaranteed. If such networks fail to deliver tangible value and instead serve self-interested agendas, they may undermine firm performance and investor trust. From an agency theory perspective, powerful CEOs particularly owner-CEOs who hold significant equity stakes could potentially exert considerable influence over a firm's strategic direction and governance structure. Their authority often stems from ownership, long tenure, strong reputations, or specialized expertise. While this influence can align with long-term growth objectives and provide stability during the IPO process, it also introduces potential risks. For instance, owner-CEOs may prioritize personal control or short-term gains over shareholder value, especially during the transition from private to public ownership. This risk is amplified in IPO settings, where firms shift from concentrated ownership (e.g., founders) to a more dispersed shareholder base. This transition often leads to a misalignment between management interests and those of new public investors, thereby giving rise to agency conflicts. Hired CEOs, by contrast, typically lack substantial ownership, but may still exert influence through reputation or board affiliations. Although they may be more accountable to external governance mechanisms, they are not immune to self-serving behaviour, particularly if incentivized by short-term performance metrics. In this transitional phase, powerful CEOs especially owner-CEOs may

exploit their position to consolidate control, resist external oversight, or engage in decisions that serve personal interests. Such actions can erode shareholder value and compromise the long-term success of the IPO. Therefore, we propose the following competing hypothesis:

Hypothesis 1a: CEOs with high levels of social capital or well-connected boards positively affect IPO outcomes.

Hypothesis 1b: CEOs with high levels of social capital or well-connected boards negatively affect IPO outcomes.

The success of listing on the stock market is fundamentally dependent on the issuer's ability to attract investors to subscribe to their shares. Social networks are anticipated to play a significant role in mitigating the information asymmetry commonly associated with IPO firms. These networks can be assessed through the social connections of CEOs, as they are the primary decision-makers whose actions have a substantial impact on firm performance (Chava, Livdan, and Purnanandam, 2009; Graham, Harvey, and Puri, 2013; Ferris et al., 2017a; Jandik et al., 2020). CEOs with extensive social networks can utilize these connections to effectively communicate with investors, thereby reducing uncertainty and perceived risk (Ferris et al., 2017; Jandik et al., 2020). Social networks can be evaluated through director networks, as directors play a crucial role in attracting potential investors and promoting share offerings to a broader audience (Feng et al., 2019). Given the anticipated informational advantages that social networks provide in the context of IPOs, it is posited that higher levels of CEO and board social capital are likely to attract key investors, such as anchor investors, thereby significantly increasing the demand multiple. Moreover, anchor investors are likely to enhance the perceived credibility of IPOs among other potential investors, making the IPO firm more appealing to a wider investor base. This dynamic is expected to further amplify the demand multiple.

Powerful and influential CEOs often pose challenges due to their tendency to prioritize decisions that serve their own interests rather than those of the firm. This drawback is welldocumented in the literature, which highlights that such CEOs are likely to become entrenched and resistant to effective monitoring or market-disciplining mechanisms (e.g., Liu, 2010; Fracassi and Tate, 2012; Ishii and Xuan, 2014; El-Khatib et al., 2015; Cai, Walkling, and Yang, 2016; Fogel et al., 2018, among others). Their entrenched position enables them to exert significant influence over the board, making it challenging to ensure decision-making that aligns with shareholder interests. Anchor investors, however, may attempt to address this issue by implementing governance mechanisms aimed at curbing the CEO's authority. For instance, they may seek to challenge the CEO's dominance in order to protect shareholder interests and ensure proper oversight of the decision-making process. By actively engaging in governance, anchor investors can play a pivotal role in mitigating agency conflicts that arise due to the unchecked power of influential CEOs. Despite these efforts, conflicts of interest between CEOs and anchor investors can create friction, potentially deterring other investors from participating in the IPO offering. Such conflicts may cast doubts on the firm's governance and strategic direction, leading to reduced investor confidence. This, in turn, could adversely impact the demand for shares, ultimately lowering the demand multiple and diminishing the overall attractiveness of the IPO. Therefore, we propose the following hypothesis:

Hypothesis 2a: CEOs with high levels of social capital or well-connected boards are likely to strengthen the positive effect of IPO outcomes in the presence of anchor investors.

Hypothesis 2b: CEOs with high levels of social capital or well-connected boards are likely to weaken the positive effect of IPO outcomes in the presence of anchor investors.

Examining the long-term performance of IPO firms is essential, as certain IPO investors, including anchor investors, remain associated with IPO firms over an extended period post

listing. It remains unclear whether the positive or negative influence of CEO and board networks is valuable to long-term investors through enhanced operational efficiency and value creation activities. Typically, when the interests of CEOs and anchor investors are aligned, anchor investors are likely to leverage their networks and expertise to support CEOs in making long-term decisions. Through active engagement, anchor investors can contribute valuable insights on corporate strategy, risk management, and capital allocation. This collaboration encourages CEOs to prioritize sustainable growth initiatives that align with shareholders' interests. The presence of anchor investors is also expected to attract additional investments, enhancing the firm's reputation and enabling CEOs to execute long-term strategies with reduced concerns about short-term fluctuations. Consequently, IPO firms are anticipated to perform well over the long-term periods.

However, when the interests of anchor investors and CEOs are misaligned, CEOs may prioritize short-term outcomes that compromise sustainable value creation. They might avoid taking necessary risks to safeguard their positions or allocate resources to initiatives that fail to enhance long-term returns. Additionally, CEOs may make decisions that negatively affect employee morale and commitment to the company. Such actions may not be immediately apparent to anchor investors but could have significant long-term consequences for IPO performance. Despite the use of various governance mechanisms by anchor investors to mitigate the risks posed by self-serving CEOs, maintaining constant oversight and monitoring of CEO decisions over the long term remains a considerable challenge. In cases where conflicts of interest between CEOs and anchor investors are pronounced, IPO firms are likely to underperform in the long run. Therefore, we propose the following hypothesis.

Hypothesis 3a: CEOs with high levels of social capital or well-connected boards are associated with positive and significant long term IPO outcomes in the presence of anchor investors.

Hypothesis 3b: CEOs with high levels of social capital or well-connected boards are associated with negative (or insignificant) long term IPO outcomes in the presence of anchor investors.

## **DATA**

We use all IPOs listed on the Main Board of the Hong Kong Stock Exchange (HKEx) during the period from 2004 through 2019. Our sample starts in 2004 because of the limited data from BoardEx on CEOs and directors for Hong Kong IPOs. The characteristics of IPOs listed on the Hong Kong Stock Exchange during the COVID-19 pandemic differ significantly from those observed in non-COVID periods. For instance, underwriters' compensation during the pandemic was more than four times higher for a significant number of IPOs and incorporating this period into the sample could introduce bias into the analysis. Moreover, the distinct market conditions prevailing during the COVID-19 period makes conducting a separate analysis statistically unreliable and potentially misleading. These considerations justify our reasons to conclude the sample period at the end of 2019 to ensure the reliability and accuracy of the findings. The list of IPO firms, together with their listing dates, is obtained from the HKEX Annual Fact Book. Our final sample did not include introductions, private placements, fixedprice offerings, or transfers from the Growth Enterprise Market (GEM). We also exclude IPOs in the financial and utilities industries, consistent with previous studies. Data on IPO firms present characteristics such as issue proceeds, lead underwriter(s), and size of the underwriters' syndicate are extracted from prospectuses downloaded from the HKEX website. The final offer price is obtained from the allotment (allocation) results which was downloaded from HKEX website. We also collect other relevant pre-listing accounting information from issuers' prospectuses and stock price data from DataStream.<sup>3</sup> After imposing these restrictions on the IPO sample, our final sample includes 1155 IPOs with full data.

We further hand-collect details of the participation of anchor investors in each IPO from the 'Structure of the (Global) Offering' section of the prospectus. Typically, anchor investors are labelled in IPO prospectuses. We also hand-collect the percentage of shares allocated to each anchor investor and the demand multiple (oversubscription rate) for each IPO from the share allocation data published by the Hong Kong Stock Exchange. Unlike other IPO markets such as the US and the UK, HKEX requires underwriters to disclose substantially more information on investors' demand for IPO shares and the allocation or allotment of shares to IPO investors.

We construct our CEO social capital and board network measures using data available from BoardEx specifically for *Rest of the World* section. The database provides detailed records of bilateral connections between senior executives and board directors of public and private companies worldwide. These bilateral connections are formed due to overlaps through employment, board directorships, education, and social activities. We measure CEO social capital following Ferris, Javakhadze, and Liu (2020) and Ferris et al. (2017 a, b) using the size of CEO social network, which represents the total number of direct connections (overlaps) to all other senior executives and directors at the end of a particular year. Using data from BoardEx, two individuals are considered connected through employment if they worked at the same organization during overlapping periods. They are connected through education if they attended the same university at the same time and earned the same degree. A connection through other social activities exists if both individuals participated in the same professional associations, non-profit organizations, or leisure clubs. These connections include those formed in the past and in the present to all other individuals covered by the BoardEx database. Nevertheless, we exclude connections with individuals currently employed by the same firm. We also measure board network size following Feng et al. (2019) by first calculating the size of each director's network (as in the CEO social network measure) and further calculating the median value across all board directors.

## EMPIRICAL RESULTS

# **Descriptive Statistics**

Our descriptive statistics <sup>4</sup> show that IPOs in our sample raise substantial proceeds, with a mean of nearly three billion HK\$ (median: three billion), and a standard deviation of 227 million HK\$. We also find that these IPO firms are generally mature, with an average age exceeding 15 years (median: 14 years) (see Panel A of Table 1). On average, Hong Kong IPOs are oversubscribed, as indicated by the demand multiple, which is over 100. The average percentage of shares retained by pre-IPO owners is approximately 75%. Moreover, approximately 70% of IPOs attract reputable underwriters at the time of listing. On average, firms listed in Hong Kong are associated with high growth potential, as shown by a higher market-to-book ratio, whereas the size of the underwriters' syndicate is 5. The mean (median) size of the CEO network is 134 (115) direct connections to other executives and directors in the network compared with the mean (median) size of the board network, which is 263 (194). 46% of the IPOs in our sample have anchor investors and on average, each IPO attracts approximately seven (six) anchor investors at the time of listing. Overall, these descriptive statistics are consistent with the figures reported in previous studies of Hong Kong IPOs (e.g., Espenlaub et al., 2016).

Furthermore, in Panel B of Table 1, we split the full sample into two sub samples based on high and low CEO networks using the median value of the CEO network size.<sup>5</sup> We use the t-test to test the significance of the difference in the mean and the Wilcoxon rank test for the significance of the difference in the median. The mean proceeds, size as measured by total IPO assets and demand multiples are higher in IPOs with large CEO networks than in those with small networks. This difference is statistically significant at the 5% level. Another significant difference between IPOs with high and low CEO networks is growth opportunities (high

market-to-book) and the presence of anchor investors, which is more common in IPOs with high CEO networks. The remaining IPO characteristics are not statistically different between IPO firms led by CEOs with larger and smaller network sizes.

# [Insert Table 1 here]

Our analysis shows a sharp surge in IPO activity on the Hong Kong Stock Exchange in 2018, with the number of IPOs increasing by nearly 70% compared with the pre-2018 period (see Panel A of Table 2). In contrast, the mean values of CEO and board network sizes do not exhibit a clear upward trend over time, suggesting that network size has remained relatively stable across the sample period (see Panel B of Table 2). The industry with highest number of IPOs is the non-durable consumer, which accounts for approximately 26% of the total IPOs in our sample. To ensure that our empirical results are not driven by time or industry effects, we include year and industry controls in all our models. We further cluster the standard errors in our empirical models by industry. Finally, we explore whether the multicollinearity is a concern for our study by examining the correlation among the control variables used in our models. The correlation matrix among the control variables (as in Table 3) clearly shows that multicollinearity is not a concern.

# [Insert Tables 2 & 3 here]

## **Multivariate Analysis**

Impact of Social Networks on Short-Term IPO Outcomes. To empirically test our first hypothesis, we first investigate the impact of CEO social capital (board network size) on short-term IPO outcomes. We measure short-term IPO outcomes using the demand multiple and examine the impact of CEO social capital (board network size) using the following OLS model with robust standard errors clustered by industry<sup>6</sup>:

Demand 
$$multiple_i = \alpha_0 + \beta_1 CEO$$
 network size (Board network size) +  $\gamma Other$  controls +  $\delta Industry + \vartheta Year + \varepsilon_i$  (1)

Our findings indicate a statistically significant positive relationship between CEO social capital and short-term IPO performance (see Table 4). In Model 1, we only test for the impact of CEO network size on the IPO demand multiple. We progressively include controls for IPO characteristics in Model 2 (e.g., age, ownership, and market-to-book ratio) and syndicate size and underwriters' reputation in Model 37. Model 1 shows that CEO network size positively and significantly impacts IPO demand multiple at the 5% level. A one-unit increase in the CEO social network size increases demand multiple by 12.3%. This effect is significant at the 1% level after controlling for IPO characteristics as shown in Model 2. Adding one additional direct connection to the CEO network increases the demand multiple by 9.79%. Moreover, the impact of IPO characteristics on demand multiple has the expected signs. The results show that IPOs with higher demand multiples tend to be larger in size, associated with higher proceeds, larger percentages retained by pre-IPO owners and greater growth opportunities. Finally, Model 3 controls for various characteristics (including syndicate size and underwriters' reputation) that influence IPO demand multiple. An increase in the CEO network size with one direct connection increases the demand multiple by 8% (with this positive effect being statistically significant at the 1% level). In contrast with the Malaysian evidence, we find that both syndicate size and underwriters' reputation are positively and significantly associated with IPOs' demand multiple. However, the Malaysian market show that underwriters' reputation has a significant negative effect on the demand multiple (Albada, Yong, and Low, 2019). This may not be surprising as the Malaysian IPO market differs from the Hong Kong market in many ways. The first important difference relates to the setting of the offer price. IPOs in Malaysia are usually offered through the fixed-price offer mechanism (Abdul-Rahim, Che-Yahyab, and Yong, 2016). In contrast, IPOs in Hong Kong are offered through the book-building mechanism. Another notable difference is that the IPO market in

Malaysia represents a major economic instrument of the Malaysian government which was introduced in the early 70s. The primary aim of the policy then was to increase Malays Bumiputera participation and share ownership in the corporate sector from 4% in 1970 to 30% by the 90s. To achieve this objective, as of 1976 a mandatory requirement was enacted whereby any company seeking listing on the Kuala Lumpur Stock Exchange must allocate 30% of the total issued shares to Malays (Jelic, Saadouni, and Briston, 2001). The above two differences may result in the Malaysian underwriters playing a limited role in both the pricing and the allocation of shares to investors. In contrast, Hong Kong has a more mature and internationally integrated capital market, where underwriters play a crucial role in certifying IPO quality and attracting institutional investors. The presence of reputable underwriters in Hong Kong can signal strong fundamentals and credibility, leading to higher demand multiples. Hong Kong's IPO market is also more globalized, with significant participation from foreign investors who rely on underwriters' reputation as a key indicator of IPO quality.

Thus, the contrasting effects of underwriters on IPO demand multiples in Malaysia and Hong Kong stem from differences in market maturity, and the role of underwriters in certification, pricing, and the allocation of shares.

Overall, the results in Table 4 show that CEO social capital is critical for firms seeking listings on the stock market and significantly boosts demand multiple controlling for industry and year fixed effects. As the opportunity to reach out to more investors is critical for issuing firms, CEO social connections appear to be an important consideration for issuing firms on the Hong Kong stock exchange.

## [Insert Table 4 here]

Our findings also show similar results when using board network size (see Table 5). Similar to the models in Table 4, Model 1 reports the effect of board network size in the absence of IPOs and underwriters' characteristics; in Model 2, we include controls for IPO characteristics; and in Model 3, we also include controls for underwriter characteristics. The

results in Model 1 show that for an additional connection increase in the board network size, the demand multiple for the IPO increases by just over 10%. However, after including the controls, the results show that adding one extra connection to the board network size increases the demand multiple by 8.42% in Model 2 and the effect remains the same in Model 3. The coefficient of board network size is positive and highly significant in all three models (at the 5% level in Model 1 and at the 1% level in Models 2 and 3). Moreover, all control variables had a qualitatively similar impact on the results reported in Table 4. Together, the results in Tables 4 and 5 demonstrate that social networks (both CEO and board networks) are important determinants of demand multiple for IPO firms. Although IPO and underwriters' characteristics are important, CEO and social networks seem to be valuable to issuers, consistent with the findings of the previous studies (Feng et al., 2019; Jandik et al., 2020) on the importance of CEO social capital. Next, we examine the robustness of our results using alternative model specifications and controlling for possible biases due to omitted variable or endogeneity concerns.

# [Insert Table 5 here]

## **Robustness Tests**

This section discusses the robustness of the baseline results reported in Tables 4 and 5. We ensure that our baseline results are not driven by omitted variables related to CEO personal attributes, CEO power and board characteristics, which can affect social capital and IPO outcomes. We re-estimate Equation 1 by adding additional controls; Table A2 presents the results. We also add controls for market conditions before the IPO listing because of their possible effects on the demand multiple. We found robust results after controlling for CEO's personal attributes (CEO age, gender, and power - if the CEO is the same as the chairperson of the board), board characteristics (board size, board gender ratio, and standard deviation of

the age of board members) and market conditions (IPO hotness - defined as the average initial returns of IPOs issued during the three months before the month of the IPO year, average market return during the quarter before the month of the IPO, and market to book - which is the median market to book value for all stocks in the same industry as the IPO issuer where market to book value for each stock is averaged across the three (event) months before the IPO date). Overall, our results remain robust and omitted variables bias does not seem to be a concern.

Some IPO firm characteristics differ between the sample of IPOs with high CEO networks and the sample of IPOs with low CEO networks (see Panel B of Table 1). Hence, it is possible that the relationship between CEO network or board connectedness and IPO demand multiple could be driven by IPO characteristics rather than by CEO network or board connectedness. Hence, we employ an entropy balancing method to examine whether the coefficient estimates of CEO and board network size are biased because of the observable differences between the treatment (high CEO or board network) and control (low CEO or board network) groups of IPOs. The entropy-balancing method achieves balanced covariates between IPOs with a high CEO (or board) network and those with a low CEO (or board) network along with several characteristics. The observations were re-weighted such that the post-weighting means and variances for the treatment and control groups were identical based on the selected characteristics. Entropy balancing allows for the use of the full sample and has higher model efficiency and less first-stage model dependency than propensity score matching (Hainmueller, 2012). The method first determines the distributional properties (i.e., mean and variance) of the treatment observations, which become the target distributional properties of the postweighting control sample (known as 'balancing conditions'). The algorithm assigns possible weights to control observations and further tests whether the balancing conditions have been satisfied, that is, whether the distributional properties of the treatment and post-weighted

control observations are identical. This process is repeated over multiple iterations until a set of weights that satisfies the balancing conditions is found. The treatment observations are not reweighted and retain their default weighting of 1, while the control observations are assigned a positive weight that may be greater or less than 1.

Our regression results are robust and remain qualitatively unchanged for the matched sample following the entropy balancing technique (see Panel A of Table 6). We re-run the baseline models with all controls (like Model 3 in Tables 4 and 5) where CEO network size (Model 1) and board network size (Model 2) are used as the main explanatory variables, after matching IPO sample firms. We match the characteristics of IPOs associated with high CEO network (or board connectedness) with those associated with low CEO network (or board connectedness) by CEO age, board size, age of the IPOs, size, ownership, underwriters' reputation, growth, and syndicate size at the time of listing. However, we exclude the IPO proceeds from the entropy balancing matching because IPO proceeds would not determine the CEO or board network size. Moreover, to address possible reverse causality whereby IPO firms led by highly connected CEOs or boards have higher anchor participation, we control for the presence of anchor investors using the dummy variable 'Anchor investor'. Furthermore, univariate results (see Panel B of Table 6) confirm that there is no statistical difference between the two-subsamples means (high (treatment) versus low (control) CEO and board network size) with respect to any of the variables, due to the balancing approach explained above.

# [Insert Table 6 here]

Finally, we examine the possible endogeneity related to the participation of anchor investors, CEO social capital and board connectedness. The first concern is the endogenous decision regarding the participation of anchor investors in IPOs. Owing to reverse causality concerns, anchor investors may participate in better IPOs that are likely to attract more investors at the time of listing. Hence, the relationship between the participation of anchor

investors and IPO demand multiple may not be strictly exogenous. To address this concern, we employ a two-stage instrumental variable analysis approach (IV) and use the number of IPOs listed in the previous quarter as an instrument. On the one hand, the higher the previous number of IPOs listed on the stock market, the lesser the need for anchor investors to enhance the chances of IPOs listing. On the other hand, the demand multiple is often influenced by the characteristics of IPOs rather than the number of IPOs listed in the previous quarter. Hence, the number of IPOs listed in the previous quarter can serve as an effective instrument for anchoring investor participation. The statistical test clearly shows that the number of IPOs listed in the previous quarter is highly correlated with anchor participation but has no impact on the demand multiple. Furthermore, we checked the correlation between the instrument and the dependent variable and found that it is low (0.072) hence reducing concerns surrounding the co-agglomeration of the IPO market and suggesting the validity of our instrument.

The first-stage estimation results (see Panel A of Table 7) confirm that the number of IPOs listed in the previous quarter significantly reduces the participation of anchor investors. Furthermore, the Hansan J Statistics suggest that we cannot reject the null hypothesis that our instrument is exogenous, which confirms its validity. In addition, in un-tabulated results, to further examine the validity of the instrument, we include it in the second stage estimation and find it to be statistically insignificant. In stage II, we use the predicted value of anchor investor participation from stage I and estimate models similar to our baseline models in Tables 4 and 5, with CEO and board network sizes as explanatory variables in Models 2 and 3, respectively<sup>10</sup>. The results of Stage II show that in both Models 2 and 3, the instrumented variable *Anchor investor* positively and significantly affects IPO demand multiple. The magnitudes of the estimated coefficients of the explanatory variables CEO network size (in Model 2) and board network size (in Model 3) are broadly consistent with those reported in Table 6. Moreover, based on the Durbin-Wu-Hausman test results reported in Stage II, we

conclude that our ordinary least squares (OLS) results are robust. Similarly, it is possible that IPOs with a higher demand multiple offer CEO and board members an additional opportunity to build up their social networks and enhance their connections with prospective investors. This finding suggests that the connectedness between CEO and board members may not be exogenous. To address this concern, we employ a two-stage IV model to predict the values for CEO and board network size. CEOs can build social networks based on the number of educational qualifications they possess. Hence, we used the number of CEO qualifications as an instrument for CEO networks. Boards of directors can enhance their social networks by serving on other listed boards; hence, we used the average time served by directors on other publicly listed boards in the year before listing as an instrument for board network size. Despite the common limitations of finding a valid instrument, we conducted tests to assess the validity of the instruments; the results showed that our instruments seem to be good proxies and are not correlated with the demand multiple. The first-stage estimation results confirm that our instruments are valid, showing a positive and statistically significant effect on both CEO network size and board connectedness (see Panel B of Table 7, Columns 1 and 2). Collectively, the results of all the estimation tests presented in this section show that our results are robust, and CEO social capital and board connectedness significantly increase the demand multiple, even after controlling for possible endogeneity.

# [Insert Table 7 here]

Impact of Social Networks on Short-term IPO Outcomes in the Presence of Anchor Investors. This section investigates our second hypothesis, which explores whether the effect of CEO and board networks is stronger or mitigated by the presence of anchor investors in the offering. We estimate the following OLS model with robust standard errors clustered by industry:

Demand  $multiple_i = \alpha_0 + \beta_1 CEO$  networksize (Board network size) +  $\beta_2 Anchor$  investor +  $\beta_3 Anchor$  investor × CEO networksize (Board network size)

**(2)** 

The estimation results show that the predicted CEO network size significantly increases the demand multiple, and the effect is higher for IPOs associated with anchor investors (see Table 8). In this analysis, we include an indicator to capture the presence of anchor investors in Models 1 and 2 and the number of anchor investors in Models 3 and 4. The indicator for anchor investors is positive and highly significant, suggesting that the demand multiple is significantly high for IPOs associated with anchor investors. This finding is consistent with expectations and the results of previous studies (see e.g., Espenlaub et al., 2016 on the impact of anchor investors on survival). Furthermore, the results show that the number of anchor investors participating in an offering significantly increases the demand multiple of IPO firms. As CEO and board network size can be argued to be endogenous, we use the predicted values estimated from the first stage of the IV model (Table 7- Panel B) in this and all upcoming models. We examine the interaction effect between predicted CEO network size and anchor investors in Models 1 and 3 and between the presence of anchor investors and predicted board network size in Models 2 and 4. The results are robust when predicted board network size rather than predicted CEO network size (see Model 2) is used. The positive effect of the CEO and board networks remains significant for both the interacted and non-interacted terms. Overall, these results suggest that both CEO and board networks significantly affect the demand multiples of IPOs; moreover, the impact is stronger for IPOs associated with anchor investors at the time of listing. These findings indicate the complementary role of social networks and the participation of anchor investors, which is consistent with Hypothesis 2a.<sup>11</sup>

## [Insert Table 8 here]

Impact of CEO Social Capital on Short-Term IPO Outcomes in the Presence of Highly Connected Boards. All our previous results indicate a positive and significant impact of CEO social capital and board networks in enhancing short-term IPO outcomes (demand multiple)

when each of these measures is examined separately. We further explore whether CEO social capital and board networks jointly improve IPO performance by examining the interaction effects between these measures using the following OLS model (with robust standard errors clustered by industry):

Demand 
$$multiple_i = \alpha_0 + \beta_1 CEO$$
 network  $size + \beta_2 High board connectedness$  
$$+ \beta_3 CEO \ network \ size \times \ High \ board \ connectedness$$
 
$$+ \gamma Other \ controls + \delta \ Industry + \vartheta Year + \varepsilon_i$$

(3)

The estimation results demonstrate that IPO performance improves significantly when both the CEO and the board are highly connected. Specifically, the interaction between predicted CEO network size and high board connectedness is positive and significant (see Model 1 of Table 9). We define high board connectedness as a dummy that is set to one when the board network size (predicted values used from stage I IV results in Panel B of Table 7) is above the sample median, and zero otherwise. We also control for the presence of anchor investors (by including the dummy variable Anchor investor). In fact, the demand multiple increases by 8% when boards are highly connected as opposed to when they are not. This evidence is robust after controlling for other IPO and market characteristics (as shown in Models 2 and 3). The interaction between predicted CEO network size, high board connectedness, and the presence of anchor investors (dummy) is positive and highly significant, indicating that CEO social networks, board networks and the participation of anchor investors jointly enhance the demand multiple of the IPO (Model 4). Nevertheless, it is noteworthy that the variable that evaluates the interaction effect of these three measures only increases the demand multiple by over 7%. This finding indicates that IPOs associated with highly connected CEO and boards are likely to have higher demand multiples. Hence, wellnetworked CEOs recognize the vital role of anchor investors in facilitating a successful listing

on the stock market. From issuers' perspectives, the presence of either well-connected CEO or anchor investors is critical for a successful listing.

# [Insert Table 9 here]

However, including CEO network size and high board connectedness simultaneously in the same model may be an issue. This is because high board connectedness may reflect the high connectedness of the CEO sitting on the board. Hence, to identify the unique and incremental effect of board connectedness, excluding the CEO, we re-estimate the models presented in Table 9 by excluding CEO network size from the board network size measure. The results remain broadly similar to those in Table 9 (see Table A4). However, as expected, the coefficient of high board connectedness is now smaller in magnitude owing to the exclusion of CEO connections from the computation of board network size.

Together, our results show that IPO firms can enhance their demand multiple when the CEO and boards are highly connected and when anchor investors are involved (see Tables 9 and A4). The connections between the CEO and boards are critical for boosting the demand multiple for IPO shares, thereby complimenting the role of anchor investors. Consequently, both anchor investors and CEOs play a distinct role in facilitating a company's listing on the stock market.

Impact of Social Networks on Long- Term IPO Outcomes. CEO, board networks and anchor investors are critical to the short-term outcomes of IPOs as measured by the demand multiple (see Tables 4 to 9). Nevertheless, it is unclear whether the influence of CEO and board networks and anchor investors on IPO firms is critical only to short-term performance or extends to long-term performance as Hypothesis 3 explains. To test this conjecture empirically, we run three analyses. First, we employ a survival analysis, in which each IPO firm is tracked from the listing date to the end of 2022 (three years after our sample) to identify whether the IPO firm survived or failed, then we used the Accelerated Failure Time (AFT) model (following Espenlaub et al., 2016) to examine the impact of CEO networks and board

connectedness on IPO survival. A positive coefficient in the survival model suggests that the variable positively impacts survival time and hence improves performance. Second, we analyse long-term stock returns using market-adjusted buy-and-hold returns calculated over the three years post listing similar to Kooli and Suret (2004). Finally, we examine the long-term industry-adjusted operating performance, measured as operating income divided by the IPO's total assets (following Jain and Kini, 1994) where first we match each IPO in our sample with firms in the same industry and decile size, then we calculate the adjusted operating performance as the difference between the IPO firm's return on assets and the median return on assets of all firms in its industry and size deciles. The return on assets is computed for one, two and three years after listing.

Our AFT survival analysis results show that IPOs with higher CEO social capital and stronger board connectedness achieve significantly higher survival rates (see Panel A of Table 10, Models 1 and 2). These findings align with prior evidence (Espenlaub et al., 2016). Moreover, the interaction results in Models 3 and 4 reveal that the positive effects of CEO and board networks on survival are further reinforced when anchor investors are present. The results are robust when using market-adjusted buy-and-hold returns over three years, as shown in Columns 5 through 8. These results suggest that social capital positively impacts IPOs in the long run. Similarly, the participation of anchor investors is critical for long-term IPO performance.

Finally, in Panel B, we use the adjusted operating performance as a measure of long-term performance over one, two and three years. The positive impact of the CEO network size on operating performance becomes significant in year 3 post listing. However, boards that are highly connected (higher than sample median in connectedness) start creating favourable operating performance in 2 years post the listing. These observations are consistent with the fact that the network effect might not be immediate and is likely to manifest over time.

Together, the results in Table 10 highlight the long-term benefits of CEO and board social networks coupled with the benefits of involving anchor investors. These results show that social capital and anchor investors lead to sustained advantages for IPO firms rather than transient short-term impacts. The role these social networks and anchor investors play is not restricted to the ability to secure investors for the IPO but also signals the ability to achieve better long-term performance, reducing concerns over potential entrenchment or poor governance that could arise owing to powerful social networks. The results of better long-term performance are consistent with the findings that participation by anchor investors in Hong Kong IPOs significantly enhances the time for which these IPO firms remain listed (e.g., Espenlaub et al., 2016).

# [Insert Table 10 here]

## **DISCUSSION OF RESULTS**

The IPO markets in the US, Europe, and Hong Kong differ significantly in terms of structure, investor behaviour, and regulatory environment, which shape their performance and attractiveness to issuers. Our analysis underlines the pivotal role of CEO and board social networks, as well as the involvement of anchor investors, in influencing both short-term and long-term IPO outcomes. We find a strong positive association between the size of a CEO's social network, board level connectedness and the IPO demand multiple. This relationship remains statistically significant even after controlling for key IPO characteristics, underwriter reputation, and syndicate size. The findings highlight the importance of executive and board-level social capital in driving IPO performance, controlling for CEO and board demographics, governance structures, and prevailing market conditions. Our results are robust using entropy balance matching and instrumental variable techniques to mitigate concerns related to both observable and unobservable endogeneity. Notably, the presence of anchor investors amplifies

the positive effects of CEO and board networks, reinforcing the strategic value of social capital in the IPO process.

Our results show that the demand multiple increases significantly, using a three-way interaction between CEO, board connectedness and anchor investor participations. This emphasises the complementary roles of social capital and anchor involvement. These findings are particularly relevant for IPO issuers and highlight the strategic importance of anchor investors in facilitating successful listings especially within the Hong Kong market. In contrast to practices in the U.S. and Europe, the Hong Kong model demonstrates that combining anchor investors participation with executive and board connectedness contributes to improved IPO survival rates and stronger long-term performance across multiple metrics. This suggests that other markets could benefit from adopting similar mechanisms to enhance IPO outcomes.

Overall, the findings demonstrate that CEO and board social networks, together with anchor investors participation, are critical not only for improving initial IPO demand, but also for supporting long-term firm performance. These networks enhance credibility, attract institutional investors, and alleviate governance concerns. Moreover, the findings of our study highlight their strategic value across both emerging and developed capital markets. The evidence shows that social capital and presence of anchor investors are valuable assets for IPO firms, contributing meaningfully to successful listings and sustained post-IPO outcomes. Previous studies in US and Europe have predominantly focused on the influence of CEO connectedness on IPO outcomes. In contrast, the role of anchor investor participation has not been explored due to their limited presence in these markets. This study offers valuable insights for IPO issuers in the U.S. and Europe by highlighting the strategic importance of anchor investors. It highlights the significance of CEO and board connectedness in shaping IPO performance for the Asian market.

#### **CONCLUSION**

This study examines the impact of CEO and board networks on IPO outcomes using a sample of IPOs listed on the Hong Kong stock exchange. We find that highly connected CEOs and boards significantly increase the demand multiple for the IPOs. This evidence is robust when controlling for IPO characteristics, CEO traits, board characteristics and market conditions. We also find that the positive effects of CEO and board networks are critical not only in the short run but also in the long run as measured by survival time, market adjusted buy and hold returns, and industry adjusted operating performance.

Those results are consistent with a growing body of literature, with research mainly conducted on US and Europe markets, suggesting that social networks can effectively reduce information asymmetry (e.g., Cohen et al., 2010; Cai and Sevilir, 2012; Engelberg et al., 2012; Faleye et al., 2014; Fracassi, 2017; Fogel et al., 2018; Egginton and McCumber, 2019; Berkman, Koch, and Westerholm, 2020; El-Khatib et al., 2021). In particular, we find that, in the context of IPOs, CEOs with larger social networks, and boards with higher connectedness, are associated with IPOs which perform positively both in the short and long term. This evidence is also consistent with studies on US based IPOs (Feng et al., 2019; Jandik et al., 2020) which further support the view that well-connected networks facilitate more efficient information flow and reduce gaps in knowledge among market participants.

However, our findings are also novel and make a significant contribution to the IPO literature by offering new insights into the role of social capital in one of the major financial markets in the world, where social networks play a crucial role in shaping financial outcomes. Specifically, our results demonstrate how social networks complement formal governance mechanisms—such as the presence of anchor investors—throughout the IPO process. This issue has remained largely unexplored in the US and Europe due to insufficient data on anchor

investors participation in IPO offerings. However, the Hong Kong market provides an ideal setting for investigating this question, and our findings can offer valuable insights that may be generalizable to the US and European markets. We benefit from access to data on anchor investors participation and the demand multiple, which provides a more accurate and direct measure of short-term IPO success, unlike prior research that relies on price revisions and under-pricing. The demand multiple better captures the effects of social networks and anchor investors on IPO outcomes. Although this data is limited in markets such as the U.S., it provides a more stable and informed assessment than measures influenced by market sentiment. For this reason, it is the preferred metric for evaluating IPO performance in this study.

We show that anchor investors and social networks play a *complementary* (rather than *substitution*) effect in disseminating information related to the IPO and enhancing its credibility. Our results also show that the positive impact of CEO and board networks on demand multiple remains significant when IPO firms are associated with anchor investors. Further analysis reveals that the impact of anchor investors on IPO demand multiple is significant when the CEO and board are highly connected.

Our findings also provide valuable insights for stock market regulators, enabling them to devise strategies to attract high-quality listings, enhance investor confidence, and strengthen the stock market's role in ensuring economic stability and growth. Furthermore, policymakers can utilize the findings of our study to promote transparency in the listing process, fostering equitable practices and mitigating the risks associated with favouritism in the allocation of shares. Specifically, the stock market regulator could encourage disclosure of anchor investors' role in IPO prospectuses. Support governance frameworks that recognize the complimentary role of informal (social capital) and formal (anchor investor) mechanisms in IPO success. Issuers are required in Hong Kong to conduct formal board evaluation every two years; our findings indicate the importance of better oversight of powerful CEOs especially owner-CEOs.

Practitioners, can leverage these results to develop more effective strategies for strengthening their firms' networks, thereby increasing the likelihood of successful listings. Additionally, they can design plans to attract and collaborate with anchor investors, ensuring stability and confidence throughout the listing period. The insights from our results also equip practitioners to adopt best practices, enhancing their competitive edge in the market.

## **Limitation and Future Research**

The limitation of this study is related to data availability. For instance, information on IPOs involving anchor investors is available, but data regarding the source of capital for these investors are not currently available. With availability of such data, future research could examine whether the origin of anchor investors' capital influences their participation in IPO offerings. Understanding this relationship could provide deeper insights into the role of anchor investors in the IPO process and their strategic decision-making. Additionally, an interesting question for further research (i.e., beyond the scope of this study) is whether IPO firms tend to exhibit superior performance following the divestment of anchor investors. Investigating post-divestment trends could reveal the extent to which anchor investors' initial involvement impacts the long-term success of IPO firms. Since anchor investor participation model in the US and Europe is becoming an attractive concept, future research could also assess whether their presence has a significant influence on IPO market dynamics in these regions compared to Asia. Exploring such research questions would enhance our understanding of anchor investors' roles in different financial markets and inform regulatory and investment strategies globally on the importance of anchor investors' participation in the IPO market.

<sup>&</sup>lt;sup>1</sup> We appreciate reviewer's suggestion to clarify the use of the demand multiple as a metric for IPO performance relative to other performance measures.

<sup>&</sup>lt;sup>2</sup> As suggested in social sciences literature, see for example: Mizruchi and Potts (1998).

- <sup>6</sup> We include industry and year effects in our models to help control for unobserved factors that vary across industries and over time, which may influence IPO outcomes. However, due to the small sample size, for robustness, we also test our model with industry and year effects included separately, and our results remain robust. We thank the reviewer for this suggestion.
- <sup>7</sup> See for example, Ritter (1984) for age, Corwin and Schultz (2005) for the syndicate size, Migliorati and Vismara (2014) and Goergen, Khurshed, and Mudambi (2006) for underwriters' reputation measured by the market share using both gross proceeds and the number of IPOs.
- <sup>8</sup> The number of observations in this analysis drops to 1097 owing to unavailability of data on all those new controls for all sample firms; hence we continue our remaining main tests with the initial sample after confirming that our results are not affected by those controls and are not likely driven by omitted variables bias. We also control for industry and year fixed effects separately and our results remained robust.
- <sup>9</sup> Another possible reason for the impact of the participation of anchor investors on demand multiple is that anchor investor contribution to the offering may be related to the capital committed by the investors before the setting of the offer price. In un-tabulated results, we split the sample into two subsamples based on *Anchor participation* and we estimate our baseline model (with full controls including controls for CEO traits and board characteristics) and we find a statistically significant and positive impact of CEO social network and board connectedness in both subsamples, with the magnitude being larger in the subsample with anchor investors.
- <sup>10</sup> Another concern can be due to the ownership variable which can be considered a mechanism in explaining the behavior of anchor investors to increase/decrease their demand, instead of CEO social capital. To address this concern, in an un-tabulated test, we also include the interaction of the ownership variable with anchor investor into the second stage of our Instrumental Variable (IV) analysis of Table 7 Panel A. The results indicate that the interaction term is negative and significant, suggesting that anchor investor participation decreases when ownership levels are high. All other results remain robust.
- <sup>11</sup> In an additional test, we investigate the impact of CEO ownership (whether owner or hired executive) on the demand multiple. We define CEO owner as an indicator that is set to one if the CEO is also the owner, and zero otherwise. We interact CEO (Board) network size with anchor investors and CEO owner. Our findings reveal that the impact of CEO network size with presence of anchor investors on demand multiple increases by approximately 16% when the CEOs are also the owners rather than hired executives. In addition, our baseline results of the significant and positive impact of CEO (board) network size on demand multiple remains

<sup>&</sup>lt;sup>3</sup> Information on whether the IPO firm remained listed or delisted from the stock market is also collected from Hong Kong Stock Exchange.

<sup>&</sup>lt;sup>4</sup> The variables are winsorized at 1%. All variables are defined in Table A1.

<sup>&</sup>lt;sup>5</sup> The number of observations in the high and low CEO network subsamples is different because there are 27 IPOs with equal CEO network size values and those are below the median CEO network size value.

robust, even after controlling for anchor investor participation and CEO ownership. We thank the reviewer for this suggestion. The corresponding results are reported in Table A3 in the Appendix.

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**TABLES** 

# **TABLE 1 Descriptive Statistics**

#### Panel A

	Mean	Median	STD
Variables			
Proceeds (HK\$ mil)	2968.000	2877.000	227.000
Age (years)	15.821	14.000	6.065
Size (HK\$ mil)	9296.000	9148.000	91.000
Demand multiple (#)	114.027	103.441	20.221
Ownership (%)	0.764	0.752	0.047
Underwriters' reputation (dummy)	0.694	1.000	0.500
Syndicate size (#)	5.607	5.000	2.546
Market to book	2.841	1.701	1.971
CEO network size	134.222	115.110	161.424
Board network size	263.068	194.000	192.646
Anchor investor (dummy)	0.461	0.000	0.275
Anchor investor (#)	7.000	6.000	4.000
No. of observations	1155		

Panel B

	High CEO	High CEO Network		Network	T-Test	Wilcoxon Rank
Variables	Mean	Median	Mean	Median	Mean-test	Median-test
Donata In (IIIV@:1)	2620,000	2500 000	2251 000	2177.000	2.254**	2 4015**
Proceeds (HK\$ mil)	3620.000	3580.000	2351.000	2177.000	-2.354**	-2.4815**
Age (years)	15.134	14.000	15.564	14.000	0.705	0.838
Size (HK\$ mil)	9926.000	9841.000	8668.000	8457.000	-2.351**	-2.387**
Demand multiple (#)	127.465	121.46	100.721	85.661	-2.269**	-2.145**
Ownership (%)	0.740	0.751	0.738	0.751	-0.667	-0.892
Underwriters' reputation (dummy)	0.503	1.000	0.487	0.000	-0.488	-0.489
Syndicate size (#)	5.605	5.000	5.109	5.000	-0.024	-0.056
Market to book	3.181	1.972	2.504	1.508	-2.215**	-2.011**
Anchor investor (dummy)	0.571	1.000	0.360	0.000	-2.061**	-2.001**
Anchor investor (#)	9.000	8.000	5.000	4.000	-2.112**	-2.021**
No. of observations	550		605			

Notes: All variables are as defined in Table A1. IPO *Proceeds* are measured as the gross proceeds raised through the IPO (given in Million HK\$). *Age* is the IPO firm age measured as the difference between founding and listing dates. *Size* is the IPO firm size measured as total assets in HK\$ millions at the time of listing. *Demand multiple* is the oversubscription level of the IPO calculated as the total number of shares applied for by investors divided by the total number of shares on offer. *Ownership* is the proportion of shares retained by the pre-IPO owners at the time of listing. *Underwriters' reputation* is a dummy variable which is set to one if the lead underwriter(s) ranks amongst the top 10 in terms of their market share of both IPO numbers and proceeds in the three years prior to the IPO year, and zero otherwise. *Syndicate size* is the number of underwriters in the syndicate that have underwritten the IPO firm. *Market to book* is the median market-to-book value for all stocks in the same industry as the IPO issuer, where the market to book value for each stock averaged across the three (event) months before the IPO date. *CEO network size* is based on Ferris, Javakhadze, and Liu (2020) and Ferris et al. (2017 a, b) and measured as the total number of direct connections of the CEO to other executives and board directors, as identified by BoardEx. Those direct connections are a result of overlaps through employment, board directorships, education, and other social activities. *Board network size* is computed Following Feng et al. (2019) as the median value of the size of each director's network size, where the director's network size is computed in a similar manner as the *CEO network size*. *Anchor investor(dummy)* is a dummy variable that is set to one if the IPO firm has anchor investor participation, and zero otherwise. *Anchor investor (#) is* the number of anchor investors who have bought shares in the IPO firm at the time of listing. Panel A displays the descriptive statistics by means, m

TABLE 2
Distribution of IPOs by Year and Industry for Board and CEO Networks

Panel A:				Panel B:			
IPO year	No of IPOs	Board network	CEO network	Industry	No of IPOs	Board network	CEO network
2004	31	286.08	222.03	Non-durable consumer	297	212.93	136.63
2005	52	299.55	178.90	Durable consumer	165	218.66	162.96
2006	52	324.13	91.37	Manufacturing	159	213.58	178.60
2007	77	298.52	65.78	Chemicals	95	235.87	77.42
2008	27	290.61	127.37	Business equipment	91	360.63	168.77
2009	60	303.05	83.82	Telecom	34	202.58	112.19
2010	84	274.38	138.66	Whole sales	121	342.70	72.40
2011	66	217.11	162.32	Health care	49	339.40	177.14
2012	48	250.06	125.42	Others	144	243.87	119.93
2013	74	212.22	125.65				
2014	90	279.14	125.90				
2015	86	254.95	153.05				
2016	70	217.62	51.34				
2017	74	242.99	205.59				
2018	126	249.06	136.66				
2019	138	210.22	159.32				

Notes: This table presents a breakdown of the IPOs by year (Panel A) and industry (Panel B). Mean board and CEO network sizes are displayed for each year (Panel A) and industry (Panel B). The industry classification is defined by BoardEx.

**TABLE 3 Correlation Matrix** 

Variables		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Proceeds	(1)	1									
Age	(2)	0.019	1								
Size	(3)	0.118	0.078	1							
Ownership	(4)	0.031	-0.030	0.116	1						
Underwriters' reputation	(5)	-0.009	0.007	0.040	0.152	1					
Syndicate size	(6)	0.101	-0.029	0.021	0.090	0.077	1				
CEO network size	(7)	-0.038	-0.010	0.002	0.018	-0.017	-0.037	1			
Board network size	(8)	-0.016	0.020	0.010	-0.005	0.002	-0.017	0.393	1		
Market to Book	(9)	0.058	-0.055	-0.250	0.002	0.020	0.001	0.006	0.016	1	
Anchor investor (#)	(10)	0.086	0.061	0.213	0.042	0.011	0.021	0.145	0.166	0.052	1

Notes: This table shows the correlations between the main and control variables used in the study. All variables are as defined previously and in Table A1. The dependent variable is not included in the correlation matrix as possible multicollinearity test is specific to independent variables.

TABLE 4
Impact of CEO Social Capital on IPO Demand Multiple

Dependent Variable:			
Demand multiple (#)	Model 1	Model 2	Model 3
CEO network size	0.1230**	0.0979***	0.0800***
	(0.042)	(0.001)	(0.000)
Ln Size		0.0371**	0.0152***
		(0.013)	(0.000)
Ln Age		0.0062	0.0022
		(0.156)	(0.780)
Ln Proceeds		0.1924***	0.2387***
		(0.000)	(0.000)
Ownership		0.0272**	0.0267**
		(0.015)	(0.031)
Market to book		0.0161*	0.0122*
		(0.067)	(0.094)
Syndicate size			0.0563***
			(0.004)
Underwriters' reputation			0.1031*
			(0.061)
Industry & Year Fixed Effects	Yes	Yes	Yes
No. of observations	1155	1155	1155
Adj. R-squared	0.131	0.173	0.183

Notes: This table shows the OLS estimation results of the regression of CEO network size on demand multiple after controlling for standard controls, as in the literature. All variables are as previously defined and in Table A1. The dependent variable is *Demand multiple* (#). The standard errors are clustered by industry. All regressions control for industry and year fixed effects. P-values are presented in parentheses. \*\*\*, \*\*, \* Indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 5
Impact of Board Social Networks on IPO Demand Multiple

<b>Dependent variable:</b> Demand multiple (#)	Model 1	Model 2	Model 3
•			
Board network size	0.1020**	0.0842***	0.0761***
	(0.028)	(0.005)	(0.000)
Ln Size	, ,	0.0466***	0.0664***
		(0.000)	(0.000)
Ln Age		0.0027	0.0011
		(0.365)	(0.311)
Ln Proceeds		0.1190***	0.2230***
		(0.000)	(0.000)
Ownership		0.0150***	0.0390**
-		(0.001)	(0.046)
Market to book		0.0151*	0.0340**
		(0.054)	(0.024)
Syndicate size			0.0260**
			(0.038)
Underwriters' reputation			0.1200***
			(0.006)
Industry & Year Fixed Effects	Yes	Yes	Yes
No. of observations	1155	1155	1155
Adj. R-squared	0.1283	0.1674	0.1705

Notes: This table shows the OLS estimation results of the regression of board network size on the demand multiple after controlling for standard controls, as in the literature. All variables are as previously defined and in Table A1. The dependent variable is *Demand multiple (#)*. The standard errors are clustered by industry. All regressions control for industry and year fixed effects. P-values are presented in parentheses. \*\*\*, \*\*, \* Indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 6
Robustness Tests – Entropy Balancing

# Panel A

Dependent variable:			
Demand multiple (#)	Model 1	Model 2	
CEO network size	0.1041***		
	(0.000)		
Board network size		0.0961***	
		(0.000)	
Anchor investor (dummy)	0.1014***	0.0874***	
	(0.000)	(0.000)	
CEO age	0.014	0.013	
	(0.272)	(0.288)	
Board size	0.011	0.012	
	(0.272)	(0.299)	
Ln Size	0.0243	0.0365	
	(0.341)	(0.430)	
Ln Age	0.0023	0.0037	
	(0.782)	(0.213)	
Ownership	0.0211	0.0241	
	(0.135)	(0.164)	
Market to book	0.0122	0.0243	
	(0.243)	(0.322)	
Syndicate size	0.0222	0.0232	
	(0.164)	(0.178)	
Underwriters' reputation	0.0236	0.0237	
	(0.363)	(0.217)	
Industry & Year Fixed Effects	Yes	Yes	
No. of observations	1155	1155	
Adj. R-squared	0.104	0.106	

Panel B	High-CEO network size	Low-CEO network size	High-Board network size	Low-Board network size
CEO age	58	58	56	56
Board size	10	10	9	9
Size	9926	9926	9628	9628
Age	15.134	15.134	15.285	15.285
Ownership	0.742	0.742	0.727	0.727
Market to book	3.181	3.181	3.022	3.022
Syndicate size	5.605	5.605	5.941	5.941
Underwriters' reputation	0.503	0.503	0.473	0.473
No. of observations	550	605	550	605

Notes: This table shows the results of the entropy balancing. Panel A displays the estimation results of the regression, similar to Model 3 presented in Tables 4 (for Model 1) and 5 (for Model 2), where CEO network size and Board network size are used as the main explanatory variables, respectively, after matching the IPO sample firms using entropy balancing and after adding controls for anchor participation (Anchor investor dummy), CEO age, and Board size. Anchor investor(dummy) is a dummy variable that is set to one if the IPO firm has anchor investor participation, and zero otherwise. CEO age is the CEO's age on the date of the IPO listing. Board size is the total number of directors on the board on the date of the IPO listing. The dependent variable in Panel A is *Demand multiple (#)*. All other variables are as previously defined and in Table A1. Panel B shows the univariate results of the difference in means between the subsamples of high and low CEO network sizes in columns 1 and 2 and subsamples of high versus low board network size in columns 3 and 4 after entropy balancing. The split in the sample is based on above median values (i.e., values greater than the sample median = 1). The standard errors are clustered by industry. All regressions control for industry and year fixed effects. P-values are presented in parentheses. \*\*\* Indicate statistical significance at the 1% level.

TABLE 7
Robustness Tests – Instrumental Variable Analysis

	Stage I- Dep:	Stage 1	II- Dep:
Panel A:	Anchor investor (#)	Demand n	nultiple (#)
Variable	Model 1	Model 2	Model 3
No of IPOs	-0.2382***		
•	(0.000)		
CEO network size		0.1043***	
		(0.000)	
Board network size			0.0962***
			(0.000)
Anchor investor (instrumented)		0.0991***	0.0792***
		(0.000)	(0.000)
Ln Size	0.0412**	0.0243	0.0365
	(0.041)	(0.341)	(0.430)
Ln Age	0.0331*	0.0023	0.0037
	(0.071)	(0.782)	(0.213)
Ln <i>Proceeds</i>	0.0341	0.0286	0.0224
	(0.151)	(0.167)	(0.176)
Ownership	-0.0381*	0.0211	0.0241
	(0.081)	(0.135)	(0.164)
Market to book	0.029	0.0122	0.0243
	(0.179)	(0.243)	(0.322)
Syndicate size	0.0423*	0.0223	0.0221
	(0.064)	(0.164)	(0.178)
Underwriters' reputation	0.0421*	0.0236	0.0237
	(0.072)	(0.363)	(0.217)
Durbin-Wu-Hausman Test (p-value	e)	(0.196)	(0.201)
Overidentification J-test (p-value)		(0.177)	(0.189)
Industry & Year Fixed Effects	Yes	Yes	Yes
No. of observations	1155	1155	1155
Adj. R-squared	0.117	0.104	0.106

	Stag	e I	Stage II		
Panel B:	Dep: CEO network size	Dep: Board network size	Dep: Dema	nd multiple (#)	
Variable	Model 1	Model 2	Model 3	Model 4	
No. of CEO qualifications	0.3582***				
	(0.000)				
Average time served		0.3514***			
		(0.000)			
CEO network size (predicted)			0.1019***		
			(0.000)		
Board network size (predicted)				0.0914***	
				(0.000)	
Ln Size	0.0522**	0.0523**	0.0241	0.0364	
	(0.043)	(0.044)	(0.331)	(0.422)	
Ln Age	0.0351*	0.0342*	0.0023	0.0037	
	(0.081)	(0.084)	(0.781)	(0.214)	
Ln Proceeds	-	-	0.0282	0.0221	
	-	-	(0.166)	(0.174)	
Ownership	-0.0341	-0.0332	0.0212	0.0233	
	(0.061)	(0.063)	(0.135)	(0.164)	
Market to book	0.012	0.014	0.0122	0.0243	
	(0.151)	(0.163)	(0.243)	(0.322)	
Syndicate size	0.0333*	0.0342*	0.0221	0.0222	
	(0.077)	(0.082)	(0.164)	(0.178)	
Underwriters' reputation	0.036*	0.031*	0.0234	0.0236	
	(0.066)	(0.088)	(0.362)	(0.217)	
Durbin-Wu-Hausman Test (p-value)			(0.231)	(0.271)	
Overidentification J-test (p-value)			(0.337)	(0.386)	
Industry & Year Fixed Effects	Yes	Yes	Yes	Yes	
No. of observations	1097	1097	1097	1097	
Adj. R-squared	0.117	0.116	0.105	0.107	

Notes: Panel A shows the results of the two-stage Instrumental Variable (IV) model. In Model 1, we present the estimation results of the first stage using the instrument *No of IPOs* to predict *Anchor investors* (#). *No of IPOs* is the number of IPOs in the previous quarter. The estimation results of the baseline regressions, similar to those in Tables 4 and 5, after using instrumented anchor investors, are presented in Model 2 (with *CEO network size* as the main explanatory variable) and Model 3 (with *Board network size* as the main explanatory variable). Panel B shows the results of the two-stage instrumental variable (IV) model. We present the estimation results of the first stage using Instruments *No. of CEO Qualifications* to predict *CEO network size* (Model 1) and *Average time served* to predict *Board network size* (Model 2). *No. of CEO Qualifications* is the number of academic qualifications that a CEO possess as indicated by BoardEx, *Average time served* is the average time served by the directors on other publicly listed boards in the year prior to listing. We present the second-stage estimation results of the baseline regressions, as shown in Tables 4 and 5, after using the predicted CEO network size (Model 3) and board network size (Model 4). All other variables are as defined previously and in Table A1. The standard errors are clustered by industry. All regressions control for industry and year fixed effects. P-values are presented in parentheses. \*\*\*, \*\*, \* Indicate statistical significance at the 1%, 5%, and 10% levels, respectively. No. of the observations dropped owing to missing data on the instruments employed.

TABLE 8
Impact of CEO Social Capital and Board Social Networks on IPO Demand Multiple in Presence of Anchor Investors

Dependent variable:				
Demand multiple (#)	Model 1	Model 2	Model 3	Model 4
CEO network size (predicted)	0.1019***		0.1021***	
	(0.000)		(0.000)	
Board network size (predicted)		0.0921***		0.0927***
		(0.000)		(0.000)
CEO network size (predicted) x Anchor				
investor	0.0971***		0.0791***	
	(0.000)		(0.000)	
Board network size (predicted) x Anchor		0.0041***		0.0751***
investor		0.0941***		0.0751*** (0.000)
(1)	O 1150***	(0.000)		(0.000)
Anchor investor (dummy)	0.1158***	0.1222***		
4 1	(0.000)	(0.000)	0.1021**	0.0002**
Anchor investor (#)			0.1021**	0.0982**
I G	0.0155***	0.0004***	(0.022)	(0.036)
Ln Size	0.0155***	0.0664***	0.0153***	0.0662***
-	(0.000)	(0.000)	(0.000)	(0.000)
Ln Age	0.0042	0.0011	0.0031	0.0014
	(0.750)	(0.311)	(0.751)	(0.211)
Ln Proceeds	0.2385***	0.2234***	0.2381***	0.2245***
	(0.000)	(0.000)	(0.000)	(0.000)
Ownership	0.0261**	0.0392**	0.0267**	0.0381**
	(0.033)	(0.042)	(0.036)	(0.041)
Market to book	0.0131*	0.0342**	0.0122*	0.0346**
	(0.078)	(0.035)	(0.087)	(0.025)
Syndicate size	0.0558***	0.0288**	0.0586***	0.0277**
	(0.002)	(0.029)	(0.002)	(0.021)
Underwriters' reputation	0.1035*	0.1206***	0.1034*	0.1206***
	(0.064)	(0.005)	(0.069)	(0.006)
Industry & Year Fixed Effects	Yes	Yes	Yes	Yes
No. of observations	1097	1097	1097	1097
Adj. R-squared	0.186	0.182	0.187	0.183

Notes: This table shows the estimation results of models similar to those presented in Tables 4 and 5, but after using the predicted values of *CEO network size* (Models 1 and 3) and predicted values of *Board network size* (Models 2 and 4) from the first stage of the IV model reported in Panel B of Table 7, and after controlling for the presence of *Anchor investors*. Anchor investors are controlled for as a dummy variable (indicating presence or absence) in Models 1 and 2, and as a continuous variable (representing the number of anchor investors) in Models 3 and 4. We also include the interactions of the predicted values of *CEO network size* (*Board network size*) with *Anchor investors* in Models 1 and 3 (2 and 4). The dependent variable is the *Demand multiple* (#). The standard errors are clustered by industry. All regressions control for industry and year fixed effects. P-values are presented in parentheses. \*\*\*, \*\*, \* Indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 9
Impact of CEO Social Capital on Demand Multiple in the Presence of Highly Connected
Boards

Dependent Variable:				
Demand multiple (#)	Model 1	Model 2	Model 3	Model 4
CEO network size (predicted) x High				
board connectedness	0.0810***	0.0742***	0.0631***	
	(0.000)	(0.000)	(0.000)	
CEO network size (predicted) x High				
board connectedness x Anchor investor				0.0723***
investor				(0.000)
CEO network size (predicted)	0.1062**	0.0866***	0.0814***	0.0678***
CEO network size (predicted)	(0.022)	(0.000)	(0.000)	(0.000)
Anchor investor (dummy)	0.0538**	0.0463**	0.0404**	0.0365**
menor investor (duminy)	(0.021)	(0.031)	(0.026)	(0.037)
High board connectedness	(0.021)	(0.031)	(0.020)	(0.037)
(dummy)	0.0723***	0.0677***	0.0303**	0.0311**
	(0.000)	(0.000)	(0.032)	(0.031)
Ln Size	,	0.0435***	0.0561***	0.0543***
		(0.000)	(0.000)	(0.000)
Ln Age		0.0072	0.0041	0.0033
		(0.145)	(0.521)	(0.551)
Ln Proceeds		0.2024***	0.2397***	0.1897***
		(0.000)	(0.000)	(0.000)
Ownership		0.0345**	0.0413**	0.0381**
		(0.034)	(0.027)	(0.035)
Market to book		0.0184*	0.0182*	0.0176*
		(0.075)	(0.066)	(0.082)
Syndicate size			0.0432***	0.0412**
			(0.004)	(0.013)
Underwriters' reputation			0.1173**	0.1161**
			(0.038)	(0.035)
Industry & Year Fixed Effects	Yes	Yes	Yes	Yes
No. of observations	1097	1097	1097	1097
Adj. R-squared	0.142	0.178	0.191	0.210

Notes: This table shows the estimation results of the OLS regression, where CEO network size (predicted) interacts with High board connectedness and the presence of anchor investors, controlling for standard controls as in the literature. The dependent variable is Demand multiple (#). CEO network size (predicted) is the predicted value from the IV regression stage I results reported in Table 7 Panel B. High board connectedness is a dummy that is set to one when the board network size (predicted values used from stage I IV results in Panel B of Table 7) is above the sample median, and zero otherwise. CEO network size (predicted) x High board connectedness is the interaction term between CEO network size (predicted) and High board connectedness. CEO network size (predicted) x High board connectedness x Anchor investor is the interaction term between CEO network size (predicted), High board connectedness, and Anchor investors (dummy). All other variables are as previously defined and in Table A1. All regressions control for industry and year fixed effects. P-values are presented in parentheses. \*\*\*, \*\*, \* Indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 10 Impact of CEO Social Capital and Board Social Networks on Long Term Performance

Panel A:	S	urvival Ana	lysis-AFT			Adjusted Bl	HR (3 years)	
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	0.0112	0.014*	0.0109	0.011*	0.026*	0.032*	0.023*	0.034*
	(0.144)	(0.083)	(0.155)	(0.096)	(0.084)	(0.076)	(0.086)	(0.075)
CEO network size (predicted)	0.107**		0.105**		0.025**		0.026**	
	(0.017)		(0.021)		(0.017)		(0.021)	
Board network size (predicted)		0.144**		0.141**		0.028**		0.029**
		(0.033)		(0.037)		(0.035)		(0.032)
CEO network size (predicted)x Anchor investor (dummy)			0.087**				0.029**	
			(0.038)				(0.044)	
Board network size (predicted) x Anchor investor (dummy)				0.079**				0.034**
				(0.041)				(0.035)
Anchor investor (dummy)	0.125**	0.128**	0.105*	0.114*	0.027**	0.032**	0.024**	0.030**
	(0.023)	(0.031)	(0.056)	(0.055)	(0.034)	(0.027)	(0.038)	(0.031)
No. of observations	1097	1097	1097	1097	889	889	889	889
Adj. R-squared	0.032	0.033	0.034	0.035	0.028	0.035	0.030	0.037

Panel	B:
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Dependent Variable:	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Adjusted operating performance	One year	Avg. Two years	Avg. three years	One year	Avg. Two years	Avg. three years
Intercept	0.016**	0.014**	0.016**	0.014**	0.017**	0.023**
тистеері	(0.037)	(0.028)	(0.028)	(0.038)	(0.016)	(0.023)
CEO network size (predicted)	0.006	0.015	0.024**	,		
u ,	(0.163)	(0.121)	(0.038)			
High board connectedness	, ,	, ,	,	0.015	0.018**	0.029***
(dummy)				(0.121)	(0.027)	(0.029)
	0.012*	0.017*	0.026**	0.121)	0.027)	0.026**
Anchor investor (dummy)	(0.066)	(0.067)	(0.035)	(0.111)	(0.062)	(0.038)
No. of observations	1097	1097	1097	1097	1097	1097
Adj. R-squared	0.025	0.031	0.061	0.026	0.038	0.072

Notes: This table shows the impact of CEO and board social networks on the long-term performance. In Panel A, we present the estimation results of the AFT model (survival analysis) in Models 1 & 3 (using the predicted values of the CEO network size) and 2 & 4 (using the predicted values of the board network size). The predicted values were obtained from the stage I IV results in Panel B of Table 7. We also estimate the impact of the predicted CEO network size (Models 5 & 7) and predicted board network size (Models 6 & 8) on market-adjusted three-year post listing buy and hold annual returns. CEO network size (predicted) and interaction term between CEO network size and Anchor investor (dummy). Board network size (predicted) and interaction term between Board network size and Anchor investor (dummy). Panel B presents the estimation results of the impact of the CEO and board social networks on operating performance over one, two, and an average of three years. Following Jain and Kini (1994) we measure long-term operating performance using the Adjusted operating performance which is the difference between the IPO firm's return on assets and the median return on assets of all firms in the industry and size decile. All other variables are as previously defined and in Table A1. P-values are presented in parentheses. \*\*\*, \*\*, \* Indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

### APPENDIX TABLE A1

# **Variables Definitions**

Variables	Definitions
Proceeds (HK\$ million)	The gross proceeds raised through the IPO (given in Million HK\$).
Age (Years)	Firm's age measured as the difference between founding and listing dates.
Size (HK\$ million)	Firm's size measured as total assets in HK\$ millions at the time of listing.
Demand multiple (#)	The oversubscription level of the IPO calculated as the total number of shares applied for by investors divided by the total number of shares on offer.
Ownership (%)	The proportion of shares retained by the pre-IPO owners at the time of listing.
Underwriters' reputation (dummy)	A dummy that is set to one if the lead underwriter(s) ranks amongst the top 10 in terms of their market share of both IPO numbers and proceeds in the three years prior to the IPO year, and zero otherwise.
Syndicate size (#)	Number of underwriters in the syndicate that have underwritten the IPO firm.
Market to book	The median market-to-book value for all stocks in the same industry as the IPO issuer, where the market to book value for each stock averaged across the three (event) months before the IPO date.
CEO network size	Following Ferris, Javakhadze, and Liu (2020) and Ferris et al. (2017 a, b), measures the total number of direct connections of the CEO to other executives and board directors, as identified by BoardEx. Those direct connections are a result of overlaps through employment, board directorships, education, and other social activities.
Board network size	Following Feng et al. (2019), measures the median value of the size of each director's network size, where the director's network size is computed in a similar manner as the <i>CEO network size</i> .
Anchor investor (dummy)	A dummy that is set to one if the IPO firm has anchor investor participation, and zero otherwise.
Anchor number (#)	Number of anchor investors who have bought shares in the IPO firm at the time of listing.
CEO age	CEO's age on the date of IPO listing.
Board size	The total number of directors on the board on the date of IPO listing.
No of IPOs	The number of IPOs in the previous quarter.
No. of CEO qualifications	The number of academic qualifications that a CEO possess as indicated by BoardEx,
Average time served	The average time served by the directors on other publicly listed boards in the year prior to listing as indicated by BoardEx.

High board connectedness	A dummy that is set to one when the board network size (predicted values used from stage I IV results of Table 7 Panel B) is above the sample median, and zero otherwise.
Adjusted operating performance	The difference between the IPO firm's return on assets and the median return on assets of all firms in the industry and size decile.
CEO gender	A dummy that is set to one if the CEO is male, and 0 otherwise.
CEO duality	A dummy that is set to one if the CEO is the chairman of the board on the date of the IPO listing, and zero otherwise.
Board gender ratio	The ratio of male directors to all directors on the date of IPO listing.
STD directors age	The standard deviation of the age of all directors on the IPO listing date.
IPO hotness	The average initial return on IPOs issued in the three months prior to the IPO year.
Market returns	Average market returns during the quarter before the IPO month.
CEO owner (dummy)	A dummy that is set to one if the CEO is also the owner, and zero otherwise.

TABLE A2
Controlling for Additional CEO Traits, Board characteristics, and Market Conditions

Dependent Variable: Demand multiple (#)	Model 1	Model 2		
CEO network size	0.0831***			
	(0.000)			
Board network size	-	0.0796***		
		(0.000)		
CEO age	0.0101*	-		
	(0.066)			
CEO gender	0.002	-		
	(0.210)			
CEO duality	-0.0131	-		
	(0.212)			
Board size	-	0.0213*		
		(0.056)		
Board gender ratio	-	0.0141*		
<u> </u>		(0.088)		
STD directors age	-	0.011		
<u> </u>		(0.189)		
IPO hotness	0.024**	0.026**		
	(0.036)	(0.031)		
Market returns	0.003	0.002		
	(0.161)	(0.189)		
Market to book	0.0177*	0.0179*		
	(0.087)	(0.081)		
All other controls	Yes	Yes		
Industry & Year Fixed Effects	Yes	Yes		
No. of observations	1097	1097		
Adj. R-squared	0.189	0.176		

Notes: This table replicates the OLS estimation regressions of CEO network size (Model 3 of Table 4) and Board network size (Model 3 of Table 5) on the Demand multiple (#) after including additional controls for CEO traits, board characteristics, and market conditions. CEO age is the CEO's age at the time of the listing. CEO gender is a dummy that is set to one if the CEO is male, and zero otherwise. CEO duality is a dummy that is set to one if the CEO is the chairman of the board on the date of the listing, and zero otherwise. Board size is the total number of directors on the board on the IPO listing date. Board gender ratio is the ratio of male directors to all directors on the date of IPO listing. STD directors age is the standard deviation of the age of all directors on the IPO listing date. IPO hotness is the average initial return on IPOs issued in the three months prior to the IPO year. Market returns are average market returns during the quarter before the IPO month. Market to Book is the median marketto-book value for all stocks in the same industry as the IPO issuer. All other controls in the baseline models were included in the regressions; however, the coefficients are not reported for brevity. The number of observations drop to 1097 due to the unavailability of data on all new controls for all sample firms. The standard errors are clustered by industry. All regressions control for industry and year fixed effects. P-values are presented in parentheses. \*\*\*, \*\*, \* Indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE A3
Impact of CEO Social Capital and Board Social Networks on IPO Demand Multiple in Presence of Anchor Investors and CEO Owner

Dependent variable:				
Demand multiple (#)	Model 1	Model 2	Model 3	Model 4
CEO network size (predicted)	0.1018***		0.1020***	
	(0.000)		(0.000)	
Board network size (predicted)		0.0920***		0.0926***
		(0.000)		(0.000)
CEO network size (predicted) x Anchor	0 11 (2444		0.0062444	
investor x CEO owner	0.1163***		0.0963***	
	(0.000)		(0.000)	
Board network size (predicted) x Anchor				0.0972***
investor x CEO owner		0.1171***		
		(0.000)		(0.000)
Anchor investor (dummy)	0.1154***	0.1221***		
	(0.000)	(0.000)		
Anchor investor (#)			0.1020**	0.0981**
			(0.028)	(0.033)
CEO owner (dummy)	0.0791**	0.0782**	0.0761**	0.0754**
	(0.032)	(0.038)	(0.041)	(0.043)
Ln Size	0.0155***	0.0664***	0.0153***	0.0662***
	(0.000)	(0.000)	(0.000)	(0.000)
Ln Age	0.0041	0.0012	0.0032	0.0015
	(0.751)	(0.314)	(0.753)	(0.212)
Ln Proceeds	0.2386***	0.2234***	0.2383***	0.2244***
	(0.000)	(0.000)	(0.000)	(0.000)
Ownership	0.0261**	0.0392**	0.0267**	0.0381**
-	(0.034)	(0.044)	(0.035)	(0.044)
Market to book	0.0131*	0.0342**	0.0122*	0.0346**
	(0.076)	(0.036)	(0.085)	(0.024)
Syndicate size	0.0558***	0.0288**	0.0586***	0.0277**
•	(0.002)	(0.029)	(0.002)	(0.021)
Underwriters' reputation	0.1036*	0.1206***	0.1034*	0.1207***
	(0.063)	(0.005)	(0.065)	(0.005)
Industry & Year Fixed Effects	Yes	Yes	Yes	Yes
No. of observations	1097	1097	1097	1097
Adj. R-squared	0.188	0.186	0.191	0.186

Notes: This table shows the estimation results of models presented in Table 8, but controlling for CEOs who are owners and not hired executives. The dependent variable is the *Demand multiple* (#). *CEO owner* is a dummy that is set to one if the CEO is also the owner, and zero otherwise. *CEO network size* (predicted) x Anchor investor x CEO owner is the interaction of CEO network size (predicted) x Anchor investor x CEO owner. Board network size (predicted) x Anchor investor x CEO owner is the interaction of Board network size (predicted) x Anchor investor x CEO owner. Anchor investor is defined as dummy in models 1 & 2, and # in models 3 & 4. All other variables as previously defined and in Table A1. The standard errors are clustered by industry. All regressions control for industry and year fixed effects. P-values are presented in parentheses. \*\*\*, \*\*, \* Indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE A4
Impact of CEO Social Capital on Demand Multiple in the Presence of Highly Connected Boards, Excluding CEO Network Size from the Board Network Size

Dependent Variable:	M 111	W 112	M 112	M 114
Demand multiple (#)	Model 1	Model 2	Model 3	Model 4
CEO network size (predicted) x High				
board connectedness	0.0756***	0.0667***	0.0533***	
	(0.000)	(0.000)	(0.000)	
CEO network size (predicted) x High board connectedness x Anchor				
investor				0.0522***
				(0.000)
CEO network size (predicted)	0.1143**	0.0927***	0.0881***	0.0721***
	(0.032)	(0.000)	(0.000)	(0.000)
Anchor investor (dummy)	0.0546**	0.0476**	0.0405**	0.0368**
	(0.019)	(0.034)	(0.032)	(0.036)
High board connectedness (dummy)	0.0613***	0.0584***	0.0282**	0.0274**
	(0.000)	(0.000)	(0.021)	(0.031)
Ln Size		0.0435***	0.0562***	0.0543***
		(0.000)	(0.000)	(0.000)
Ln Age		0.0071	0.0041	0.0033
		(0.157)	(0.551)	(0.561)
Ln Proceeds		0.2025***	0.2396***	0.1898***
		(0.000)	(0.000)	(0.000)
Ownership		0.0345**	0.0411**	0.0381**
-		(0.033)	(0.027)	(0.038)
Market to book		0.0184*	0.0182*	0.0175*
		(0.075)	(0.066)	(0.089)
Syndicate size		` '	0.0432***	0.0415**
•			(0.004)	(0.013)
Underwriters' reputation			0.1172**	0.1163**
•			(0.041)	(0.032)
Industry & Year Fixed Effects	Yes	Yes	Yes	Yes
No. of observations	1097	1097	1097	1097
Adj. R-squared	0.142	0.178	0.191	0.210

Notes: This table replicates the estimation of the models presented in Table 9, excluding the CEO's network size from the computation of the *Board network size* if the CEO is also a board member. All other variables are as previously defined and in Table A1. The standard errors are clustered by industry. All regressions control for industry and year fixed effects. P-values are presented in parentheses. \*\*\*, \* Indicate statistical significance at the 1%, 5%, and 10% levels, respectively.