Is there a
"family premium"
IN THE CHINESE STOCK MARKET?

ie UNIVERSITY
CENTER FOR FAMILIES IN BUSINESS

MARCH A.M.
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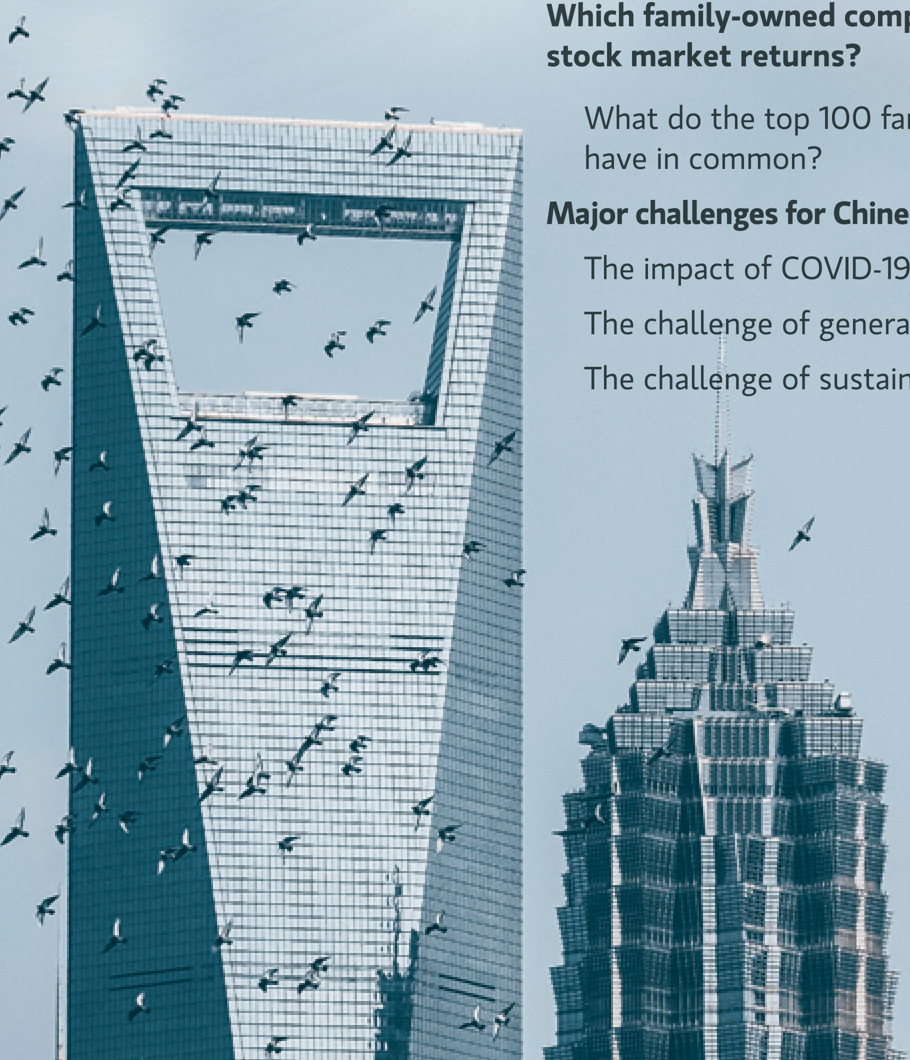
Contents:



Contents:

Forewords

The virtues of family businesses (long-term vision, loyalty, motivation, low debt) make them perform better in times of economic crisis. We wish to build these attributes into our fund so that, in the long term, they generate better returns than their non-family peers.

There are many family businesses in Europe (especially in Germany, Italy, Switzerland, France and Spain) and they tend to be concentrated in the consumer and industry sectors. As they rely heavily on human capital, they are a key source of employment in these economies.

The solid experience of the Banca March Group which is a family business as well as an investor with a long, highly successful track record, ratifies this theory. In 2012, based on this investment approach, March Asset Management, SGIIC, SAU, launched March International - The Family Businesses Fund, making its experience as a family group available to its clients and offering them the opportunity to invest in globally listed family businesses through a Luxembourg investment fund.

Now, we can add another robust investment argument to the investment field thanks to the IE Center for Families in Business' interesting analysis, which focuses on China: the world's fastest growing economy in the last few decades, with this report entitled: Is there a "family premium" in the Chinese stock market?

In this pioneering study, the experience of the IE Center for Families in Business provides an opportunity to delve deeper into the behavior of Chinese listed family businesses on the Shanghai and Shenzhen stock exchanges. They are relatively young companies (20 years old on average); they are facing their first generational transition and are competing in a new business environment marked by high volatility and state intervention. The study shows that their profitability significantly exceeded that of non-family-owned companies in the period analyzed (2005 to 2020), leading us to conclude that there is a "family premium" in the Chinese stock market.

We would like to take this opportunity to thank the IE Center for Families in Business team that participated in the research. This study delivers the opportunity to find out more about unpublished aspects of a hugely significant market such as China and provides us with greater knowledge to continue our commitment to family businesses.

I very much hope you enjoy reading this report.

Best regards.

March Asset Management,
SGIIC, SAU

In 2012, IE University and Banca March, two organizations which are highly committed to family businesses, joined forces to explore whether the inherent advantages of family firms were reflected in higher stock market returns, or what we call the "family premium". In our first study, we chose the European stock market. At the time, approximately 30% of the companies were family-owned and many brought with them a legacy spanning several generations. The findings of the report confirmed higher profitability in European listed family firms compared to non-family firms. In 2015, a second IE University-Banca March report confirmed the existence of this "family premium" in the U.S. stock market.

Almost 10 years later, both organizations have joined forces once again to analyze the possible existence of this "family premium" in a very different context: Chinese stock markets. We used a comprehensive database to conduct an in-depth detailed analysis of over 4,000 companies in a 15-year period, marking a milestone in longitudinal research on family-owned companies in the Chinese stock market context.

The study's first revelation, which may surprise the reader, was that family-owned companies on the Shanghai and Shenzhen stock exchanges accounted for over 65% of the total, a percentage which is considerably higher than that of European stock exchanges. The age of these companies is also striking, as many of them are less than 20 years old and have just gone public. Despite these differences, our results strongly support the existence of a "family premium" in the Chinese stock market, suggesting that the advantages of family ownership are apparent even in a vastly different context which is not always synonymous with private ownership. However, it is important to note that higher returns go hand in hand with higher volatility, underscoring the need to understand the idiosyncrasies of these companies. This will enable well-informed decision-making and limit risks.

We would like to invite you to read and enjoy this report, as we are sure you will discover not only facts and figures about Chinese listed family businesses, but also entrepreneurial stories of success and resilience. Our report reveals how Chinese family businesses, from pioneering manufacturing companies to leaders in sustainability, are writing a unique chapter in the Asian giant's economic history.

Cristina Cruz
Professor, IE University
Director, IE Center for Families in Business

Organizations

BANCA MARCH A.M.

In 2000, the Banca March Group set up its boutique investment management firm, March Asset Management, SGIIC SAU, specializing in tactical asset allocation and company selection.

Today, we actively manage innovative thematic funds, fixed-income funds, equity funds, institutional SICAVs, Luxembourg solutions, tailor-made solutions and savings and pension plans, including EPSVs.

March A.M.'s investment philosophy combines long-term value creation with wealth protection through active management.

For further information about
Banca March A.M., visit our website:
www.march-am.com

IE CENTER FOR FAMILIES IN BUSINESS

IE Center for Families in Business is the IE Foundation's strategic initiative and IE University's unique approach to add value to family businessowners. The Center is made up of a team of international academics and experts who perform cutting-edge research from a multidisciplinary perspective. Its overarching mission is to generate cutting-edge knowledge and become an international benchmark, built on practical experience, for the benefit of its family business partners, the IE community and society as a whole.

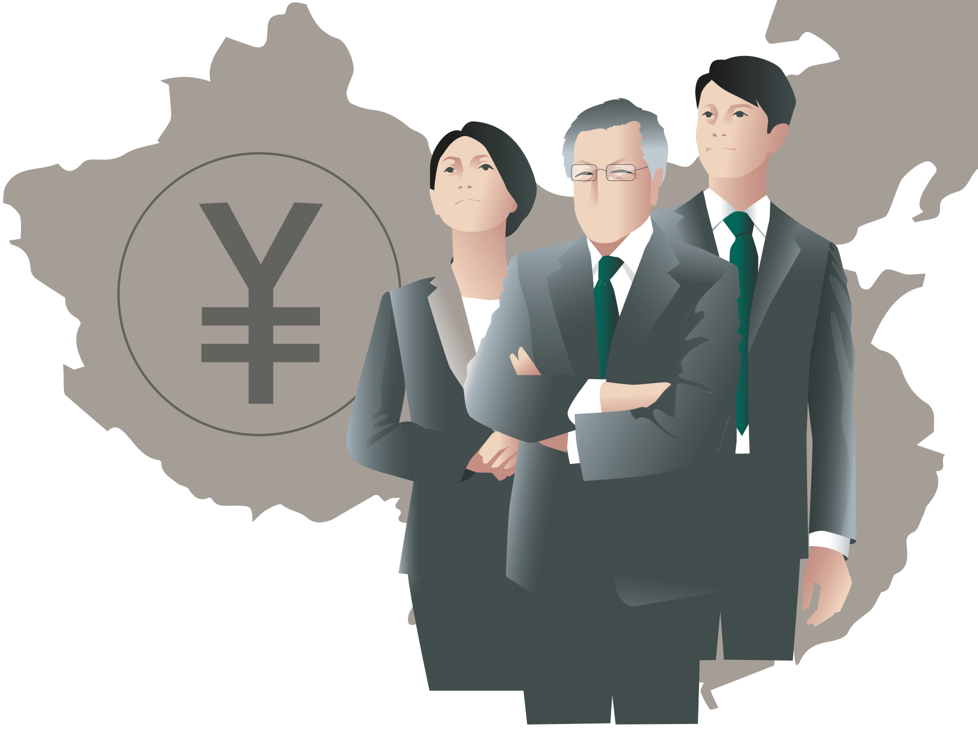
Through our research and our prestigious training programs, we prioritize the development and dissemination of the distinctive aspects of business families and their essence as institutions of trust, highlighting their contribution to society. On the basis of this uniqueness, we conduct research to help family businessowners overcome the three main challenges they face: growth, cohesion and generational transition.

Find out more about
IE Center for Families in Business
on our website:
https://familiesinbusiness.ie.edu/

IE FOUNDATION

IE Foundation is a non-profit organization that works globally to enhance the social impact of IE University thanks to the support of its donors and collaboration with strategic partners. Its purpose is to contribute to the improvement of society, promoting the values of diversity, inclusion, entrepreneurship, the Humanities, sustainability and innovation by encouraging and participating in initiatives that boost the quality of education and develop talent, as well as by generating and disseminating state-of-the-art knowledge.

For more information about
IE Foundation:
https://www.ie.edu/es/fundacion-ie

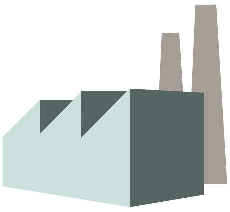


THIS STUDY EXAMINES THE PROFITABILITY OF FAMILY-OWNED COMPANIES IN THE CHINESE STOCK MARKET.

The analysis included:

- **4250** companies
- Between **2005** and **2020**

1 The Chinese stock market is dominated by **family-owned companies**, reflecting the growth of the country's private sector.



2005 — 27% Family-owned companies

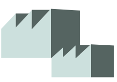
2020 — 67% Family-owned companies

On average, the State owns

3.15% of listed family-owned companies

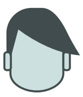
31.49% of non-family-owned companies, reaching up to 90% in some cases.

2 Chinese listed family-owned companies have unique characteristics.



They are smaller than the rest of the listed companies

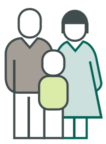
USD 683 million vs. USD 1.03 billion



They are young companies

24 years old on average

76% are run by the **first generation**

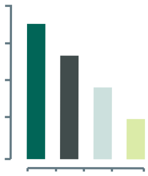


Strong family representation in key management positions

89% of the Chairs

55% of the CEOs

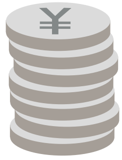
3 There is a "family premium" in the Chinese stock market: family-owned companies are more profitable than non-family-owned companies.



Average ROA

3.92% Family-owned companies

2.89% Non-family-owned companies



Stock compound annual growth rate (Stock CAGR)

41% Family-owned companies

23% Non-family-owned companies

Greater profitability but higher volatility

30% Family-owned companies

25% Non-family-owned companies

Family-owned companies created more value

ECONOMIC VALUE ADDED (EVA)

39.42 Family-owned companies

18.50 Non-family-owned companies

4 The "family premium" was led by a group of companies.

TOP 100 MOST PROFITABLE FAMILY-OWNED COMPANIES

Average stock CAGR

50.49%

ROA

5.59%

OTHER FAMILY-OWNED COMPANIES

Average stock CAGR

3.90%

ROA

3.96%

5 Company size had a major influence on the "family premium".

AVERAGE MARKET CAPITALIZATION

The 100 most profitable family-owned companies

USD 3488 billion

Other family-owned companies

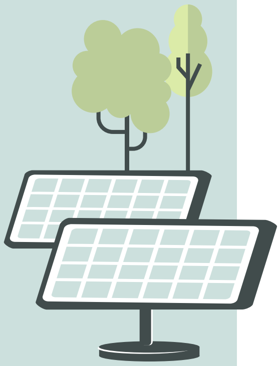
USD 657 million

Examples of top 100 family-owned companies

SUNGROW POWER SUPPLY

Renewable energy solutions. Provides innovative technologies to optimize the generation and management of clean energy.

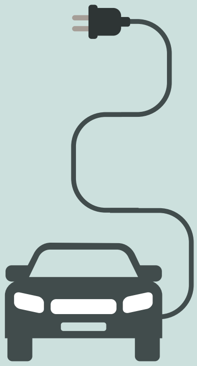
Year founded	1997
Industry	Renewable energy
Market capitalization (2020)	USD 14.746 billion
Number of employees (2020)	4492



BYD

Leading manufacturer of electric cars and rechargeable batteries for consumer products.

Year founded	1995
Industry	Automotive
Market capitalization (2020)	USD 49.321 billion
Number of employees (2020)	224 280

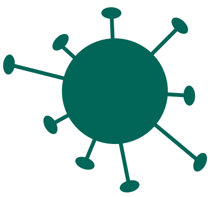


MIDEA GROUP

Manufactures and markets household appliances and air conditioning equipment worldwide.

Year founded	1968
Industry	Household appliances
Market capitalization (2020)	USD 96.884 billion
Number of employees (2020)	149 239

6 The COVID-19 crisis negatively affected family businesses.



IN 2021, **25%** WERE NO LONGER UNDER FAMILY CONTROL WITH A DROP IN STOCK MARKET RETURNS OF:

32% Family-owned companies

6% Non-family-owned companies

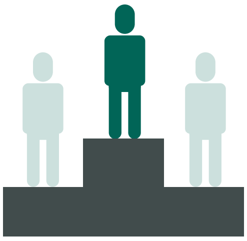
7 The family businesses that survived showed greater resilience to the crisis.

2020-2021

INVESTMENT IN FIXED ASSETS

4% **INCREASE IN** family-owned companies

41% **REDUCTION IN** non-family-owned companies



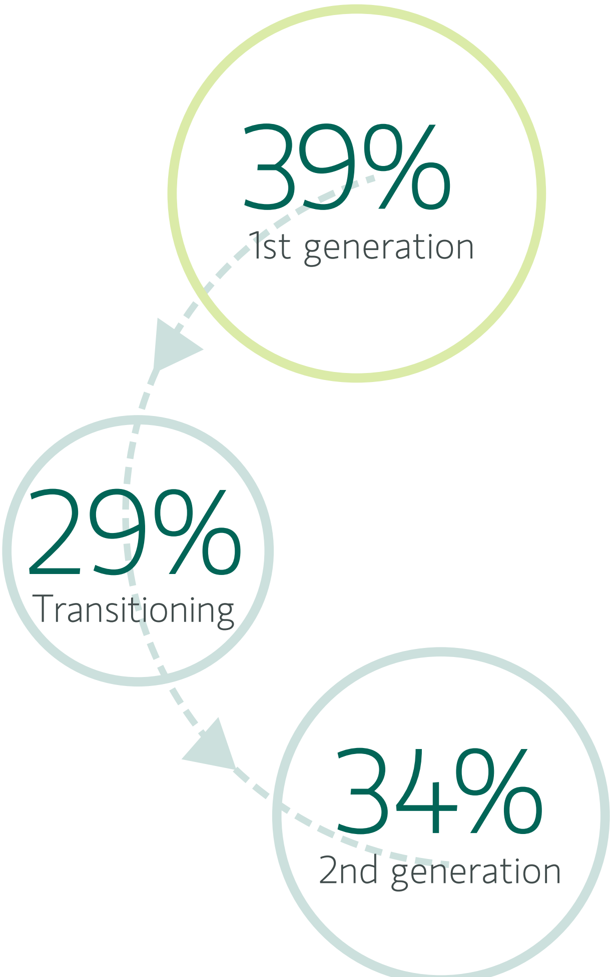
REDUCTION IN NUMBER OF EMPLOYEES

3% Family-owned companies

33% Non-family-owned companies

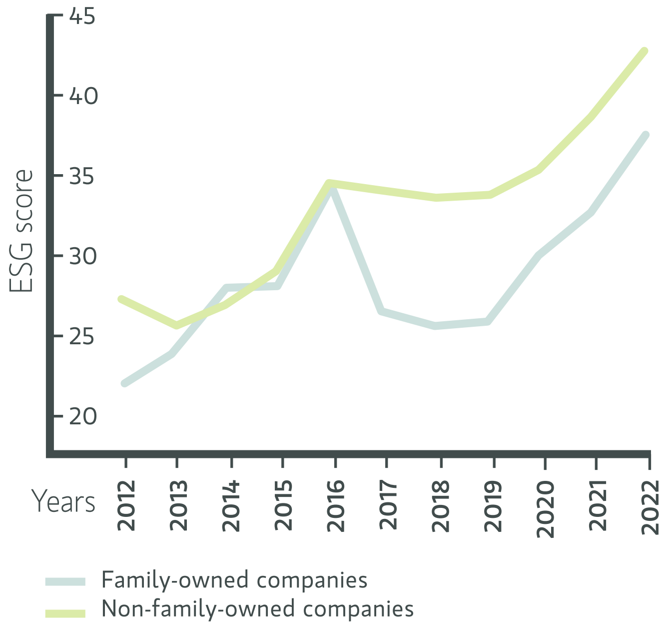
8 Generational transition is a challenge for family businesses.

The "family premium" was higher in the 1st generation with a stock CAGR of:



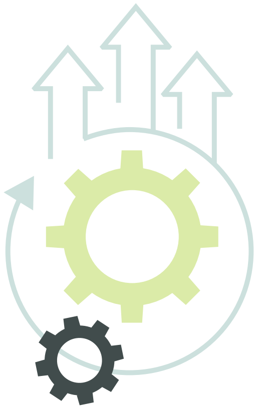
9 Family businesses performed worse in terms of sustainability.

However, **both types have improved** in the last decade.



	Family-owned companies	Non-family-owned companies
Refinitiv (average 2012-2022)	31.72	35.99

10 Listed family-owned companies made significant improvements in corporate governance, except for a greater number of dual CEOs.



MORE

independent members on the Board of Directors

2005 35.34%

2020 38.73%

MORE

women in CEO positions

2005 6%

2020 16%

MORE

dual CEOs

2005 16%

2020 45%

The results suggest that Chinese listed family-owned firms share a long-term **vision which is similar to that of their counterparts in other countries.** This may justify the existence of a "**family premium" and could offer promising opportunities** for investors.

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Executive summary

This study examines the **existence of a "family premium" in the Chinese stock market**, i.e., it asks whether companies controlled by a founder, or by a family group are more profitable than other listed companies in the Asian giant. Accordingly, **4,250 companies listed** on the Shanghai and Shenzhen stock exchanges **from 2005 to 2020** were analyzed using the CSMAR (China Stock Market & Accounting Research) database. The main results of this analysis are as follows:

1. The Chinese stock market is a dual market currently dominated by family-owned companies (as opposed to those with significant state participation), in line with the development of the country's private-sector:

- In 2020, family-owned companies accounted for 67% of the market, representing a sharp increase from the 27% recorded in 2005.
- In 2005, only 40% of these companies had been founded by their current owners or their family members (compared to the family-owned firms that were created following privatization); this percentage had risen to 80% in 2020.
- On average, the State owned 3.15% of Chinese listed family-owned companies. This percentage was much higher in non-family-owned companies, where the State shareholding was 31.49% on average, and reached 90% in some of them.

2. Chinese listed family-owned companies have unique characteristics:

- They are **smaller** than the rest of the listed companies (USD 683 million versus USD 1.030 billion in average market capitalization for the period analyzed).
- They are **young** (24 years old on average) and most are still run by the **first generation** (76%).
- There is a **strong family representation** in key management positions: the Chair is a family member in 89% of them, and the CEO is a family member in 55% of the companies.

3. There is a "family premium" in the Chinese stock market: family companies are more profitable than non-family-owned companies, according to both accounting and market indicators.

- The average ROA (return on assets) for the period analyzed was 3.92% for family-owned businesses and 2.89% for non-family businesses.
- The stock compound annual growth rate (stock CAGR) during the period analyzed for the portfolio of family-owned companies was 41%, compared to 23% for non-family-owned companies (weighted by market capitalization).
- **Family businesses created more value during the period under study:** their economic value added (EVA) was 39.42, compared to 18.50 for non-family businesses.
- Greater profitability went hand in hand with higher volatility (30% for family businesses compared to 25% for non-family businesses), although **the risk of insolvency was lower** in family-owned companies (measured by the Z-Altman formula).
- Although the differences in stock market returns were not significant, accounting ratios showed that privatized family businesses performed worse (2.54% ROA) than those founded by their current owners or their relatives (4.40% ROA).

4. The "family premium" was led by a group of companies. The 100 most profitable family companies (top 100 family) had an average stock CAGR of 50.49% compared to 3.90% for other family-owned companies, and a ROA of 5.59% compared to 3.96% for other family companies.

5. Company size had a major influence on the existence of the "family premium": the 100 most profitable family businesses (top 100 family) had an average market capitalization of USD 3.488 billion, compared to USD 657 million for the other family companies.

6. The COVID-19 crisis negatively affected the survival and performance of family-owned companies: in 2021, 25% of those listed were no longer under family control, and those that survived experienced a greater drop in their stock market returns (32%) than non-family firms (6%).

7. Family companies that survived the COVID-19 crisis had a better long-term vision: while non-family-owned companies chose to cut jobs and investment in fixed assets, family companies maintained their workforce and continued to invest in fixed assets.

8. Generational transition is a major challenge for family businesses: the "family premium" is highest among those in the first generation, with a stock CAGR of 39%, compared to 29% for those transitioning from the first to the second generation and 34% for those already run by the second generation.

9. According to the Refinitiv and Bloomberg ESG (environmental, social and governance) indexes, **family-owned companies performed worse in terms of sustainability than their non-family-owned counterparts**, although both types of companies have improved their scores over the last decade.

10. Listed family-owned companies made significant improvements in some corporate governance areas:

- The number of **independent board members** increased from 35.34% in 2005 to 38.73% in 2020.
- In 2020, 16% of the **CEOs** running family businesses were **women, up** 10% on 2005.
- The number of **dual CEOs has increased**. The percentage of family companies in which the same person holds both the position of CEO and Chair rose from 16% in 2005 to 45% in 2020, while this percentage remained stable at around 10% for non-family-owned companies.

Our results suggest that, despite their uniqueness, Chinese listed family firms share a long-term vision which is similar to that of their counterparts in other countries. This may justify the existence of a "family premium" and could offer promising opportunities for investors seeking long-term returns. However, it is essential to understand the idiosyncrasies of these companies given market volatility and the associated risks. This will help investors to pinpoint profitable investment opportunities while effectively managing and minimizing risks.

Introduction

The economic and social transformation that China has undergone over the last two decades has been mirrored in the transformation of its stock markets, which have grown dramatically in size and liquidity. Although they are relatively young, the Asian giant's largest stock exchanges in terms of market capitalization —those of Shanghai and Shenzhen— which were founded in the early 1990s, are the second largest stock market in the world, with a capitalization of approximately USD 12 trillion.[1, 2]

A significant part of their growth can be attributed to a rise in private equity companies, most of which are in the hands of their founder or of a family group.[3] This underscores the crucial role that family businesses are playing in the transformation of the Chinese economy in general[4] and its stock markets in particular. In 2005, these companies accounted for 27% of those listed on the Shanghai and Shenzhen stock exchanges, yet by 2020 this percentage had risen to 67%.[5] This reveals a much larger proportion of family businesses on the Chinese stock market compared to other markets such as Europe (27%) and the United States (18%).[6]

These figures alone justify the pertinence of studying the dynamics of listed family-owned companies in China in greater depth. However, irrespective of the figures, several studies conducted in different parts of the world suggest that benchmark listed family-owned companies are more profitable.[7] This translates into what we call the "family premium" on the American and European stock exchanges.[8]

This phenomenon is justified by the unique ability of listed family firms to combine the "best of two worlds", i.e., a long-term vision built on family ownership, which counters the short-term bias inherent to stock markets and participation in capital markets, giving firms greater access to resources and requiring them to become more professional in their management strategies.[9] The next question that naturally arises is whether this combination of advantages, which is apparent in more developed financial markets, is replicated in the specific context of listed family firms in China.

Young businessowners in China have created a unique scenario, where family-owned companies face significant challenges. They often lack the deep-rooted family business culture that has been built over generations in other cultures and most are undergoing their first generational transition. Likewise, they are listed on markets that are experiencing rapid growth coupled with constant change. In addition, the State's involvement in the private sector is highly significant. The question arises as to whether these companies can balance a long-term growth vision with short-term market pressure and deliver higher returns than their non-family counterparts. This report seeks to answer this question by examining whether there is a "family premium" in the Chinese stock market. The specific objectives of the report are as follows:

[1] Figure 1 shows the largest stock exchanges by market capitalization in 2023.

[2] Whenever the word dollars is used in this document, it refers to US dollars, unless otherwise stated.

[3] In 2018, Gao Yunlong, Chair of the All-China Federation of Industry and Commerce, highlighted the crucial role of the Chinese private sector as a driving force for economic growth at a public press conference. In his statement, he said that family-owned enterprises contributed around 60% to GDP and generated approximately 80% of jobs. These figures are absolutely remarkable considering that the private sector in China only started to gain momentum in the 1970s.

[4] IE China Center, *Understanding Family Business in China: The Path, the Trend and the Future*, 2020, https://docs.ie.edu/university/Chinese-Family-Businesses-Report_IE_Cheungkong.pdf.

[5] Data obtained from the CSMAR database (accessed February 7, 2024), https://data.csmar.com/; see Figure 5 for changes in the number of family businesses.

[6] Banca March-IE, *Value creation in listed European family firms (2001-2010)*, 2012, https://docs.ie.edu/families-in-business/IBanca-March-IE-report-exsummary.pdf; Banca March-IE, *The "family premium" in listed European businesses*, 2014, https://docs.ie.edu/families-in-business/IIBanca-March-IE-report.pdf; Banca March-IE, *Corporate Governance in Publicly Traded Family Firms*, 2015, https://www.ie.edu/business/centros/Proyectos/Informe%20Gobierno%20Corporativo_EN_ultimo.pdf.

[7] Ronald C. Anderson and David M. Reeb, "Founding-Family Ownership and Firm Performance: Evidence from the S&P 500." *The Journal of Finance* 58(3) (June 2023): 1301-1328, https://doi.org/10.1111/1540-6261.00567; John I. Martinez, Bernhard S. Stöhr, and Bernardo F. Quiroga, "Family Ownership and Firm Performance: Evidence from Public Companies in Chile," *Family Business Review* 20(2) (June 2007): 83-94, https://doi.org/10.1111/j.1741-6248.2007.00087.x; Benjamin Maury, "Family ownership and firm performance: Empirical evidence from Western European corporations," *Journal of Corporate Finance* 12(2) (2006): 321-341, https://doi.org/10.1016/j.jcorpfin.2005.02.002; Research Institute, Credit Suisse, *The CS Family 1000*, 2017, https://www.credit-suisse.com/media/assets/corporate/docs/about-us/research/research/publications/the-cs-family-1000.pdf.

[8] Banca March-IE, *Value creation in listed European family firms (2001-2010)*, 2012, https://docs.ie.edu/families-in-business/IBanca-March-IE-report-exsummary.pdf; Banca March-IE, *The "family premium" in listed European businesses*, 2014, https://docs.ie.edu/families-in-business/IIBanca-March-IE-report.pdf; Banca March-IE, *Corporate Governance in Publicly Traded Family Firms*, 2015, https://www.ie.edu/business/centros/Proyectos/Informe%20Gobierno%20Corporativo_EN_ultimo.pdf.

[9] Banca March-IE. *Value creation in listed European family firms (2001-2010)*, 2012, https://docs.ie.edu/families-in-business/IBanca-March-IE-report-exsummary.pdf; Banca March-IE, *The "family premium" in listed European businesses, 2014*, https://docs.ie.edu/families-in-business/IIBanca-March-IE-report.pdf; Banca March-IE, *Corporate Governance in Publicly Traded Family Firms*, 2015, https://www.ie.edu/business/centros/Proyectos/Informe%20Gobierno%20Corporativo_EN_ultimo.pdf.

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To conduct a study of Chinese listed family businesses to gain an **insight** into their core characteristics and how they differ from non-family businesses and family businesses in other contexts.

2

To compare the **profitability** of Chinese listed family businesses with non-family businesses to ascertain whether there is a "family premium" in the Chinese stock market and, if so, which factors are involved in this premium.

3

To analyze the **main challenges** facing Chinese listed companies today: the repercussions of COVID-19, generational transition and sustainability.

The Chinese stock market

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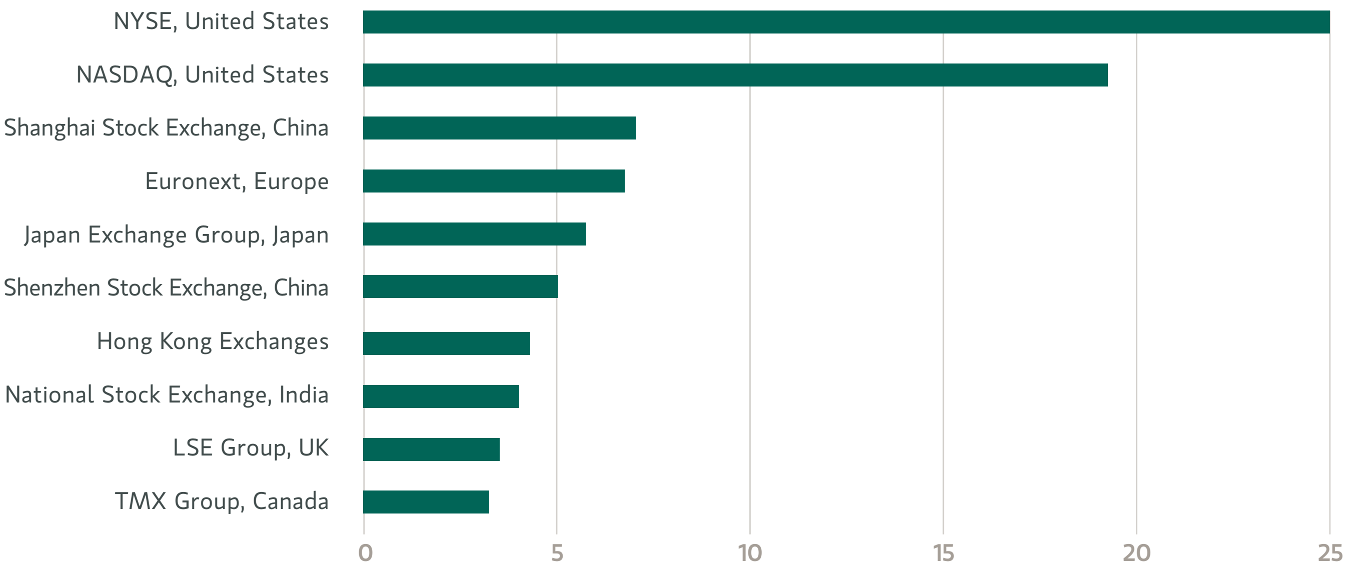
The stock market in China is complex, with multiple stock exchanges and indexes that have different characteristics. It is mainly composed of stock exchanges on the mainland *(onshore)* (Shanghai, Shenzhen and Beijing) and offshore exchanges (Hong Kong and Taiwan). Shanghai and Shenzhen are the largest Chinese stock exchanges in terms of market capitalization and are among the biggest in the world.

FIGURE 1.
World's largest stock exchanges by market capitalization (USD trillion), 2023



Source: Authors' own based on World Federation of Exchanges (WFE) data.[10]

There are notable differences between the stock exchanges in the two areas (see Table 1). These include regulatory aspects (mainland exchanges come under the People's Republic of China legal system, while offshore markets have more independent regulatory systems based on British common law), as well as the currency in which they operate (in yuan [CNY] on the mainland, Hong Kong dollars [HKD] in Hong Kong, and Taiwanese dollars [TWD] in Taiwan).

TABLE 1.
Chinese stock markets, 2023

	Stock exchange	No. listed companies	Market capitalization (USD trillion)	Year founded	Currency
Onshore (Mainland China)	Shanghai	2037	7.24	1990	CNY
	Shenzhen	2765	5.12	1990	CNY
	Beijing	126	0.028	2021	CNY
	Hong Kong	2420	4.7	1891	HKD
Offshore China	Taiwan	901	1.63	1961	TWD

Source: Authors' own based on World Federation of Exchanges (WFE) data.

[10] 'Federación Nacional de Bolsa' in Spanish.

One of the distinguishing features of China's stock markets is that listed companies can issue different types of shares, according to where they are listed and the type of investor that owns them, as shown in Table 2.

TABLE 2.

Share types on Chinese stock exchanges[11]

	CLASS A	CLASS B	CLASS H	RED CHIP (state-owned companies)	P CHIP (non-state-owned companies)
Stock exchange(s)	Shanghai and Shenzhen	Shanghai and Shenzhen	Hong Kong	Hong Kong	Hong Kong
Currency	CNY	USD/HKD	HKD	HKD	HKD
Company location	Mainland China	Mainland China	Mainland China	Offshore China (Hong Kong)	Outside China (e.g. Cayman Islands, Bermuda, etc.)
Restrictions for local investors	No	Local investors with suitable foreign currency accounts	No	No	No
Restrictions for international investors	Yes (under the rules for foreign investment programs)	No	No	No	No

[11] The relatively new, very small Beijing Stock Exchange is not included.

Our analysis of whether there is a "family premium" in the Chinese stock market focuses on examining the A-shares listed on the Shanghai and Shenzhen stock exchanges. A-shares are the most common type of share, accounting for approximately 70% of all the stocks listed on these markets.[12] There are also other reasons that justify our choice:

Investing in A-shares is a good investment alternative, for the following reasons:

- Although foreign investment has progressively been given access to these types of shares, they are still mainly in the hands of minority investors.[13] Though this can bring inefficiencies, it can also generate opportunities for active managers with knowledge of these local markets and a long-term investment horizon. Until 2003, these shares could only be traded by local investors, but a regulatory change made during the same year meant that formally authorized foreign investors could trade in them.[14] In 2014, the launch of the Stock Connect program, which allows investors to trade in A-shares through Hong Kong without the need for a local Chinese license, was a huge step forward in opening up these markets to foreign investors.[15]

- It is a large, liquid market. According to the World Federation of Exchanges, in 2020 the average daily trading volume of the Shanghai and Shenzhen markets was in excess of USD 130 billion.[16]

- They offer opportunities to gain access to long-term trends in the Chinese economy, as they represent companies that are largely focused on catering for the domestic demand of a market of 1.4 billion consumers whose consumption is growing constantly.

- They have not traditionally been closely linked to assets in other more developed markets,[17] thereby offering investors opportunities to diversify potentially attractive portfolios.

- They have a significantly higher exposure to mid-cap stocks, which may give them some protection against the Chinese government's regulatory interventions which tend to target companies with very high market capitalization that are generally listed offshore, mainly on the Hong Kong Stock Exchange.[15] In 2021, the MSCI China A Onshore Index posted a return of 4.0%, compared to a -21.7% return for its offshore-dominated counterpart, the MSCI China Index.[18]

In addition, given that the aim of the report is to assess whether family firms are more profitable than non-family firms, it is crucial to compare them in a context where they are subject to the same institutional and regulatory framework. Including companies listed in offshore markets (Hong Kong and Taiwan) in the analysis would introduce biases into this comparison that would make it very difficult to estimate the family premium, i.e., to isolate the effect of family ownership on company profitability.

The dynamism of the Shenzhen and Shanghai stock exchanges, where market capitalization grew from USD 268 million in 2005 to USD 1.713 billion in 2020, and the number of companies went up from 1,350 to 4,250 over the same period, is showcased in figures 2 and 3.

[12] Type B shares are quoted in US dollars (USD) or Hong Kong dollars (HKD) and represent a tiny market compared to A-shares.

[13] *UBS Investing in China. Opportunities for global investors*, 2021, https://www.ubs.com/global/en/wealth-management/chief-investment-office/market-insights/regional-outlook/2021/investing-in-china.html.

[14] Wei Huang and Tao Zhu, "Foreign institutional investors and corporate governance in emerging markets: Evidence of a split-share structure reform in China," *Journal of Corporate Finance* 32 (2015): 312-326, https://doi.org/10.1016/j.jcorpfin.2014.10.013.

[15] Duncan Lamont, "Weightlifting China: how big will it get?", Schroeders, March 2019.

[16] J.P. Morgan Asset Management, "Benefits of China A-shares for active EFT investors" (accessed February 7, 2024), https://am.jpmorgan.com/en/en/asset-management/per/insights/etf-perspectives/china-a-shares-active-etf-investor/

[17] J.P. Morgan Asset Management, "Three reasons to consider allocating to Chinese A-shares" (accessed February 7, 2024), https://am.jpmorgan.com/en/en/asset-management/per/insights/etf-perspectives/three-reasons-why-invest-china-a-shares.

[18] Allianz Global Investors, «Tras la reciente volatilidad, ¿volverán a rugir los mercados chinos en el Año del Tigre?», February 9, 2022, https://es.allianzgi.com/-/media/allianzgi/eu/spain/editorial/mercados/perspectiva/el-ano-del-tigre/22-002-wp-allianzgi-china-chinese-new-year-es-0122.pdf?rev=-1&hash=F88DDFEF049266FC549F205EFEE0E9FA.

FIGURE 2.
Market capitalization (USD million) of the Shanghai and Shenzhen stock exchanges, 2005-2020

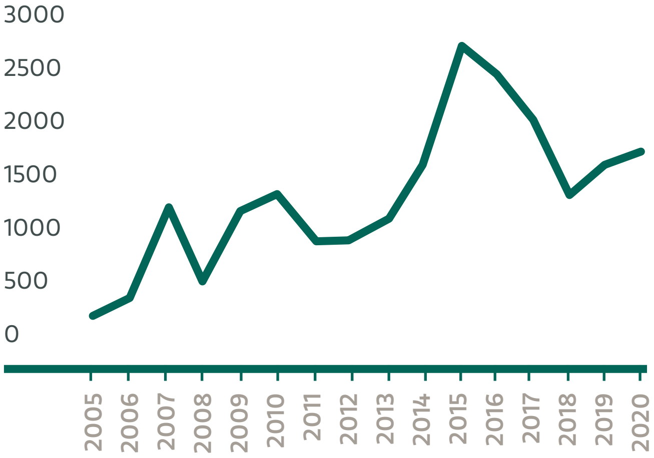


FIGURE 3.
Number of companies listed on the Shanghai and Shenzhen stock exchanges, 2005-2020

The Shenzhen and Shanghai stock exchanges use the SZSE (Shenzhen Stock Exchange) and the SSE (Shanghai Stock Exchange) as their main stock market indexes, respectively. In 2009, the Shenzhen Stock Exchange launched Chinext, a new index solely made up of leading technology companies, considered to be the Chinese Nasdaq, in an initiative to bring the Chinese markets into line with those of the West and to counter stiff technological competition.

Along the same lines, in 2019, the Shanghai Stock Exchange launched STAR Market, an index focused on innovative and technological companies.[19] In its first year, its capitalization increased by 288%, and it went from having 25 companies in 2020 to 520 companies in 2023.[20]

This is further evidence of the dynamism of these markets.

The performance of the main indexes in mainland China (SZSE and SSE for A-shares) is detailed in figures 4A and 4B.

FIGURE 4A.
SZSE index

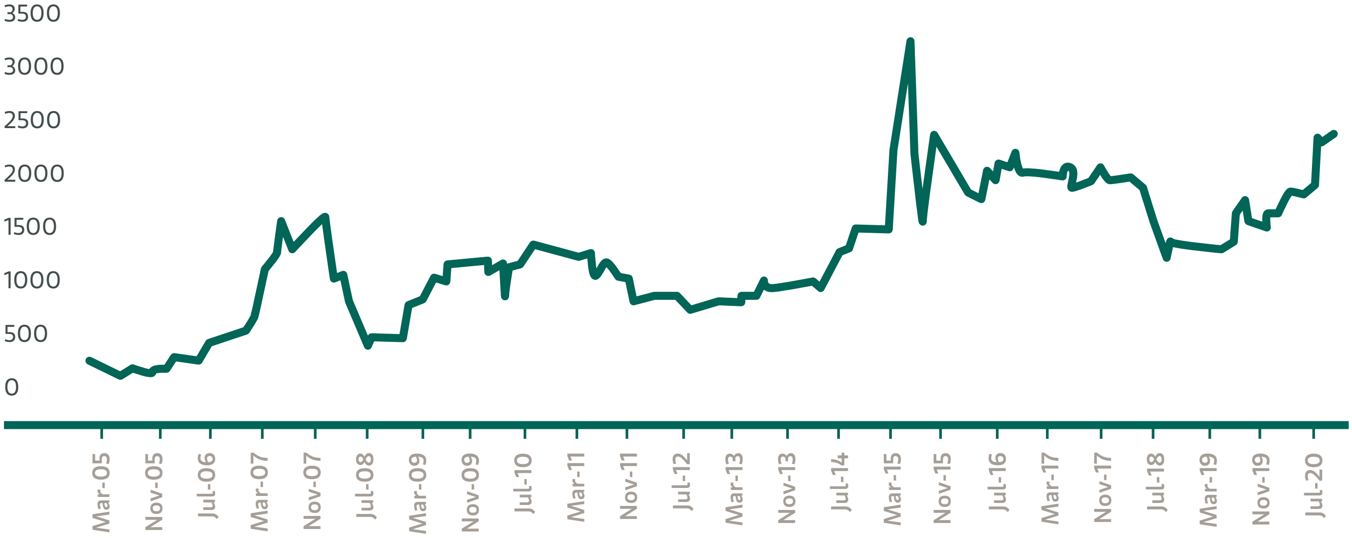
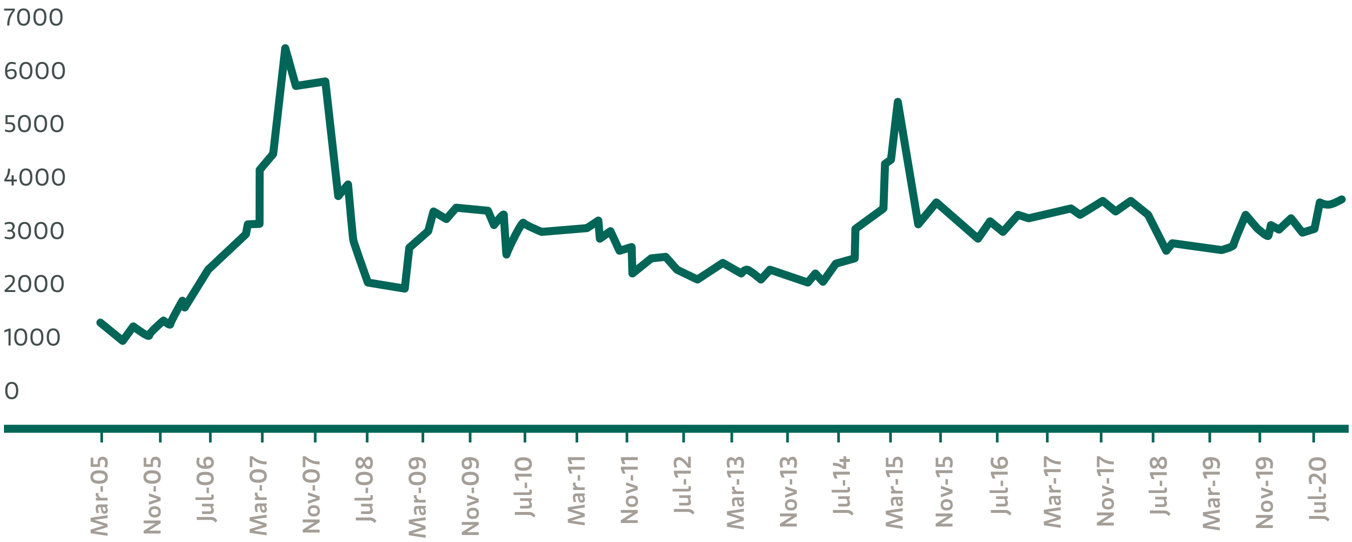


FIGURE 4B.
SSE index



Source: Authors' own based on CSMAR database (accessed February 7, 2024), https://data.csmar.com/.

[19]Star Market, New Release (accessed February 7, 2024), http://star.sse.com.cn/en/; Star Market database (Overview) (accessed February 7, 2024), http://star.sse.com.cn/en/marketdata/overview/.

[20]Hector Chamizo, "El mercado STAR chino se convierte en la gran amenaza del Nasdaq americano" *La Información*, February 24, 2021, https://www.lainformacion.com/mercados-y-bolsas/mercado-star-chino-gran-amenaza-para-nasdaq-americano/2830329/.

Study data and definition of family business

This study analyzes the information provided by the CSMAR database, one of the most reliable databases on Chinese listed companies, judging by the number of scientific publications that use it.[21] In addition, it is the only database that collects information on company shareholders and explicitly identifies family-owned companies.[22] This particular information has been available since 2003, the year in which the Chinese authorities required listed companies to provide information about their shareholder base.

This study began in 2005, when type A-shares officially became available to foreign investors,[23] and continued until 2020.

The inclusion of the period from 2021-2023, which was marked by the COVID-19 pandemic, could have distorted the objective of the report, which focuses on ascertaining whether family businesses are structurally more profitable than non-family firms. However, the comparison of how Chinese listed family-owned companies performed compared to non-family-owned companies from 2021-2023 does appear later in this report.

The CSMAR database divides family businesses into two categories: "type 1" businesses, which are controlled by one or more individuals who do not have family ties, and "type 2" companies, in which at least one member of the family participates in the ownership and/or management, in addition to the main owner (see Table 4).

TABLE 3.

Description of the study database

Period	2005-2020
No. companies in 2020	4250
Stock exchanges analyzed	Shanghai Stock Exchange:: - SSE (Shanghai Stock Exchange) - Chinext Shenzen Stock Exchange: - SZSE (Shenzhen Stock Exchange) - STAR Market

DEFINITION OF FAMILY BUSINESS

The CSMAR database considers listed companies to be family-owned when they comply with two criteria (see Table 4).

TABLE 4.

Family business definitions according to the CSMAR database

Type	Definition	% of family businesses
Type 1: sole proprietorship	Company controlled by one or more natural person(s) *(called actual controller(s))**. Their relatives do not own shares or hold senior positions in the firm or in the company controlling the shares.	40%
Type 2: family business proper	Company controlled by a natural person with at least one relative who owns shares in, manages or administers the company or the company controlling the shares.	60%

(*) According to the CSMAR database, the company is controlled by the natural person(s) who meet(s) at least one of the following requirements. This person(s): a) holds the maximum shareholding in the company; b) has more voting rights than the majority shareholder; c) owns and controls 30% or more of the shares and voting rights; d) can decide on over half of the members of the Board of Directors by exercising their voting rights.

[21]Some examples: Weiwen Li, Garry D. Bruton, Xinchun Li, and Shuang Wang "Transgenerational succession and R&D investment: A myopic loss aversion perspective," *Entrepreneurship Theory and Practice* 46(1) (2022): 193-222, https://doi.org/10.1177/1042258721103847; Shu Chen, Sammy Xioayan Ying, Huiying Wu, and Jiaxing You, "Carrying on the family's legacy: Male heirs and firm innovation," *Journal of Corporate Finance 69* (2021), https://doi.org/10.1016/j.jcorpfin.2021.101976; Delu Wang, Gang Ma, Xuefeng Song, and Yun Liu, "Political connection and business transformation in family firms: Evidence from China," Journal of Family Business Strategy 7(2) (2016): 117-130, https://doi.org/10.1016/j.jfbs.2016.05.001.

[22]Data obtained from the CSMAR database (accessed February 7, 2024), https://data.csmar.com/.

[23]Wei Huang and Tao Zhu, "Foreign institutional investors and corporate governance in emerging markets: Evidence of a split-share structure reform in China." *Journal of Corporate Finance* 32 (2015): 312-326, https://doi.org/10.1016/j.jcorpfin.2014.10.013.

TABLE 5.

Types of family businesses included in the CSMAR database

		Origins of the family business	
		Founded	**Privatized**
Family members	**NO**	**Founder companies:** controlled by the founder of the company, with no other family members.	**Privatized sole proprietorship:** controlled by a shareholder other than the founder, with no other family members.
	YES	**Family-founded companies:** controlled by the founder or the founding family, with other family members.	**Privatized family companies:** controlled by a shareholder who is not the founder, with other members of his/her family.

In other contexts, type 1 companies are considered "founder companies".[24] However, the idiosyncrasies of the Chinese business environment suggest that this comparison is not accurate in this scenario. Although the financial market was originally intended to fund state-owned companies,[25] the Chinese government has progressively introduced measures to modernize state-run firms by promoting mixed ownership and the inflow of private capital.[26] In this context, many of today's family businesses were not founded by their owners but became the majority shareholders of a state-owned company that was already listed on the stock exchange.

This implies that, as detailed in Table 5, there are four types of Chinese listed companies which CSMAR defines as "family businesses", depending on whether there are family members involved and the firm's origins (founded or privatized).

We grouped the four categories together under the broad concept of family business so as to ascertain the family premium. However, we will analyze whether the differences between the various types of family businesses have an effect on their profitability and, therefore, on the existence of the "family premium" in the Chinese stock market.

[24]Banca March-IE, *Value creation in listed European family firms* (2001-2010), 2012, https://docs.ie.edu/families-in-business/IBanca-March-IE-report-exsummary.pdf; Banca March-IE, The *"family premium" in listed European businesses*, 2014, https://docs.ie.edu/families-in-business/IIBanca-March-IE-report.pdf; Banca March-IE, *Corporate Governance in Publicly Traded Family Firms*, 2015, https://www.ie.edu/business/centros/Proyectos/Informe%20Gobierno%20Corporativo_EN_ultimo.pdf.

[25]Qiang Cheng, "Family firm research - A review," *China Journal of Accounting Research* 7(3) (September 3, 2023): 149-163, https://doi.org/10.1016/j.cjar.2014.03.002.

[26]Xia Pan, Wenyin Cheng and Yuning Gao, "The impact of privatization of state-owned enterprises on innovation in China: A tale of privatization degree," *Technovation* 118 (2022), https://doi.org/10.1016/j.technovation.2022.102587.

Importance and evolution of listed family businesses in China

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Center for Families in Business

MARCH A.M.
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The Chinese government's decision to foster economic liberalization has spurred the growth of family-owned businesses on the Chinese stock market. Whereas in 2005 there were only 360 listed family firms (27% of the total), in 2010 the number of family businesses exceeded the number of non-family businesses for the first time, as shown in Figure 5, and, in 2020, family-owned companies accounted for 67% of the total number of businesses listed on the mainland Chinese stock market.

Figure 6 shows that within the types of family business, the number of companies founded by their current owners or family members (founder and family-founded) has increased much more than those that have been created through privatization. Accordingly, in 2005, 60% of family-owned companies were

FIGURE 5.
Number of family-owned companies vs. non-family-owned companies in China

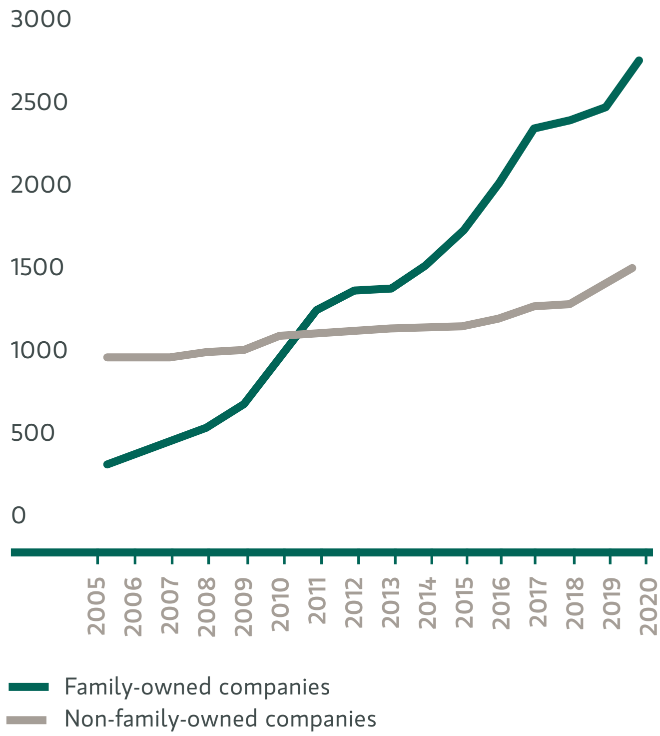
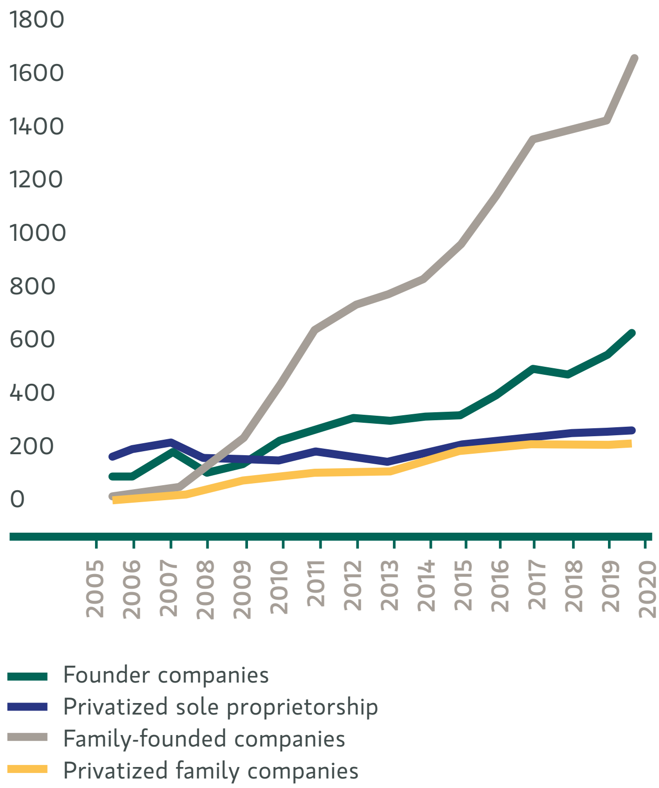


FIGURE 6.
Number of family-owned companies by type of family business



created through privatization. This percentage had dropped to less than 20% in 2020.

Figure 6 also underscores the increased importance of family-founded versus founder companies within the group of owner-founded firms. This growth has been driven, in part, by the Chinese government's reform of the one-child policy (in force since 1979) which began in 2010 and culminated in 2013, allowing married couples to have more than one child. The choice to have more than one heir has influenced the behavior of Chinese company founders, raising their expectations that their adult children will wish to work in the family firm.[27]

In short, the data show the growing importance of family businesses in the Chinese stock market, suggesting the emergence of a family-business culture in the country, although the private market is still relatively recent in China.

Several examples for each type of family business are shown below:[28]

[27]Jerry Cao, Douglas Cumming, and Xiaoming Wang, "One-child policy and family firms in China," *Journal of Corporate Finance* 33 (2015): 317-329, https://doi.org/10.1016/j.jcorpfin.2015.01.005.

[28]The data provided in all examples in the study correspond to 2020.

FOUNDER COMPANY

TONGWEI 通威股份 TONGWEI CO., LTD.	**Tongwei specializes in solar energy and renewable energy products.**
Type of family business	Founder company
Year founded	1995
Year listed	2004 (Shanghai)
Industry	Renewable energy
Market capitalization	USD 24.225 billion
Number of employees	25 549
Main shareholder	Liu Hanyuan (44%)
CEO	Guo Yizhong
Chair	Xie Yi
Other information	One of the leading solar product manufacturers in China. It also deals in freshwater fish farming and aquaculture feed manufacturing.

PRIVATIZED SOLE PROPRIETORSHIP

JIANGSU HENGRUI MEDICINE HENGRUI	**Hengrui is a pharmaceutical company working in the research, development, manufacture and marketing of drugs.**
Type of family business	Privatized sole proprietorship
Year founded	1997
Year listed	2000 (Shanghai)
Industry	Pharmaceutical
Market capitalization	USD 83.198 billion
Number of employees	28 903
Main shareholder	Sun Piaoyang (24%)
CEO	Zhou Yunshu
Chair	Zhou Yunshu
Other information	Internationally recognized for its contribution to the development of new drugs and its commitment to medical innovation.

FAMILY-FOUNDED COMPANY

BYD	BYD is an electric vehicle producer and a leading manufacturer of rechargeable batteries for consumer products sold by Samsung and Dell, among others.
Type of family business	Family-founded company
Year founded	1995
Year listed	2011 (Shenzhen)
Industry	Automotive
Market capitalization	USD 49.321 billion
Number of employees	224 280
Main shareholder	Wang Chuanfu (18.83%)
CEO	Wang Chuanfu
Chair	Wang Chuanfu
Other information	The world's leading manufacturer of electric vehicles along with Tesla.

PRIVATIZED FAMILY COMPANY

OFFCN EDUCATION TECHNOLOGY	OFFCN specializes in innovative digital education solutions.
Type of family business	Privatized family company
Year founded	1999
Year listed	2011 (Shenzhen)
Industry	Education
Market capitalization	USD 30.332 billion
Number of employees	45 066
Main shareholder	Li Yongxin, Lu Zhongfang (61%)
CEO	Wang Zhendong
Chair	Li Yongxin
Other information	It also organizes academic events and competitions, designs educational multimedia content, and provides consultancy services to develop educational policies at government level.

Analysis of Chinese listed family-owned companies

IE UNIVERSITY CENTER FOR FAMILIES IN BUSINESS

MARCH A.M. BancaMarch

This section details the results of the research comparing family businesses to other listed companies by analyzing variables such as age, size, generation, industry and their ownership and management structures. The aim is to showcase their main features and how they differ not only from Chinese non-family-owned companies, but also from family-owned companies in other regions of the world.

CHINESE LISTED FAMILY BUSINESSES ARE VERY YOUNG ORGANIZATIONS

Chinese listed companies are 24 years old on average, which contrasts sharply with other developed markets such as, for example, Europe, whose companies are 60 years old on average, while the percentage of centennial companies exceeds 25%.[29]

The oldest Chinese family-owned company is Ningbo Water Meter Group, which was founded in 1957.

Family businesses are, on average, three years younger than listed non-family businesses and have been publicly traded for seven years less, as shown in Table 6.

THE FIRST GENERATION STILL RUNS MOST OF CHINA'S LISTED FAMILY-OWNED COMPANIES

The majority of these family businesses (76.08%) are still run by the first generation, which is logical given the average age of these companies. The rest (10.72%) are transitioning to the second generation, i.e., they are controlled by the first generation, but are managed by family members of the second generation. Lastly, only 13.20% of family businesses in China have completed a generational transition and are controlled by members of the second generation.

CHINA'S LISTED FAMILY-OWNED COMPANIES ARE SMALLER THAN NON-FAMILY-OWNED BUSINESSES

As occurs in many other markets,[30] family-owned companies are smaller in terms of market capitalization, assets and number of employees than non-family-owned companies (Table 7).

NINGBO WATER METER GROUP	**Ningbo is a world leader in the manufacture of water meters, and specializes in the design, production and marketing of a wide range of water meters for residential and commercial applications.**
Type of family business	Family-founded company
Year founded	1957
Year listed	2019 (Shanghai)
Industry	Water technology
Market capitalization (2020)	USD 830 million
Number of employees (2020)	1190
Main shareholder	Wang Zonghui, Zhang Lin (45%)
CEO	Wang Zonghui
Chair	Zhang Lin
Other information	It manufactures over 1,000 different products.

TABLE 6.

Average age of listed family-owned companies vs. non-family-owned companies in China

	Family-owned companies	Non-family-owned companies
Average age	24 years old	27 years old
Average age since listed	15 years old	22 years old

[29]Banca March-IE, *The "family premium" in listed European businesses*, 2014, https://docs.ie.edu/families-in-business/IIBanca-March-IE-report.pdf.

[30]Banca March-IE, *Value creation in listed European family firms* (2001-2010), 2012, https://docs.ie.edu/families-in-business/IBanca-March-IE-report-exsummary.pdf.

However, the average values in the table above do not reflect the heterogeneity of Chinese family-owned companies in terms of size. Table 8 lists the ten family-owned companies which had the highest market capitalization in 2020.[31] The market capitalization of the largest firm, Contemporary Amperex Technology, was over USD 100 billion and it had a workforce of over 30,000 employees. The second largest firm, Midea Group, employs about 150,000 workers.

The data for the top two companies in the ranking shown in Table 8 appear below.

TABLE 7.

Average size of Chinese listed family-owned companies vs. non-family-owned companies, 2020

	Family-owned companies	Non-family-owned companies
Market capitalization (USD million)	683	1030
Total assets (USD million)	393	1239
Employees	1400	3003

TABLE 8.

Top 10 Chinese listed family-owned companies, 2020

Ranking	Company name	Market capitalization (USD billion)
1	Contemporary Amperex Technology	114.506
2	Midea Group	96.884
3	Foshan Haitian Flavouring & Food	90.977
4	Jiangsu Hengrui Medicine	83.198
5	Shenzhen Mindray Bio-Medical Electronics	72.504
6	S.F. Holding	56.282
7	Luxshare Precision Industry	55.138
8	BYD	49.321
9	LONGI Green Energy Technology	48.686
10	Aier Eye Hospital Group	43.212

[31] See Appendix 1 for a list of the 100 family-owned companies with the highest market capitalization.

CONTEMPORARY AMPEREX TECHNOLOGY

CATL

CATL specializes in the manufacture of lithium batteries for electric vehicles and energy storage systems.

Type of family business	Founder company
Year founded	2011
Year listed	2018 (Shenzhen)
Industry	Technology
Market capitalization	USD 114.506 billion
Number of employees	33 078
Main shareholder	Zeng Yuqun (29%)
CEO	Zhou Jia
Chair	Zeng Yuqun
Other information	World's largest manufacturer of batteries for electric vehicles.

MIDEA GROUP

Midea

Midea manufactures and markets household appliances and air conditioning equipment worldwide.

Type of family business	Family-founded company
Year founded	1968
Year listed	2013 (Shenzhen)
Industry	Household appliances
Market capitalization	USD 96.884 billion
Number of employees	149 239
Main shareholder	He Xiangjian (31.11%)
CEO	Fan Hongbo
Chair	Fan Hongbo
Other information	World's leading manufacturer of household appliances.

In turn, a comparison of how family businesses and non-family businesses have evolved over time shows that both groups have grown, in line with the development of China's stock markets during the period under study (see Figures 7 and 8).

FIGURE 7. Market capitalization of Chinese listed family-owned companies vs. non-family-owned companies (USD million)

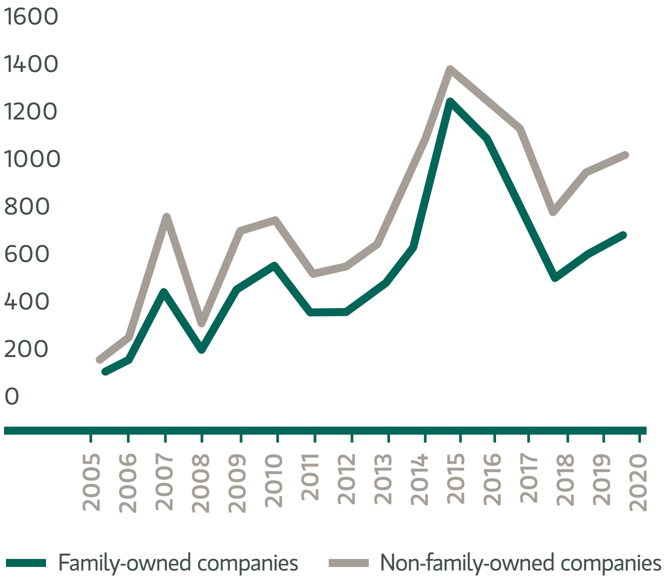
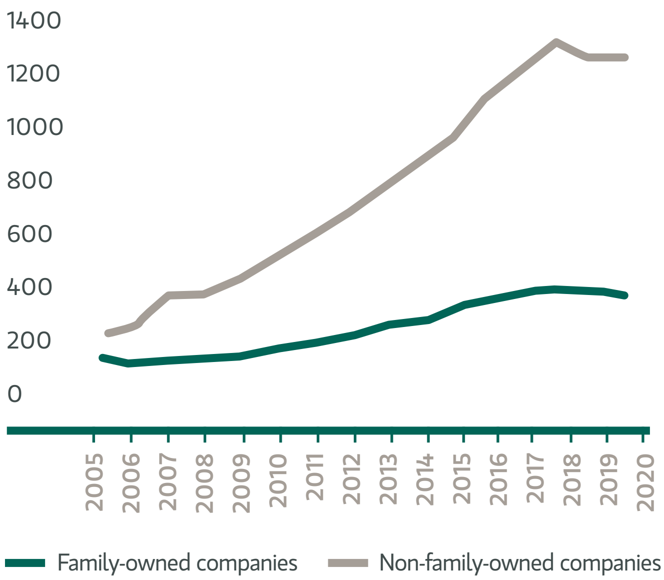


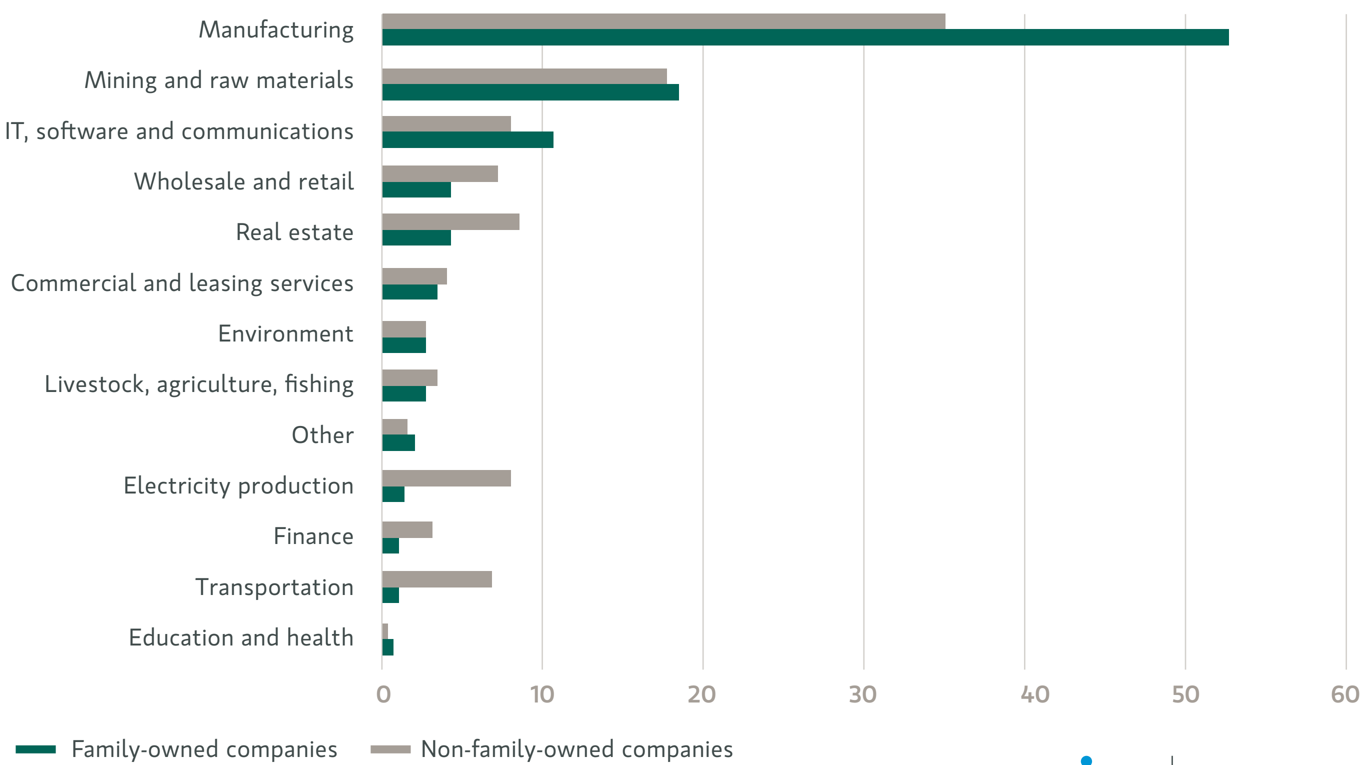
FIGURE 8. Total assets of Chinese listed family-owned companies vs. non-family-owned companies (USD million)



CHINESE FAMILY BUSINESSES ARE HIGHLY CONCENTRATED IN MANUFACTURING

Although both family and non-family businesses are heavily involved in the manufacturing industry, there are more family businesses compared to non-family firms (52.59% vs. 35.19%), as shown in Figure 9.

FIGURE 9. Industry breakdown of Chinese listed family-owned companies vs. non-family-owned companies (%), 2020



A detailed breakdown of the manufacturing industry by sectors (see Figure 10) shows the relevance of electronic equipment (computers, telephones, electronic components, etc.), with a high percentage of listed family and non-family businesses.

In turn, the analysis by size shows that there are still differences in almost all sectors (see Figure 11). Family businesses only have higher market capitalization in the transportation, and agriculture and livestock industries.

FIGURE 10. Breakdown of manufacturing industry sectors of Chinese listed family-owned companies vs. non-family-owned companies, 2020 (%)

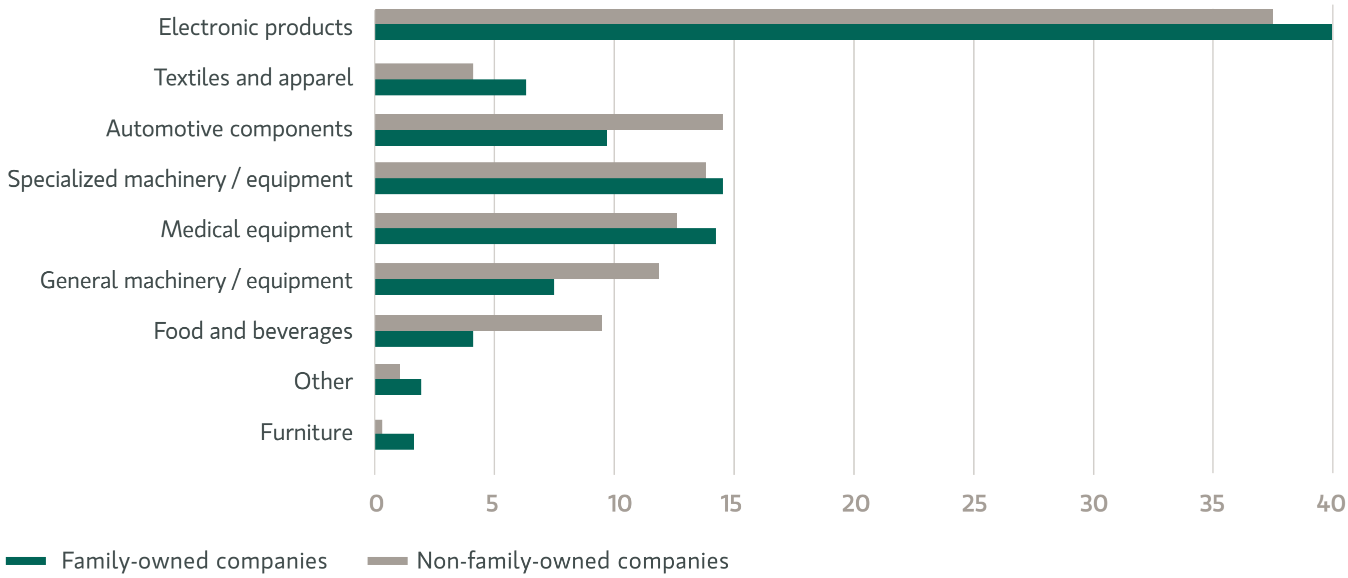


FIGURE 11. Market capitalization by industry of Chinese listed family-owned companies vs. non-family-owned companies (USD million), 2020

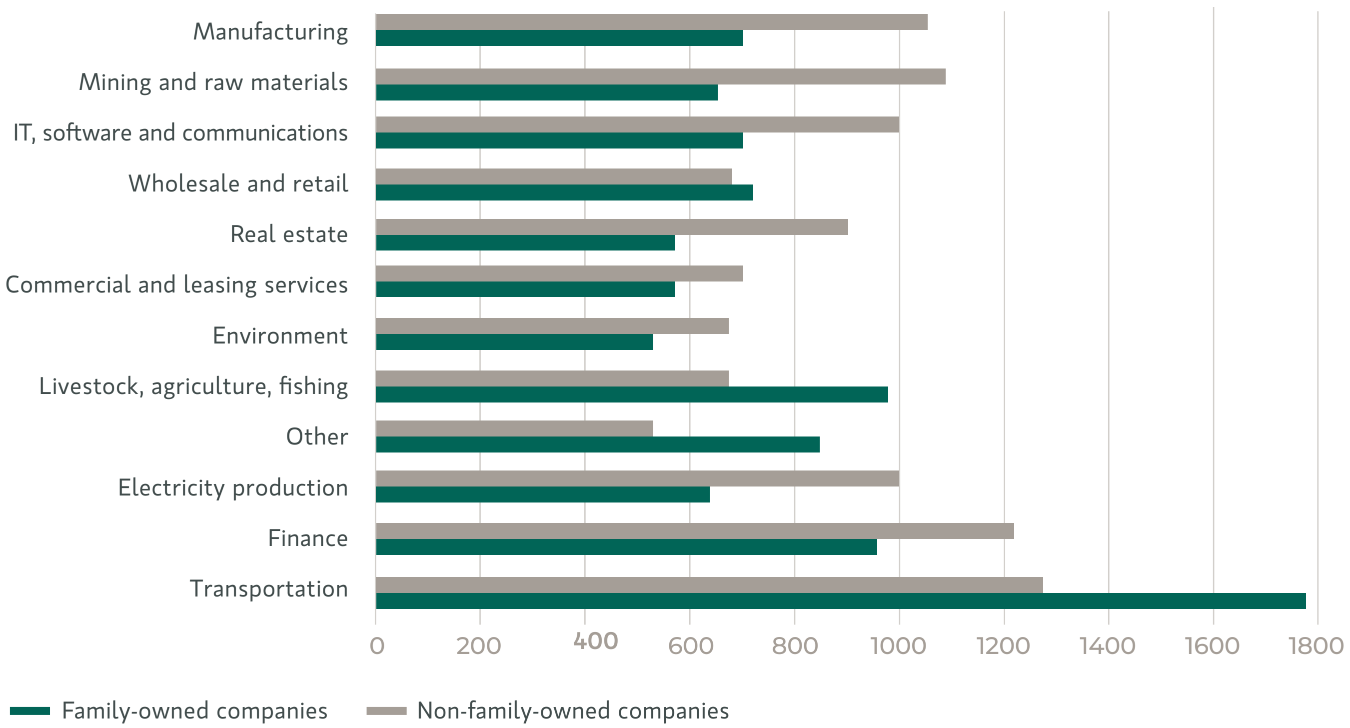
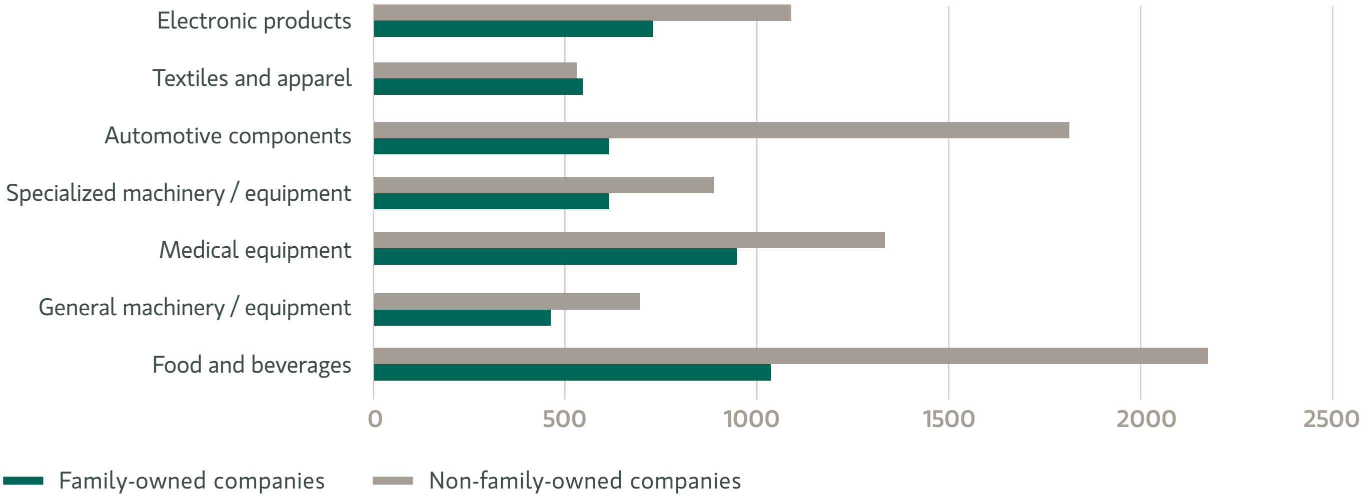


FIGURE 12.

Market capitalization by manufacturing industry sectors of Chinese listed family-owned companies vs. non-family-owned companies (USD million), 2020



The only sector in the manufacturing industry where market capitalization was slightly higher for family businesses than for non-family businesses was textiles (see Figure 12).

FAMILY-OWNED COMPANIES HAVE LESS DEBT AND INVEST MORE IN R&D AND INNOVATION

Table 9 shows that Chinese family-owned businesses have lower debt levels than non-family-owned businesses, both in terms of assets and equity. This is in line with the trend observed in other markets [32] (see Appendix 2).[33]

TABLE 9.

Debt and investment in R&D and innovation of Chinese listed family-owned companies vs. non-family-owned companies, 2020

	Family-owned companies	Non-family-owned companies
Debt-to-asset ratio	39%	49%
Debt-to-equity ratio	78%	120%
Debt-to-EBITDA ratio	3	5.29
Investment in R&D and innovation as a percentage of sales	2.17 %	1.38%

[32] Imen Latrous and Samir Trabelsi, "Do family firms use more or less debt?", *International Journal of Corporate Governance* 3(2-4) (January, 10, 2010): 182-209, https://www.inderscience.com/offers.php?id=51861.

[33] Appendix 2 shows a breakdown of family vs. non-family business debt by sector.

Although there are many different types of companies, the high level of indebtedness of Chinese listed companies is particularly salient. This phenomenon appears to be driven by the government's strategy to support economic growth. It is estimated that approximately two-thirds of corporate debt is in the hands of state-owned companies.[34]

Conversely, and in sharp contrast to other research suggesting that family-owned companies invest less in R&D and innovation,[35] our analysis shows that Chinese family-owned companies invest more in R&D and innovation as a percentage of sales than non-family businesses.

OWNERSHIP OF CHINESE LISTED FAMILY BUSINESSES IS HIGHLY CONCENTRATED IN THEIR FOUNDERS / FOUNDING FAMILY

Family-owned companies have highly concentrated family ownership. On average, the controlling individual(s) owns 36% of the business and 40.91% of the voting rights. These percentages are similar to those in other markets.[36]

CHINESE LISTED FAMILY-OWNED COMPANIES HAVE A MODERATE PERCENTAGE OF INSTITUTIONAL INVESTORS

In 2020, according to the CSMAR database, institutional investors owned an average of 35% of family-owned companies listed on the Shanghai and Shenzhen stock exchanges. This percentage is significantly lower than in other markets[37] and reflects the idiosyncrasies of the Chinese mainland market, where over 80% of the shares are held by minority investors, as we have already mentioned.[38]

THE STATE HOLDS A SIGNIFICANT SHAREHOLDING IN CHINESE LISTED COMPANIES

On average, the State owns 3.15% of Chinese listed family-owned companies, although in many cases this figure exceeds 20%. This percentage is much higher in non-family-owned companies, where state share is 31.49% on average, reaching 90% in some cases. This fact reveals the importance of studying the "family premium" in the Chinese stock market, as it suggests that the comparison between listed family and non-family businesses actually reflects a comparison between privately owned family companies and partially or wholly state-controlled firms.[39]

TABLE 10.

Average state ownership (%) of Chinese listed family-owned vs. non-family-owned companies, 2020

	Family-owned companies	Non-family-owned companies
% average state shareholding	3.15 %	31.49 %

THERE IS STRONG FAMILY INFLUENCE IN THE MANAGEMENT OF CHINESE LISTED COMPANIES

Table 11 shows that the CEO is, on average, the controlling owner or a family member in 55.14% of the cases. In the case of the Chair of the Board, this percentage stood at 83.14%. Furthermore, in 43.94% of family-owned companies, the same family member held the position of CEO and Chair of the Board (dual CEO).

[34]Reuters Graphics, "China's debt problem" (accessed February 7, 2024), https://fingfx.thomsonreuters.com/gfx/rngs/CHINA-DEBT-GRAPHIC/0100315H2LG/.

[35]Patricio Duran, Nadine Kammerlander, Marc van Essen and Thomas Zellweger, "Doing more with less: Innovation input and output in family firms," *Academy of Management Journal* 59(4) (2016): 1224-1264, https://psycnet.apa.org/doi/10.5465/amj.2014.0424.

[36]Banca March-IE, Corporate *Governance in Publicly Traded Family Firms*, 2015, https://docs.ie.edu/families-in-business/IIIBanca-March-IE-report.pdf.

[37]Laura Jimenez, Cristina Cruz, and Claudia Imperatore, "Fooling Investors by Paying them More? The Role of Proxy Advisors in Listed Family Firms," *Academy of Management Proceedings* (July 24, 2023), https://doi.org/10.5465/AMPROC.2023.17777abstract.

[38]UBS, *Investing in China. Opportunities for global investors*, 2021, https://www.ubs.com/global/en/wealth-management/chief-investment-office/market-insights/regional-outlook/2021/investing-in-china.html.

[39]Kasper Ingeman Beck, "Reforming the Chinese State Sector: Mixed ownership reforms and state-business relations," *Journal of Contemporary China* 32(140) (March 2023): 264-279, https://doi.org/10.1080/10670564.2022.2071901.

TABLE 11.

Family members with executive positions in listed family-owned companies, 2020

	Average
Family CEO	55.14%
Family Chair	83.14%
Family dual CEO	43.94%

In short, we can conclude that the Chinese market is a unique context, characterized by a large number of very young family-owned companies, most of which are still run by the first generation, and in which the majority shareholder has considerable decision-making power. In addition, and unlike other markets, family-owned companies have a unique ownership structure, with a significant state shareholding and a moderate number of institutional investors.

ARE ALL FAMILY BUSINESSES THE SAME?

The peculiarities of the Chinese stock market, in which many family companies have emerged as a result of state privatization, raises the question of whether there are differences between the different types of family businesses identified in the previous sections, as these differences could influence the existence of a "family premium" in the Chinese stock market.

Table 12 reveals that the four types of Chinese family-owned companies have very similar corporate characteristics, except in terms of indebtedness, where the companies that have been created as a result of state privatization have higher debt levels. There are also very significant differences between them in terms of shareholder composition and family influence on management: firms that were created as a result of state privatization have more institutional investors and less family control.[40] In addition, family influence on management is significantly lower. For example, in the case of founder companies, the founder is the CEO and Chair in just over 51% and 85% of cases, respectively. These percentages decrease to just over 14% and 41%, respectively, in the case of privatized sole proprietorships.

TABLE 12. Types of family businesses, 2020

	Founder companies	Privatized sole proprietorships	Family-founded companies	Privatized family companies
Years since founded	21	26	21	26
Market capitalization (USD million)	741	547	675	728
Average debt-to-asset ratio	36.67%	45.76%	37.84%	46.35%
Average R&D investment as % of sales	2.32%	2.41%	2.25%	1.27%
Average % institutional investors	34.64%	40.98%	32.75%	41.45%
Average % controlling shareholder ownership	31.81%	20.58%	42.36%	28.64%
Average % of controlling shareholder's voting rights	36.70%	27.29%	45.80%	34.18%
% of cases when the CEO is the controlling shareholder / family member	51.13%	14.08%	66.85%	34.35%
% of cases when the Chair is the controlling shareholder / family member	85.48%	41.20%	92.56%	63.04%

[40]State ownership data is not included since it was only available in 10% of the cases. Its analysis by family business categories could have led to the wrong conclusions.

Profitability of Chinese listed family-owned companies

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To ascertain whether there is a "family premium", i.e., Chinese listed family companies are more profitable than non-family businesses, we compared the two types of companies using the following indicators:

1. Accounting profitability ratios (ROA, ROE, ROCE and ROIC).[41]
2. Stock market return indicators.
3. Market valuation measures (EVA, EV/ EBIT).
4. Economic value added (EVA).

In addition, we used risk indicators associated with each type of company (volatility, beta and Altman Z).

Given the differences found in the previous section between family and non-family businesses in terms of factors such as size, age and debt level, we drew up a prediction model using linear regression to calculate the effect of family ownership on profitability, controlled by all these factors (see Appendix 3).

TABLE 13.

Profitability ratios of Chinese listed family-owned companies vs. non-family-owned companies (average values), 2005-2020

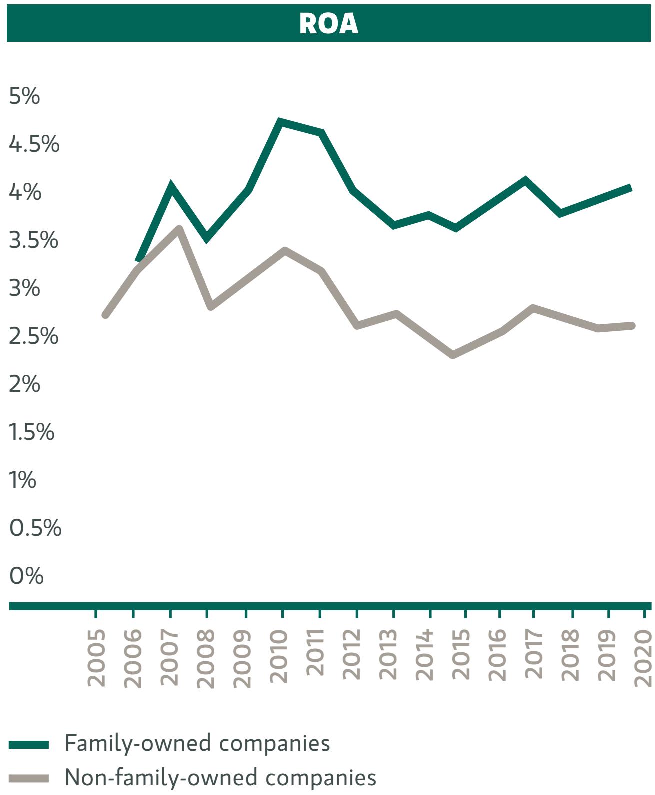
	Family-owned companies	Non-family-owned companies
ROA	3.92%	2.89%
ROE	6.51%	6%
ROCE	7.77%	6.98%
ROIC	5.20%	4.68%

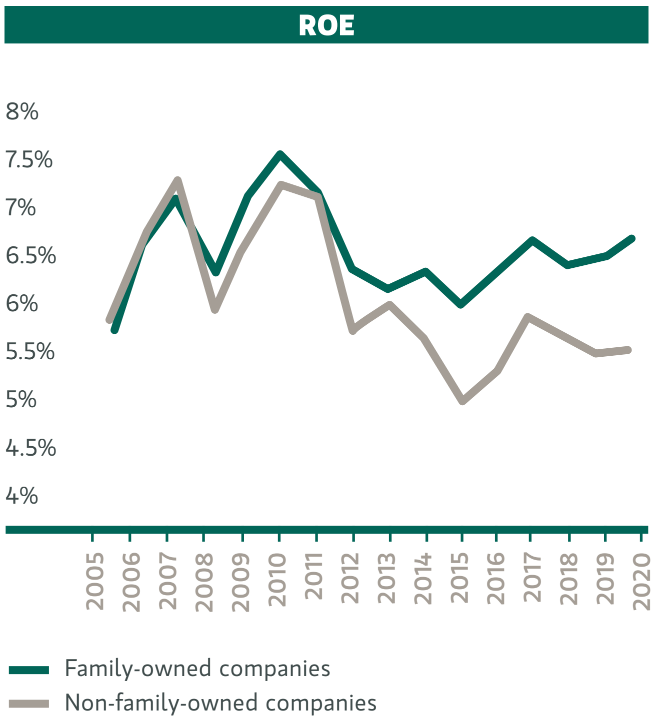
ACCOUNTING PROFITABILITY RATIOS (ROA, ROE, ROCE and ROIC)

Table 13 shows that throughout the period under study the accounting profitability indicators (ROA, ROE, ROCE and ROIC)[42] for family businesses were significantly higher than those of non-family businesses.

In turn, an analysis of how these indicators changed over time (see Figure 13) revealed a progressive increase in the profitability of family businesses compared to non-family businesses over the 2005-2020 period.

FIGURE 13. **Accounting profitability ratios for Chinese listed family-owned companies vs. non-family-owned companies, 2005-2020**

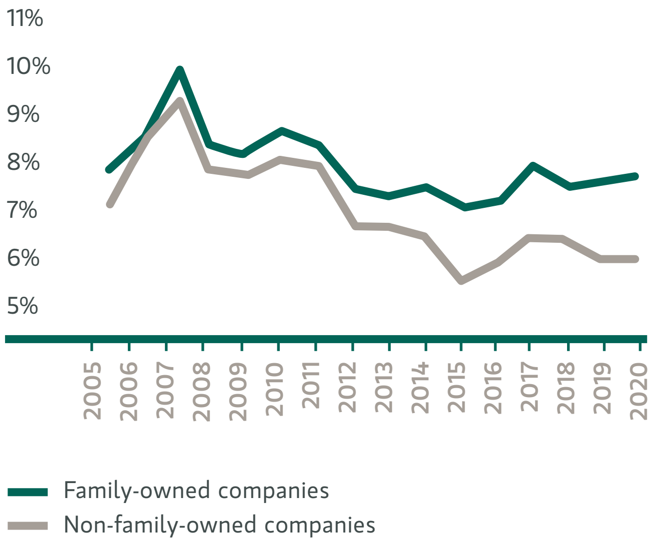




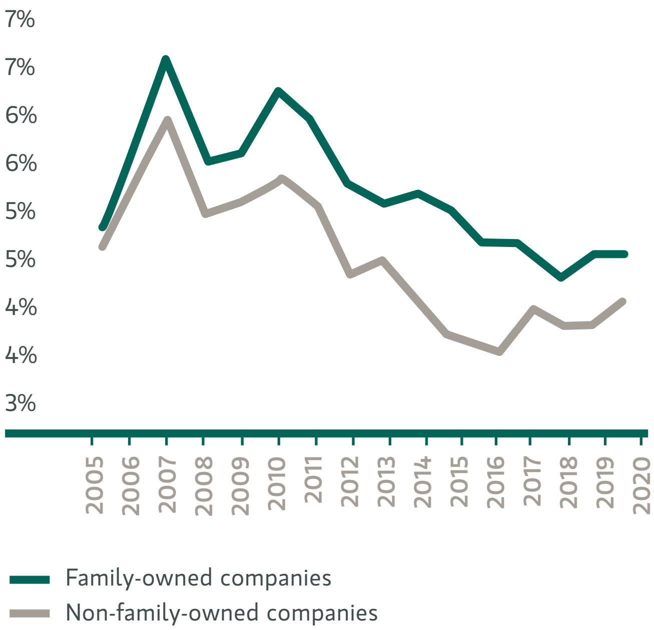
[41] To calculate the ratios, the extreme values were omitted, and the 5-95 percentiles were taken into account.

[42] See Appendix 9 for the formulas used to calculate each of the ratios.

ROCE



ROIC



Finally, an industry analysis of these ratios by type of company shows that, in general and with some exceptions (e.g., the financial sector), the accounting profitability indicators were higher for family businesses than for non-family businesses (see Appendix 4).

STOCK MARKET RETURN INDICATORS

We compiled two portfolios to calculate stock market return indicators. The first used only the family-owned companies in our sample whilst the second was made up of non-family businesses. In turn, we calculated the following for each portfolio:

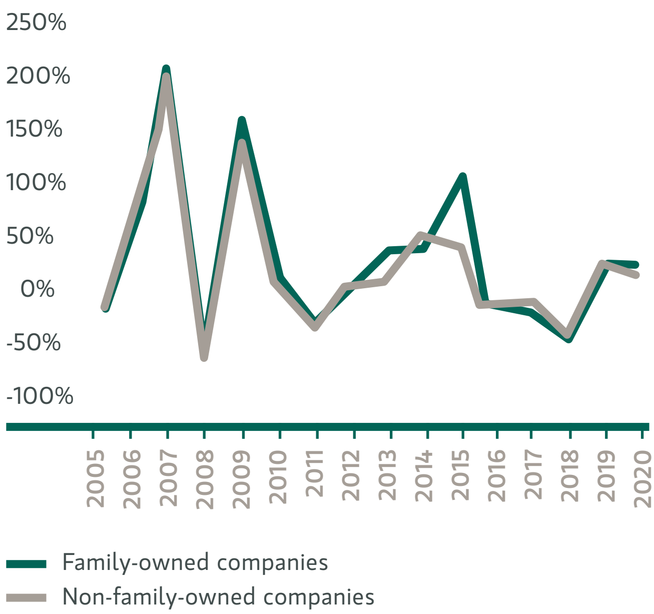
A. The average annual return from 2005 to 2020, based on dividend-adjusted monthly returns. Figure 14 shows higher returns for family businesses although it underscores the high volatility of these returns in the Chinese market.

B. The **stock compound annual growth rate (stock CAGR)** from 2005 to 2020, based on dividend-adjusted monthly returns and **not weighted** by stock market capitalization.

C. The **stock compound annual growth rate (stock CAGR)** from 2005 to 2020, based on dividend-adjusted monthly returns and **weighted by stock market capitalization.**

In both cases, taking the value 100 at the beginning of 2005, changes in the index over the period were calculated for both portfolios based on their monthly returns.

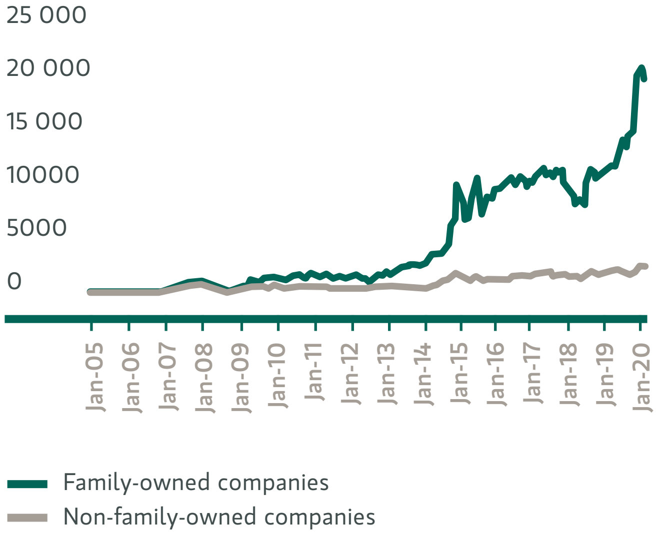
FIGURE 14.
Average annual returns, 2005-2020



	Family-owned companies	Non-family-owned companies
Average annual returns	34%	29%

FIGURE 15.
Unweighted family-owned and non-family-owned company portfolio ratios, 2005-2020

FIGURE 16.
Market capitalization-weighted portfolio ratios of family-owned and non-family-owned companies, 2005-2020



Figures 15 and 16 clearly illustrate that the family business portfolio index is superior to that of non-family businesses. In turn, if we compare both graphs, we can see that, in the case of the weighted portfolios (Figure 16), the returns obtained in the family business index are significantly higher, almost doubling the non-family business index. This figure suggests the importance of the largest family companies in the profitability calculations.

These results reveal a stock CAGR for the period under study which is 7% higher for family businesses in the case of the unweighted portfolio and 18% higher in the weighted portfolio (Table 14). However, the table also shows that the larger stock market returns that come with the family business portfolio go hand in hand with higher average annual volatility and higher beta.

TABLE 14.

Stock CAGR and volatility, 2005-2020

	Family-owned companies	Non-family-owned companies
Unweighted returns	24%	17%
Weighted returns	41%	23%
Average annual profitability	30%	25%
Beta	1.07	0.958

In turn, as shown in Table 15, family businesses continue to be more profitable than non-family businesses when shorter timelines are considered, although they are also more volatile.

TABLE 15.

3-, 5- and 10-year stock CAGR and volatilitys

		Family owned companies	Non-family-owned companies
3 years (2018-2020)	Stock CAGR	27%	14%
	Volatility	21%	18%
5 years (2016-2020)	Stock CAGR	16%	11%
	Volatility	23%	18%
10 years (2011-2020)	Stock CAGR	28%	15%
	Volatility	24%	21%

Despite the increased volatility of family businesses, the insolvency risk calculation for both types of companies using the Altman-Z score shows that the probability of bankruptcy is lower for family companies[43] (see Table 16).

TABLE 16.

Altman-Z score for Chinese listed family-owned companies vs. non-family-owned companies, 2005-2020

	Family-owned companies	Non- family-owned companies
Altman-Z score	5.69	3.42

VALUATION MEASURES (P/E AND EV/EBIT)

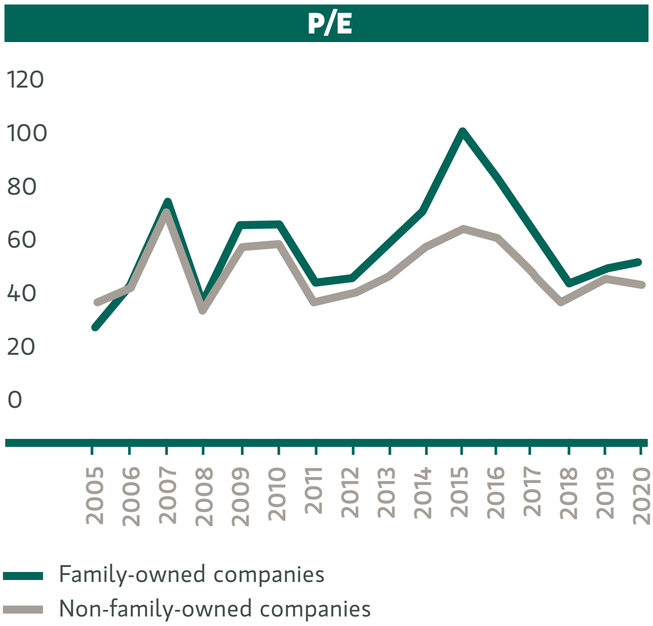
Figure 17 shows the P/E ratio (market capitalization to net income) of Chinese listed family and non-family businesses. Although the P/E ratio of family businesses is higher than that of non-family firms, this ratio is higher than in other markets in both types of companies[44] which again reflects the volatility and complexity of the Chinese market. Likewise, the EV/EBIT ratio (enterprise value before interest and taxes) is higher for family businesses than for non-family businesses.

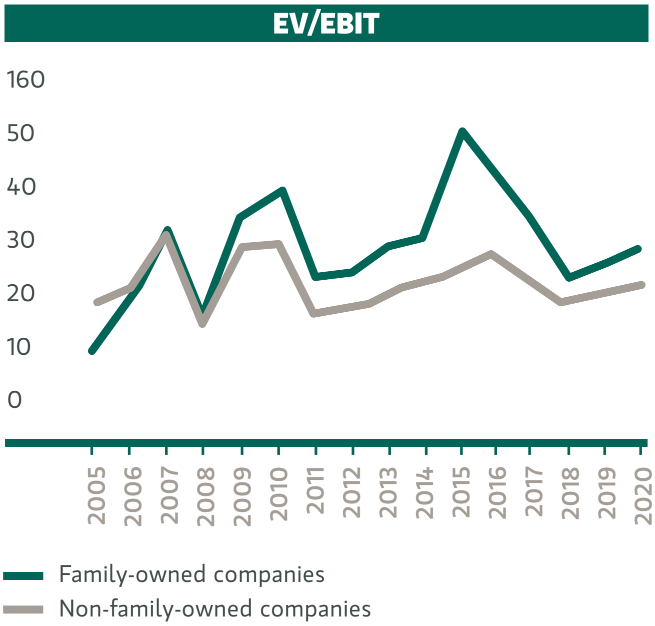
Appendix 5 contains P/E graphs comparing Chinese listed family-owned versus non-family-owned companies by industry (and by different sectors in the manufacturing industry). These graphs show that, in general, the P/E is higher for family businesses than for non-family businesses except in sectors such as manufacturing and technology.

[43]See Appendix 9 for the formulas used to calculate each variable.

[44]Banca March-IE, *Value creation in listed European family firms* (2001-2010), 2012, https://docs.ie.edu/families-in-business/IBanca-March-IE-report-exsummary.pdf.

FIGURE 17.
P/E and EV/EBIT ratios of Chinese listed family-owned companies vs. non-family-owned companies, 2005-2020.



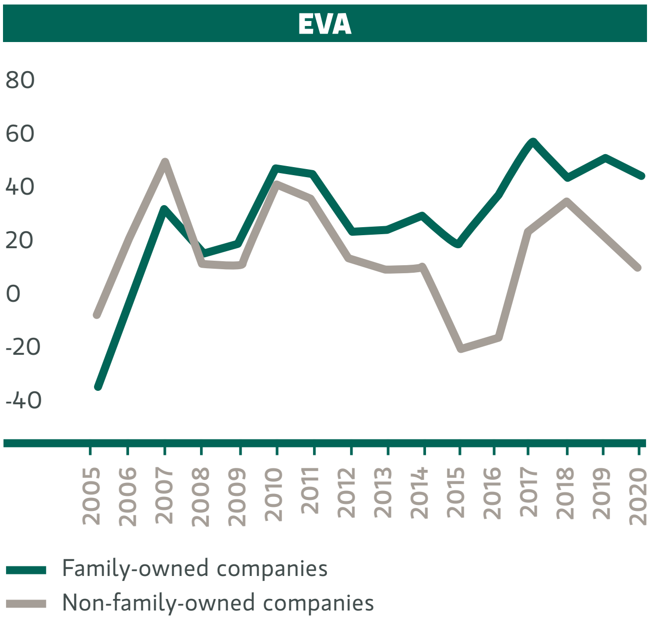


Average values (2005-2010)	Family-owned companies	Non-family-owned companies
P/E	59.77	46.39
EV/EBIT	30.40	23.24

ECONOMIC VALUE ADDED (EVA)

The comparison of economic value added (EVA) between family and non-family businesses (see Figure 18) indicates that the former have created more value over the period under study. This dovetails with all the previous indicators. The CSMAR database provides the calculation of EVA[45] for each company in the sample.[46] The formula used by CSMAR is based on a fixed cost of capital of 5.5%. This cost of capital was set by the Chinese authorities through the SASAC (State-owned Assets Supervision and Administration Commission of the State Council) for state-controlled enterprises.[47]

FIGURE 18. EVA of Chinese listed family-owned companies vs. non-family-owned companies, 2005-2020



	Family-owned companies	Non-family-owned companies
EVA	39.42	18.50

Given that the fixed cost of capital at 5.5% is lower than the cost of capital calculated using market benchmarks,[48] we conducted a sensitivity analysis and found that as the cost of capital increased (although logically the value added decreased) family firms continued to create more value than non-family firms (see Appendix 6 for the EVA sensitivity analysis).

In turn, in Appendix 7 we calculated the EVA for family and non-family businesses by industry (including a breakdown of the manufacturing industry). The graphs in the aforementioned appendix show that EVA was higher for family businesses than for non-family businesses, in line with the previous results. The only exceptions were the financial and real estate sectors and the wholesale and retail trade.

This comparative analysis confirms the existence of a "family premium" in the Chinese stock market, i.e., family firms in China have higher accounting and stock market returns compared to non-family firms. This "family premium" goes hand in hand with greater volatility and beta, although there is also a lower risk of insolvency.

The analysis also confirms that family-owned companies have better valuation metrics and higher EVA.

The profitability prediction model (Appendix 3) confirms the "family premium", i.e., family firms have better stock market returns, as well as better accounting returns and valuation, even taking into account factors that could explain these differences such as size, industry, risk and the year these firms were set up.

IS THERE A "FAMILY PREMIUM" FOR DIFFERENT TYPES OF FAMILY BUSINESSES?

The existence of four types of family-owned companies in the Chinese market, as well as the differences between them in terms of the control and influence of the owning family, raises the question of whether the "family premium" exists for the four types of companies identified.

Along these lines, Figure 19 shows the weighted portfolio indexes for each type of family business, compared to the non-family portfolio index, and

[45]See formula in Appendix 10.

[46]See formula in Appendix 10.

[47]Zhiguo He, Guamin Liao, and Baolian Wang, *What Gets Measured Gets Managed: Investment and the Cost of Capital* (August 27, 2023), National Bureau of Economic Research, https://dx.doi.org/10.2139/ssrn.4022862.

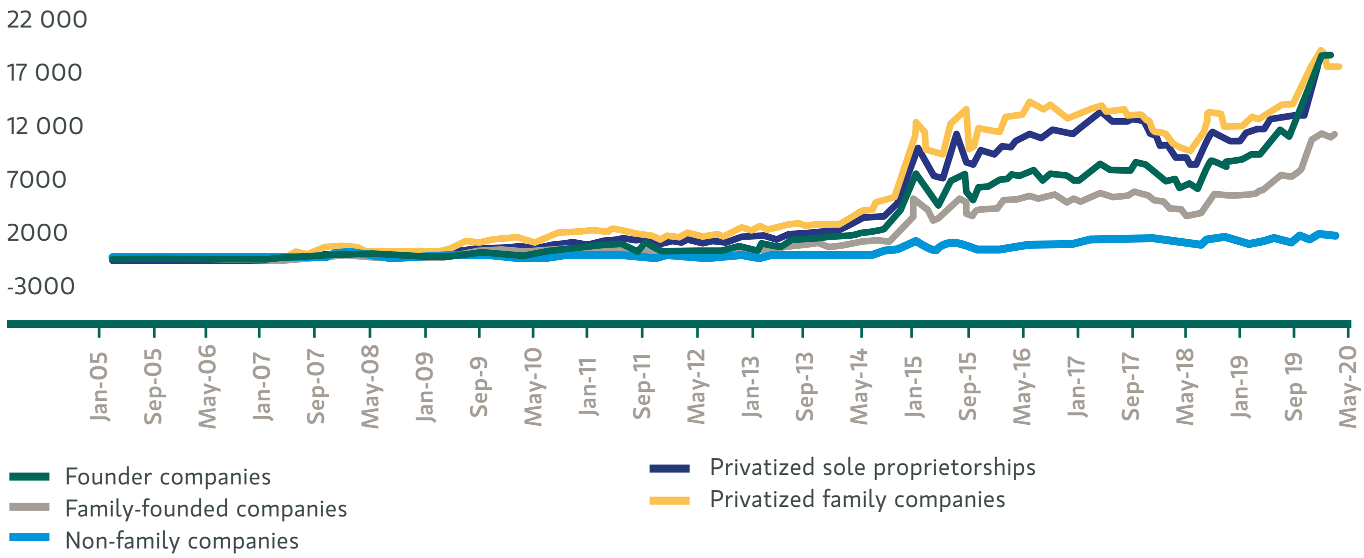
[48]Simon S. Gao and Jane Zhang, *A Qualitative Study of the Effectiveness of EVA Implementation in Chinese State-Owned Enterprises* (September 19-21, 2013), The 7th International Days of Statistics and Economics, https://msed.vse.cz/files/2013/103-Gao-Simon-paper.pdf.

shows categorically that the "family premium" exists regardless of the type of family business.

Although there are no significant differences between the different types of family businesses, the accounting figures clearly show that privatized companies performed worse than firms founded by their current owners (see Table 17).

FIGURE 19.

Portfolio indexes by type of family business weighted by market capitalization, 2005-2020



	Founder companies	Privatized sole proprietorships	Family-founded companies	Privatized family companies	Non-family companies
Profitability	39.95%	39.25%	36%	39.08%	23%

TABLE 17.

Accounting profitability by type of family business, 2005-2020

	Founder companies	Privatized sole proprietorships	Family-founded companies	Privatized family companies	Non-family companies
ROA	4.46%	2.10%	4.40%	2.54%	2.89%
ROE	7.22%	4.11%	7.11%	5.11%	6%
ROCE	8.35%	5.73%	8.26%	6.25%	6.98%
ROIC	5.72%	3.95%	5.53%	4.19%	4.68%
P/E	60.48	55.71	60.17	55.81	46.39
EV/EBIT	34.68	18.20	33.43	21.89	23.24
EVA	41.91	-7.45	47.57	38.07	18.50

Which family-owned companies have the highest stock market returns?

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This section analyzes the 100 family-owned companies with the highest stock market returns from 2016-2020.[49] Table 18 demonstrates that these companies are much more profitable than other family-owned companies, and much more volatile.

TABLE 18.

Profitability and volatility of the top 100 Chinese listed family-owned companies compared to other family-owned companies, 2016-2020

	Top 100 family-owned companies	Other family-owned companies
Average annual returns	50.49%	3.90%
Average volatility	95%	39%

The top 100 family-owned companies do not only have higher stock market returns, they are also more profitable in accounting terms (ROA, ROE, ROCE and ROIC), have better valuations in terms of P/E and EV/EBIT and much higher EVA than other family businesses (see Table 19).

TABLE 19.

Main ratios of Chinese listed top 100 family-owned companies vs. other family-owned companies, 2020

	Top 100 family-owned companies	Other family-owned companies
ROA	5.59%	3.96%
ROE	9.34%	6.53%
ROCE	10.31%	7.69%
ROIC	6.83%	4.83%
P/E	86.45	49.09
EV / EBIT	38.95	27.74
EVA	275.22	39.71

WHAT DO THE TOP 100 FAMILY-OWNED COMPANIES HAVE IN COMMON?

Table 20 shows that the top 100 family businesses are much larger (in terms of market capitalization) and have higher debt levels than the rest of the family companies. In addition, the family is less likely to have the position of Chair of the Board in family companies that have higher stock market returns.

TABLE 20.

Main characteristics of the top 100 Chinese listed family-owned companies vs. other family-owned companies, 2020[50]

	Top 100 family-owned companies	Other family-owned companies
Market capitalization (USD million)	**3488**	**657**
Years since founded	23	24
Debt-to-asset ratio	**43%**	**39%**
Family CEO	52%	55%
Family Chair	**77%**	**83%**
Dual CEO	42%	44%
Independent directors	39%	39%

A breakdown of the top 100 companies shows that the most profitable family-owned companies have a strong foothold in manufacturing, which is the leading industry for Chinese listed companies.

Sector-wise, within the manufacturing industry, there are many top 100 family-owned companies in the food and beverage sector and in the electronic products segment (see Figure 21).

[49]See Appendix 8 for a list of the top 100 family-owned companies.
[50]Statistically significant differences are highlighted in bold.

FIGURE 20.

Breakdown by sector of top 100 Chinese listed family-owned companies vs. other family-owned companies (%), 2020

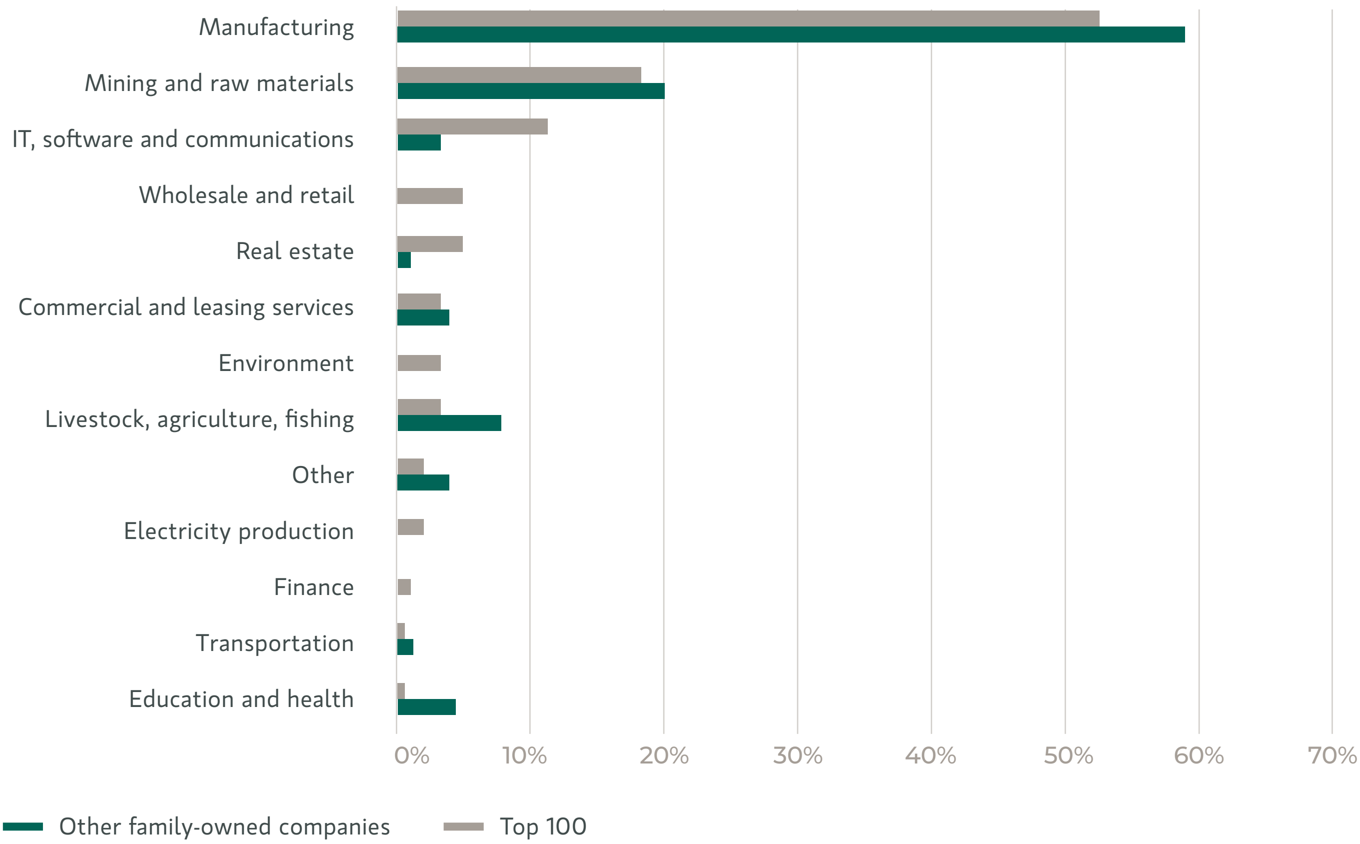


FIGURE 21.

Breakdown by manufacturing industry sectors of top 100 Chinese listed family-owned companies vs. other family-owned companies (%), 2020

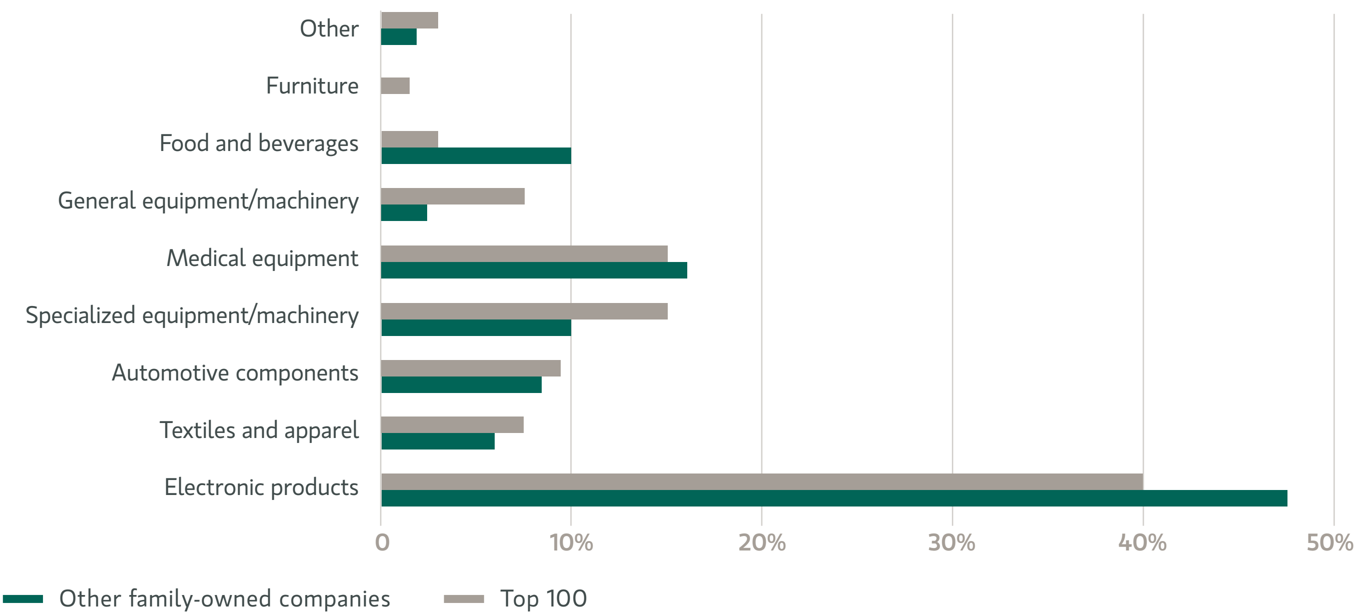


Table 21 shows the 25 family-owned companies with the highest average annual stock market returns from 2016-2020.

TABLE 21. Top 25 family-owned companies with the highest stock market returns, 2016-2020

Company name	Type of family business	Year IPO	Market capitalization (USD million)	Average annual returns	Volatility	ROA	Debt-to-asset ratio
1 Sungrow Power Supply	Founder	2011	14 746	121%	152%	7%	61%
2 Longi Green Energy Technology	Family-founded	2012	48 686	98%	117%	5%	59%
3 Jiangsu Hengli Hydraulic	Family-founded	2011	20 651	93%	111%	12%	31%
4 Guangzhou Tinci Materials	Family-founded	2014	7936	88%	150%	8%	41%
5 EVE Energy	Family-founded	2009	21 552	87%	106%	7%	35%
6 Muyuan Foods	Family-founded	2014	40 454	78%	98%	6%	46%
7 Luxshare Precision Industry	Family-founded	2010	55 138	77%	85%	11%	56%
8 Shanghai Bairun Investment Holding	Family-founded	2011	7824	75%	106%	20%	17%
9 Great Wall Motor	Family-founded	2011	32 165	71%	77%	3%	63%
10 Jiangxi Ganfeng Lithium	Family-founded	2010	15 581	71%	120%	5%	39%
11 Ingenic Semiconductor	Family-founded	2011	6007	70%	151%	0%	8%
12 Shanghai Milkground Food Tech	Privatized family	1995	3272	69%	109%	4%	41%
13 Lingyi iTech (Guangdong)	Privatized sole proprietorship	2011	11 824	66%	161%	3%	51%
14 Chongqing Zhifei Biological Products	Family-founded	2010	33 132	66%	81%	22%	46%
15 Aier Eye Hospital Group	Family-founded	2009	43 212	65%	51%	12%	31%
16 Hangzhou Tigermed Consulting	Founder	2012	16 955	64%	36%	4%	8%
17 Jiangsu Yoke Technology	Family-founded	2010	3894	64%	82%	7%	18%
18 Wingtech Technology	Privatized family	1993	17 255	63%	88%	4%	51%
19 Tongwei	Founder	2004	24 226	62%	77%	6%	51%
20 S.F. Holding	Privatized sole proprietorship	2010	56 282	60%	65%	1%	49%
21 Top Choice Medical Investment	Privatized sole proprietorship	1996	12 413	60%	36%	4%	23%
22 BYD	Family-founded	2011	49 321	58%	77%	3%	68%
23 Zhejiang Huayou Cobalt	Family-founded	2015	12 670	57%	69%	4%	54%
24 Foshan Haitian Flavouring and Food	Founder	2014	90 977	57%	42%	22%	3%
25 Offcn Education Technology	Privatized family	2011	30 333	56%	81%	0%	70%

The table shows that family-founded companies predominate (60%) among the top 25 firms, followed by founder companies (16%) and, finally, privatized family companies (12%) and sole proprietorships (12%).

A closer look at some of the most profitable family-owned companies shows the progressive transformation of China's economic identity from being recognized as the "factory of the world" to a technological powerhouse, with a key foothold in industries ranging from renewable energy to smart technology.

EXAMPLES OF FAMILY-OWNED COMPANIES WITH THE HIGHEST STOCK MARKET RETURNS, 2016-2020

SUNGROW POWER SUPPLY (SUNGROW Clean power for all)	**Sungrow specializes in renewable energy solutions, and especially in the development and manufacture of solar inverters and energy storage systems for photovoltaic projects. It focuses on providing innovative technologies to optimize the generation and management of clean energy.**
Type of family business	Founder
Year founded	1997
Year listed	2011 (Shenzhen)
Industry	Renewable energy
Market capitalization (2020)	USD 14.746 billion
Number of employees (2020)	4492
Main shareholder	Cao Renxian (35%)
CEO	Cao Renxian
Chair	Cao Renxian
Other information	Sungrow was ranked 12th on the Fortune Future 50 list for 2023, a distinction that recognizes its long-term growth potential among the more than 1,700 largest listed companies in the world. It shares this ranking with renowned companies such as Spotify, DocuSign and Pinterest.

LONGI GREEN ENERGY TECHNOLOGY LONGi Solar	Longi specializes in the manufacture of photovoltaic products and is one of the leading global manufacturers of high-efficiency solar cells and panels.
Type of family business	Family-founded
Year founded	2000
Year listed	2012 (Shanghai)
Industry	Renewable energy
Market capitalization	USD 48.685 billion
Number of employees	46 631
Main shareholder	Li Zhenguo (28%)
CEO	Li Zhenguo
Chair	Zhong Baoshen
Other information	It is especially well known for achieving records in solar conversion efficiency and is a leader in innovation and efficiency in the field of solar energy.

JIANGSU HENGLI HYDRAULIC Hengli	Hengli is a leader in hydraulic technology and is renowned for its expertise in the design and implementation of advanced hydraulic systems.
Type of family business	Family-founded
Year founded	1990
Year listed	2011 (Shanghai)
Industry	Hydraulic systems and heavy machinery
Market capitalization	USD 20.651 billion
Number of employees	5373
Main shareholder	Wang Liping (69%)
CEO	Qiu Yongning
Chair	Wang Liping
Other information	It serves numerous Fortune 500 corporations and has positioned itself as one of the world's leading manufacturers of hydraulic systems in terms of manufacturing scale and technical expertise.

EVE ENERGY	EVE manufactures smart home and energy management products and is especially well known for producing devices and accessories for users to monitor and control various aspects of their homes.
Type of family business	Family-founded
Year founded	2001
Year listed	2009 (Shenzhen)
Industry	Smart home and automation
Market capitalization	USD 21.552 billion
Number of employees	9669
Main shareholder	Liu Jincheng (36%)
CEO	Liu Jianhua
Chair	Liu Jincheng
Other information	One of the company's most famous products is the Eve Energy smart plug with which users can control their connected electronic devices through a mobile app.

MUYUAN FOODS	Muyuan is in the swine industry, focusing on pig breeding, as well as being a pioneer and innovator in pork production methods.
Type of family business	Family-founded
Year founded	1992
Year listed	2014 (Shenzhen)
Industry	Swine industry
Market capitalization	USD 40.454 billion
Number of employees	121 995
Main shareholder	Qi Yinglin (54%)
CEO	Qi Yinglin
Chair	Qi Yinglin
Other information	It is the second largest pig producer in China. It has obtained 436 national patents and has been recognized as the "leading national agricultural industrialization enterprise" and the leading national "swine industry technology enterprise".

Major challenges for Chinese listed family-owned companies

This section discusses the main challenges currently facing Chinese listed family-owned companies: the consequences of COVID-19, generational transition and sustainability.

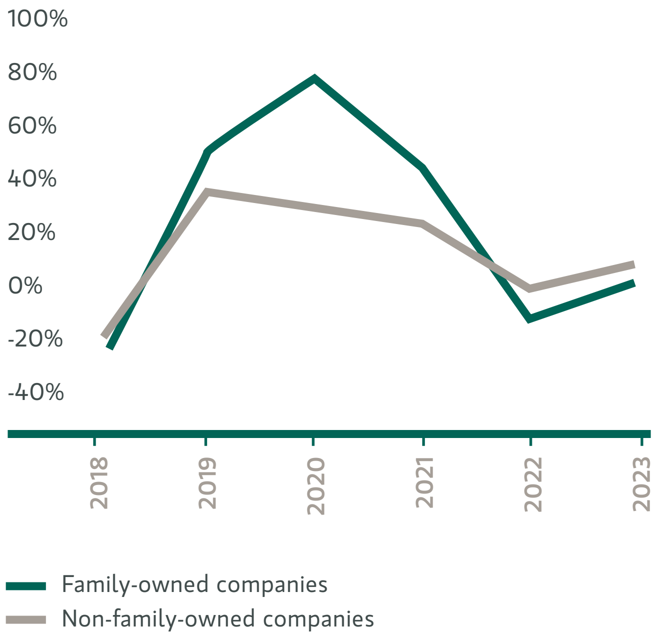
THE IMPACT OF COVID-19

The recent pandemic had an unprecedented impact on the world economy, bringing major uncertainty. The Chinese economy and its financial markets were no exception. The data show that this uncertainty had a very negative impact on family-owned companies. Overall, the number of listed family-owned companies fell by approximately 25% from 2020 to 2021. A more detailed analysis of these companies reveals that these were not cases of bankruptcy. In the majority, it was simply that the founder or the family owner ceased to have control, i.e., they became non-family companies.

COVID-19 also had a negative effect on the profitability of family firms, which fell much more sharply than the returns of non-family firms, as shown in Figure 22. In any case, the available data for 2023 suggest that recovery from the crisis is now underway for both types of firms.

FIGURE 22.

Average annual returns of Chinese listed family-owned companies vs. non-family-owned companies, 2018-2023



Despite the lower average annual profitability of family businesses, their stock CAGR from 2020 (beginning of pandemic) to 2023 was higher (24%) than that of non-family businesses (14%). This higher profitability was once again accompanied by greater volatility: the average volatility of family-owned companies for this period was 19% compared to 15% for non-family-owned companies (see Table 22).

TABLE 22.

Stock CAGR and volatility of Chinese listed family-owned companies vs. non-family-owned companies, 2018-2023

	Family-owned companies	Non-family -owned companies
stock CAGR	24%	14%
Average volatility	19%	15%

The post-COVID-19 stock market returns of the companies identified in Table 21 as the most profitable in the pre-COVID-19 period (2016-2020) are shown in Table 23. Only one business (Sungrow Power Supply) has exceeded the average annual returns of family-owned companies during the post-COVID-19 period (12%). Moreover, only four companies in this ranking recorded profits during the last three years (post-COVID-19): Sungrow Power Supply, Guangzhou Tinci Materials Technology, Jiangsu Yoke Technology and BYD.

TABLE 23.

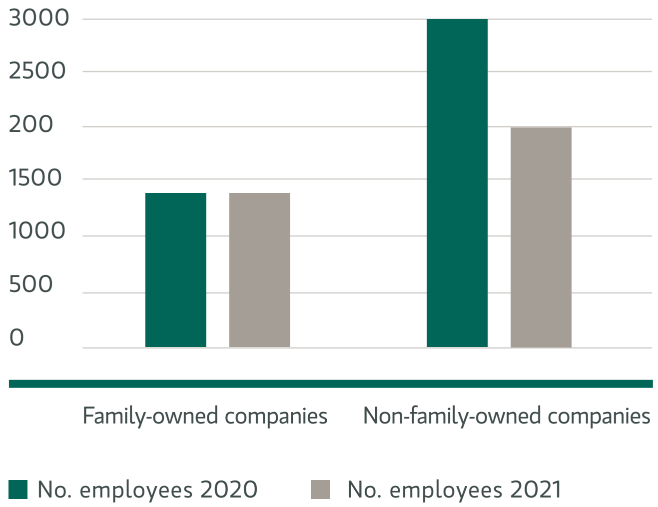
Stock market returns. Top 25 family-owned companies with the highest stock market returns, 2016-20200

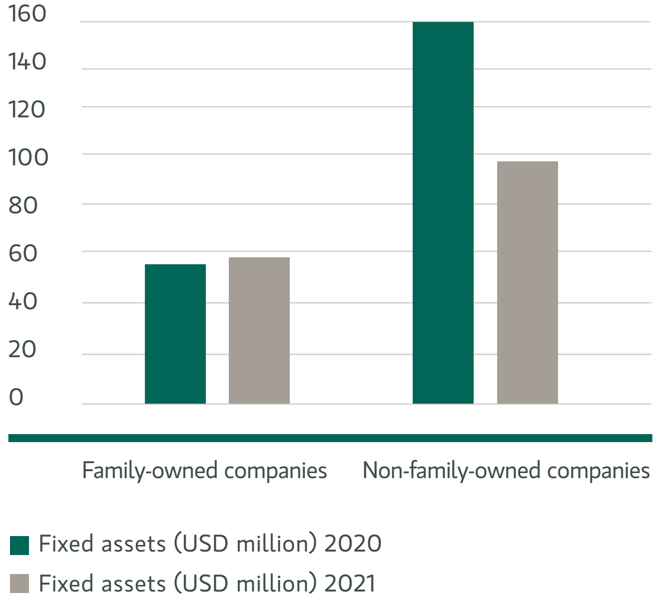
Company name	Type of family business	Year IPO	Market capitalization 2020 (USD billion	Average annual returns pre-COVID-19 (2016-2020)	Average annual returns post-COVID-19 (2021-2023)
1 Sungrow Power Supply	Founder	2011	14 746	121%	19%
2 Longi Green Energy Technology	Family-founded	2012	48 686	98%	-15%
3 Jiangsu Hengli Hydraulic	Family-founded	2011	20 651	93%	-20%
4 Guangzhou Tinci Materials	Family-founded	2014	7936	88%	8%
5 EVE Energy	Family-founded	2009	21 552	87%	-11%
6 Muyuan Foods	Family-founded	2014	40 454	78%	-8%
7 Luxshare Precision Industry	Family-founded	2010	55138	77%	-13%
8 Shanghai Bairun Investment Holding	Family-founded	2011	7824	75%	-21%
9 Great Wall Motor	Family-founded	2011	32 165	71%	-7%
10 Jiangxi Ganfeng Lithium	Family-founded	2010	15 581	71%	-9%
11 Ingenic Semiconductor	Family-founded	2011	6007	70%	-3%
12 Shanghai Milkground Food Tech	Privatized family	1995	3272	69%	-31%
13 Lingyi iTech (Guangdong)	Privatized sole proprietorship	2011	11 824	66%	-8%
14 Chongqing Zhifei Biological Products	Family-founded	2010	33 132	66%	-13%
15 Aier Eye Hospital Group	Family-founded	2009	43 212	65%	-21%
16 Hangzhou Tigermed Consulting	Founder	2012	16 955	64%	-28%
17 Jiangsu Yoke Technology	Family-founded	2010	3894	64%	3%
18 Wingtech Technology	Privatized family	1993	17 255	63%	-16%
19 Tongwei	Founder	2004	24 226	62%	-8%
20 S.F. Holding	Privatized sole proprietorship	2010	56 282	60%	-22%
21 Top Choice Medical Investment	Privatized sole proprietorship	1996	12 413	60%	-34%
22 BYD	Family-founded	2011	49 321	58%	4%
23 Zhejiang Huayou Cobalt	Family-founded	2015	12 670	57%	-12%
24 Foshan Haitian Flavouring and Food	Founder	2014	90 977	57%	-30%
25 Offcn Education Technology	Privatized family	2011	30 333	56%	-44%

GUANGZHOU TINCI MATERIALS TECHNOLOGY	**Tinci works in research and development, and produces new and innovative chemical materials. It specializes in the manufacture of electrolytes.**
Type of family business	Family-founded
Year founded	2000
Year listed	2014 (Shenzhen)
Industry	Chemical materials
Market capitalization	USD 79.36 million
Number of employees	2933
Main shareholder	Xu Jinfu (38%)
CEO	Xu Jinfu
Chair	Xu Jinfu
Other information	It plays a key role in the industry by supplying essential materials for lithium-ion batteries, promoting advances in energy storage technology.

JIANGSU YOKE TECHNOLOGY	**Yoke specializes in the manufacture of electronic components and renewable energy products**
Type of family business	Family-founded
Year founded	1997
Year listed	2010 (Shenzhen)
Industry	Technology and renewable energy
Market capitalization	USD 3.894 billion
Number of employees	1231
Main shareholder	Shen Qi (48%)
CEO	Shen Qi
Chair	Shen Qi
Other information	It is well known for the innovation and sustainability of its products, which make it a leading technology company in China.

FIGURE 23. Number of employees and fixed assets, 2020 and 2021





Conversely, Chinese family firms made significantly fewer job cuts than non-family firms during the pandemic, as shown in Figure 23. Moreover, while non-family firms significantly decreased their investment in fixed assets in response to COVID-19, family firm investments remained stable. This is consistent with evidence from other markets, which suggests that family-owned companies offer greater job security and adopt long-term perspectives in their decision-making.[51]

THE CHALLENGE OF GENERATIONAL TRANSITION

Listed family businesses in China are still very young organizations, with 76% still being controlled and managed by the first generation. This poses a significant challenge in terms of generational transition.

To assess the importance of this challenge in the case of Chinese companies, we constructed a portfolio for each type of family business, according to the stage of their generational transition process. If we follow the extensive evidence on the risks inherent to succession in family businesses, this is a sensitive time for Chinese listed family businesses. Figure 24 shows the differences in first-generation family business portfolio indexes versus the rest. This is reflected in higher stock CAGR for the period. These higher stock market returns for first-generation family businesses go hand in hand with higher accounting returns, in terms of ROA (see Table 24).

[51]Philipp Jaufenthaler, "A safe haven in times of crisis: The appeal of family companies as employers amid the COVID-19 pandemic," *Journal of Family Business Strategy* 14(1) (March 2023), 100520, https://doi.org/10.1016/j.jfbs.2022.100520.

FIGURE 24. Family business portfolio indexes by generation

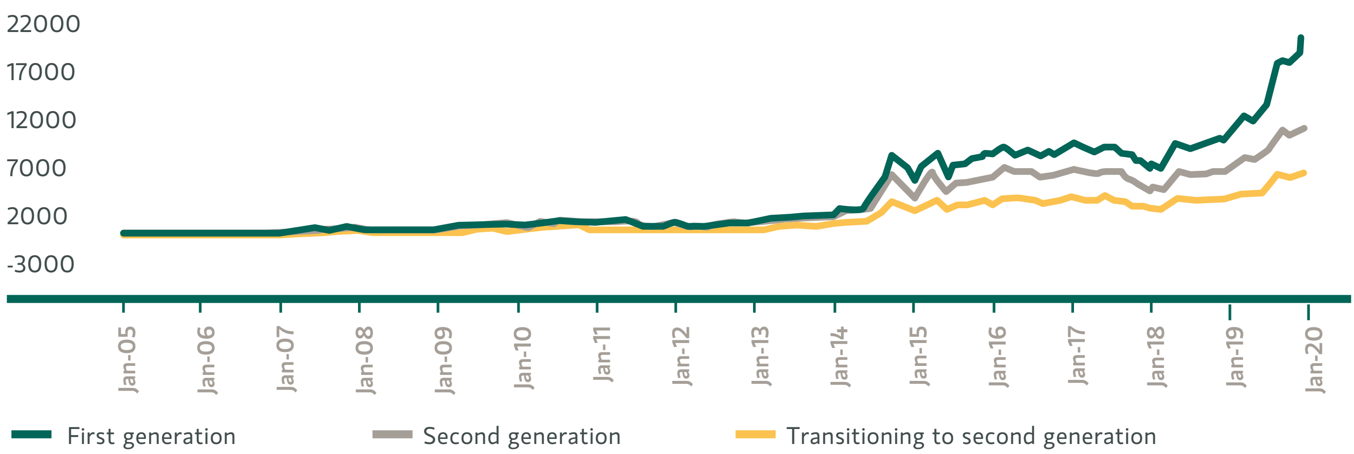


TABLE 24.

Stock CAGR and ROA according to generation, 2005-2020

	1st generation	Transitioning to 2nd generation	2nd generation
Stock CAGR	39.4%	29.6%	34.20%
ROA	4.31%	3.95%	4.10%

As mentioned at the beginning of this report, the reform of the one-child policy which culminated in 2013 and removed the ban on having more than one child, has increased the likelihood of family succession and of the family continuing to manage the business. According to our data, the position of CEO is held by a family member in 59% of second-generation companies. In addition, 44.6% of these successors are highly qualified, and have a master's degree or a doctorate.

The following are examples of Chinese listed family-owned companies where the second generation is already a shareholder and participates in the management and/or governance of the company.

SANQUAN FOOD	**Sanquan specializes in the production and distribution of frozen food, including dumplings, *baozi* (steamed buns) and spring rolls.**
Type of family business	Family-founded
Year founded	2001
Year listed	2008 (Shenzhen)
Industry	Food
Market capitalization	USD 2.904 billion
Number of employees	7161
Main shareholder	Chen Zemin, Chen Nan, Chen Xi (together they own 59% of the company)
CEO	Chen Xi
Chair	Chen Nan
Other information	The Chair is the eldest son of the founder (Chen Zemin) and his second son is the CEO.

ZHEJIANG LONGSHENG GROUP	**Lonsen operates in several industries, including chemical production. It also manufactures agricultural products, construction materials and paper products, among others.**
Type of family business	Family-founded
Year founded	1998
Year listed	2003 (Shenzhen)
Industry	Chemical
Market capitalization	USD 6.203 billion
Number of employees	8284
Main shareholder	Ruan Shuilong, Ruan Weixiang, Xiang Zhifeng (together they own 24% of the company)
CEO	Ruan Weixiang
Chair	Ruan Weixiang
Other information	Ruan Shuilong, the founder's son, is the current CEO and chair.

THE CHALLENGE OF SUSTAINABILITY

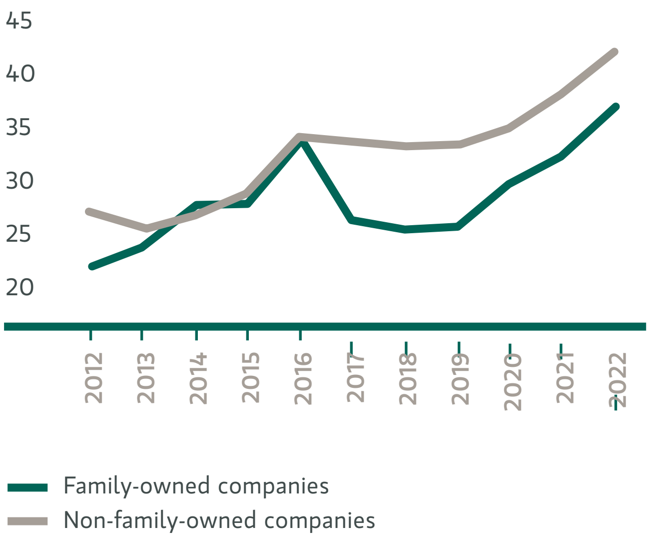
Listed companies have made significant progress in sustainability as Asian stock markets have opened up to foreign investment. In 2020, a total of 1021 Chinese companies listed on the Shenzhen and Shanghai stock exchanges had published annual ESG reports compared to 371 in 2009.[52] However, the availability of information on environmental, social and governance issues varies greatly, making it difficult for investors to compare China's ESG scores with those of other markets or regions.

Although international ESG indexes such as Refinitiv, Bloomberg and Sustainalytics have increased their coverage of Chinese companies, today they still only feature a very small sample of listed companies in Shanghai and Shenzhen. For example, in 2022, the Refinitiv[53] index provided information on 950 companies on the Chinese mainland stock market, representing 22% of the total.

However, this is a substantial improvement, as in 2012 the index only included 50 Chinese listed companies.

FIGURE 25.

ESG score of Chinese listed family-owned companies vs. non-family-owned companies according to Refinitiv, 2012-2022



	Family-owned companies	Non-family-owned companies
Refinitiv (average 2012-2022)	31.72	35.99

Despite this shortcoming, we analyzed the data provided by Refinitiv from 2012-2022. Figure 25 shows that family-owned companies have a lower ESG score than non-family-owned companies for the entire period in question.

[52]Zoey Zhang, "What is ESG Reporting and Why is it Gaining Traction in China?", *China Briefing*, January 13, 2022, https://www.china-briefing.com/news/what-is-esg-reporting-and-why-is-it-gaining-traction-in-china/.

[53]The Refinitiv Index (Thompson Reuters until 2018) measures companies' ESG performance, commitment, and effectiveness across ten major themes, including emissions, environmental innovation of their products, human rights and shareholders, based on publicly available data. This index provides an ESG score from 0 to 100, where 0 indicates poor performance and 100 indicates excellent performance.

However, this score has increased over time for both types of companies, which again reveals progress in the Chinese economy in this area.

The 2023 Bloomberg[54] sustainability index shows that the difference between family and non-family businesses remained steady. However, any comparison between indexes should be approached with caution, as the evidence indicates minimal alignment between them.[55]

Table 26 shows the top ten Chinese family-owned companies with the best ESG score in 2023, according to Bloomberg.

TABLE 25.

ESG score of Chinese listed family-owned companies vs. non-family-owned companies, according to Bloomberg, 2023

	Family-owned companies	Non-family-owned companies
Bloomberg	2.14	2.36

The Chinese family-owned company with the best ESG performance was Mindray, which manufactures and markets medical equipment.

Although the CSMAR database does not contain data on ESG indexes, it does enable us to analyze some aspects of corporate governance in Chinese family-owned companies, as detailed below.

A) Independent directors and dual CEOs

The corporate governance of Chinese listed companies has undergone significant changes over time. In the early 1990s, when most companies were still state-owned, corporate governance practices were extremely limited, as the State continued to intervene in companies' operations and appoint their senior management. The effectiveness of the corporate governance of listed companies has improved with the progressive liberalization of the Chinese market. This has been especially salient in terms of strengthening the role of the Board of Directors by appointing independent directors and separating the role of Chair of the Board from that of the CEO.[56]

[54] Bloomberg's index uses publicly available data to give ESG scores on a scale of 0 to 10, where a higher score indicates better ESG performance. As occurs with the Refinitiv index, the sample of Chinese listed companies analyzed was limited, namely 1277 from the database in 2023.

[55] A study conducted in 2020 compared the scores of the international rating agencies Bloomberg, MSCI, and FTSE, and the local indexes SynTao, RKS, SSII, and CASVI. The results showed that only one-third of the companies included in the seven indexes appeared in the top 100 in all of them.

[56] Data obtained from the CSMAR database (accessed February 7, 2024), https://data.csmar.com/.

TABLE 26.

Bloomberg's top 10 ESG family-owned companies, 2023

Ranking	Company name	Bloomberg score	Industry
1	Shenzhen Mindray-Bio-Medical Electronics	5.95	Manufacturing
2	Shandong Linglong Tyre	5.66	Raw materials
3	Shenzhen Inovance Technology	5.59	Manufacturing
4	Mianyang Fulin Precision	5.55	Manufacturing
5	Nanjing Iron and Steel	5.5	Raw materials
6	Beijing United Technology Information	5.37	IT
7	Fuyao Glass Industry Group	5.28	Raw materials
8	Trina Solar	5.11	Manufacturing
9	Ningbo Joyson Electronic Corporation	5.06	Manufacturing
10	Proya Cosmetics	5.02	Raw materials

SHENZHEN MINDRAY-BIO-MEDICAL ELECTRONICS mindray	**Mindray manufactures and markets medical equipment, including diagnostic devices, patient monitors, anesthesia and ventilation equipment, and clinical analysis instruments.**
Type of family business	Founder
Year founded	1991
Year listed	2018 (Shenzhen)
Industry	Manufacture and marketing of medical equipment
Market capitalization	USD 72.504 billion
Number of employees	11 833
Main shareholder	Xu Hang, Li Xiting (together they own 59% of the company)
CEO	Wu Hao
Chair	Li Xiting
Other information	Mindray's excellent ESG performance has placed it in the top 20 on the ESG Competitiveness List of Chinese listed pharmaceutical companies.

It is interesting to note that, unlike other markets, the percentage of independent directors is slightly higher in Chinese listed family-owned companies compared to non-family businesses (see Figure 26), which is probably a reflection of major state intervention in non-family-owned companies. The graph also shows that the percentage of independent directors increased between 2005 and 2020 in both types of companies.

Figure 27 shows that family-owned companies have a higher percentage of dual CEOs, i.e., CEOs who are also the Chair of the Board, compared to non-family-owned companies.

FIGURE 26.
Percentage of independent directors in Chinese listed family-owned companies vs. non-family-owned companies, 2005-2020

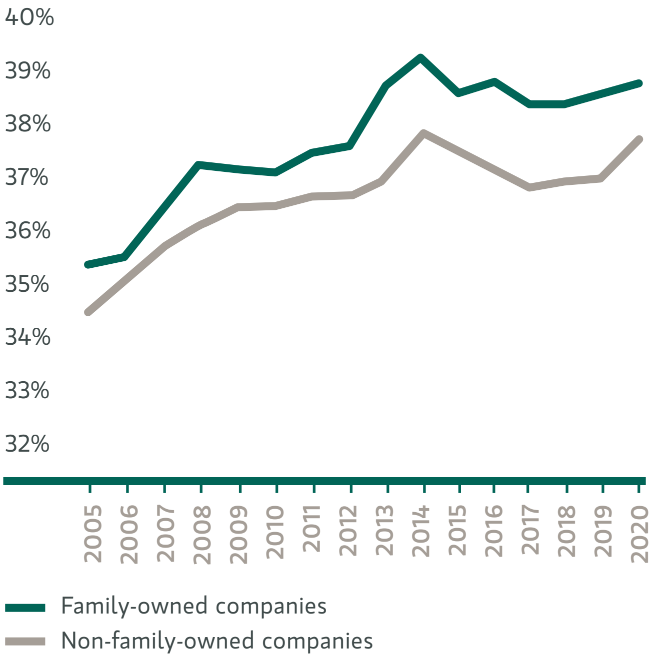
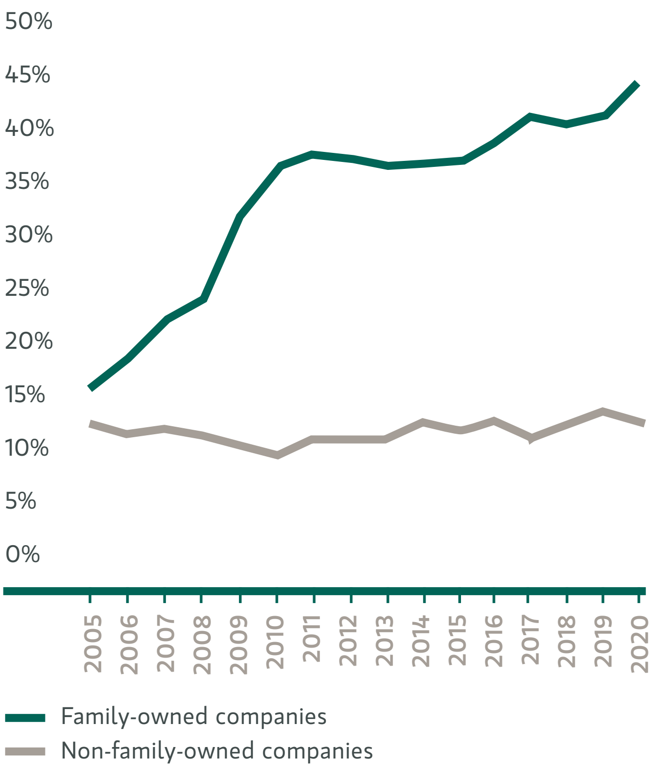


FIGURE 27.
Percentage of dual CEOs in Chinese listed family-owned companies vs. non-family-owned companies, 2005-2020



The graph also shows this percentage has remained steady over time in non-family firms, it has increased in family businesses.

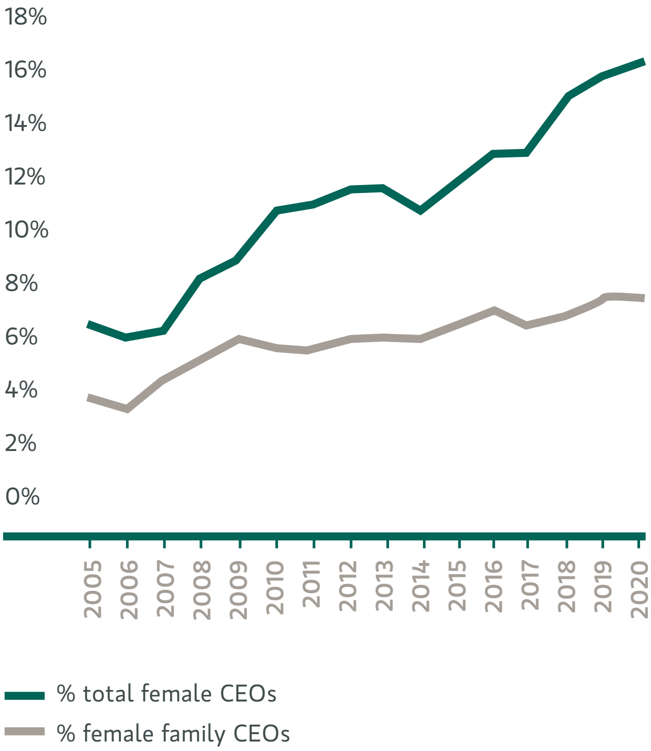
B) The role of women in Chinese listed family-owned companies

Female representation in top executive positions poses a major challenge worldwide. However, in China, the situation is even more acute, as Chinese women are promoted to executive positions less frequently than men, and also less frequently than women in many other countries.[57]

Our research shows that female participation in executive roles has increased over the period under study, with the total percentage of women holding the position of CEO in Chinese listed family companies growing by 10%, from 6% in 2005 to 16% in 2020 (Figure 28). However, if we only examine the percentage of female family members acting as

[57]Christina Zhu, *China Needs More Women in Executive Leadership*, Spencer Stuart - Bain & Company (March 2023), https://www.spencerstuart.com/research-and-insight/china-needs-more-women-in-executive-leadership.

FIGURE 28.
Percentage of female CEOs in Chinese listed family-owned companies, 2005-2020



CEOs, we can see that the increase has been much smaller than the total number of female CEOs, rising from 3% in 2005 to only 8% in 2020.

The following are examples of two family businesses in which a female member of the family is in charge:

ZHEJIANG JIUZHOU PHARMACEUTICAL	**Jiuzhou manufactures and markets pharmaceutical products.**
Type of family business	Family-founded
Year founded	1998
Year listed	2014 (Shanghai)
Industry	Pharmaceutical
Market capitalization	USD 4.036 billion
Number of employees	3586
Main shareholder	Hua Lirong, Hua Xuande, Hua Xiaohui (together they own 44% of the company)
CEO	Hua Lirong
Chair	Hua Lirong
Other information	Hua Lirong is the daughter of the founder, and the Chair and CEO of the company.

NEW HOPE LIUHE	**New Hope Liuhe is a leader in agricultural industrialization with operations ranging from animal feed and livestock breeding to meat processing and financial investments. In 2018, it ranked 126th on the Fortune top 500 Chinese companies list.**
Type of family business	Family-founded
Year founded	1998
Year listed	1998 (Shenzhen)
Industry	Agriculture and food
Market capitalization	USD 14.13 billion
Number of employees	95 993
Main shareholder	Liu Yonghao, Liu Chang, Li Wei (together they own 55% of the company)
CEO	Zhang Minggui
Chair	Liu Chang
Other information	Liu Chang is the daughter of the founder, and the Chair of the company.

Conclusions

This study examines the dynamics of listed family-owned companies in China, highlighting their importance in the stock market and underscoring the need to comprehend the complex way they function to steer possible investment strategies in a challenging environment.

The existence of a "family premium" in companies whose average life span is less than 24 years of age suggests that the adoption of a long-term perspective, eschewing short-term interests, is not the sole preserve of century-old family-owned firms. In fact, family business owners in China have emerged as more efficient managers of their assets and as better stock market performers than non-family firms. In the framework of the country's economic transformation, our analysis reflects the key role that family-owned companies are playing in this process, leading strategic sectors such as electric vehicle manufacturing and renewable energy.

The family-owned companies under analysis show prudent risk management, limited likelihood of insolvency and low debt ratios, which dovetails with their long-term management vision.

However, the greater volatility of their stock market returns contrasts with this prudent risk management, which raises questions about the uncertainty they face when trading in markets tied to a heavily regulated economy.

Despite the challenges, the outlook is promising. The advent of second-generation family members, who have a higher level of education than their predecessors and an international outlook, could drive progress in sustainability and lead positive company management changes. In addition, the new generations' growing demand for opening up the economy and a new emerging social class could counterbalance the power of the state, providing a renewed impetus to China's business environment.

In this context, Chinese family-owned companies are an attractive option for investors seeking long-term returns. However, it is essential to understand the idiosyncrasies of these companies in a highly volatile market with significant risks, so as to guide steer investors towards active management that targets investment opportunities and mitigates risks.

Appendices

APPENDIX 1. TOP 100 CHINESE LISTED FAMILY-OWNED COMPANIES BY MARKET CAPITALIZATION, 2020

TABLE 27.

Top 100 Chinese listed family-owned companies by market capitalization, 2020

Ranking	Company name	Market capitalization (USD billion)
1	Contemporary Amperex Technology	114.506
2	Midea Group	96.884
3	Foshan Haitian Flavouring and Food	90.977
4	Jiangsu Hengrui Medicine	83.198
5	Shenzhen Mindray Bio-Medical Electronics	72.504
6	S.F. Holding	56.282
7	Luxshare Precision Industry	55.138
8	BYD Company Limited	49.321
9	Longi Green Energy Technology	48.686
10	Aier Eye Hospital Group	43.212
11	Sany Heavy Industry	41.521
12	Muyuan Foods	40.454
13	Wuxi AppTec	40.263
14	East Money Information	37.381
15	Chongqing Zhifei Biological Products	33.132
16	Great Wall Motor Company Limited	32.165
17	Offcn Education Technology	30.333
18	Shanghai Will Semiconductor	28.070
19	Hengli Petrochemical	27.564
20	Beijing Kingsoft Office Software	26.526
21	Rongsheng Petrochemical	26.093
22	Tongwei	24.226
23	Shenzhen Inovance Technology	22.463
24	EVE Energy	21.552
25	Jiangsu Hengli Hydraulic	20.651
26	Focus Media Information Technology	20.282
27	Yonyou Network Technology	20.086
28	Lens Technology	18.787
29	Yunnan Energy New Material	17.598
30	Bull Group	17.262
31	Wingtech Technology	17.255
32	Goertek	17.114
33	Shenzhen Transsion Holdings	17.040
34	Hangzhou Tigermed Consulting	16.955
35	Sanan Optoelectronics	16.938
36	Shenzhen Kangtai Biological Products	16.733
37	Wens Foodstuff Group	16.266
38	Jiangxi Ganfeng Lithium	15.581
39	China Molybdenum	15.458
40	Hundsun Technologies	15.334
41	Guangdong Haid Group	15.233
42	Shanghai Fosun Pharmaceutical (Group)	15.200
43	360 Security Technology	14.877
44	Sungrow Power Supply	14.746
45	Maxscend Microelectronics	14.378

46	Sangfor Technologies	14.368
47	New Hope Liuhe	14.130
48	Fuyao Glass Industry Group	13.474
49	Glodon Company Limited	13.071
50	GigaDevice Semiconductor (Beijing)	13.040
51	Beijing Oriental Yuhong Waterproof Technology	12.761
52	Zhejiang Huayou Cobalt	12.670
53	Top Choice Medical Investment	12.413
54	Zhejiang Sanhua Intelligent Controls	12.396
55	Beijing Wantai Biological Pharmacy Enterprise	12.234
56	Ningxia Baofeng Energy Group	12.012
57	Qi An Xin Technology Group	11.998
58	Lingyi iTech (Guangdong) Company	11.824
59	Zhejiang Chint Electrics	11.787
60	Shanghai M&G Stationery	11.499
61	Oppein Household Group	11.327
62	Pharmaron (Beijing) New Drug Technology	11.131
63	Imeik Technology Development	11.023
64	Future Land Holdings Group	10.999
65	Hualan Biological Engineering	10.789
66	Guangzhou Shiyuan Electronic Technology Company Limited	10.761
67	Wuxi Lead Intelligent Equipment	10.669
68	Gan & Lee Pharmaceuticals	10.395
69	Asymchem Laboratories (Tianjin)	10.156
70	Zhejiang NHU Company	10.131
71	Suning.com	10.049
72	Shenzhen Huiding Technology	9.968
73	Winner Medical	9.912
74	Bloomage Biotechnology Corporation Limited	9.840
75	Beijing Roborock Technology	669
76	Chaozhou Three-Circle (Group)	9.475
77	Anker Innovations Technology	9.346
78	Hithink Royalflush Information Network	9.331
79	Wuhan Guide Infrared	9.304
80	Yealink Network Technology Corporation Limited	9.239
81	Wuhu Sanqi Interactive Entertainment Network Technology	9.235
82	Hangzhou First Applied Material	9.201
83	Autobio Diagnostics	9.166
84	JA Solar Technology	9.095
85	Flat Glass Group	8.889
86	Lomon Billions Group	8.754
87	Zhejiang Dahua Technology	8.341
88	Intco Medical Technology	8.292
89	Guangzhou Kingmed Diagnostics Group	8.242
90	Cambricon Technologies Corporation Limited	8.222
91	Tianqi Lithium Corporation	8.121
92	Perfect World	8.012
93	Guangzhou Tinci Materials Technology	7.936
94	Shanghai Junshi Biosciences	7.831
95	Shanghai Bairun Investment Holding Group	7.824
96	Shanghai Putailai New Energy Technology	7.805
97	Changzhou Xingyu Automotive Lighting Systems	7.752
98	Easyhome New Retail Group	7.669
99	Shenzhen New Industries Biomedical Engineering	7.624
100	Jafron Biomedical	7.587

Source: Authors' own elaboration based on CSMAR database.

APPENDIX 2. DEBT-TO-ASSET RATIO BY INDUSTRY FOR CHINESE LISTED FAMILY-OWNED COMPANIES VS. NON-FAMILY-OWNED COMPANIES, 2020

FIGURE 29.
Debt-to-asset ratio by industry of Chinese listed family-owned companies vs. non-family-owned companies, 2020

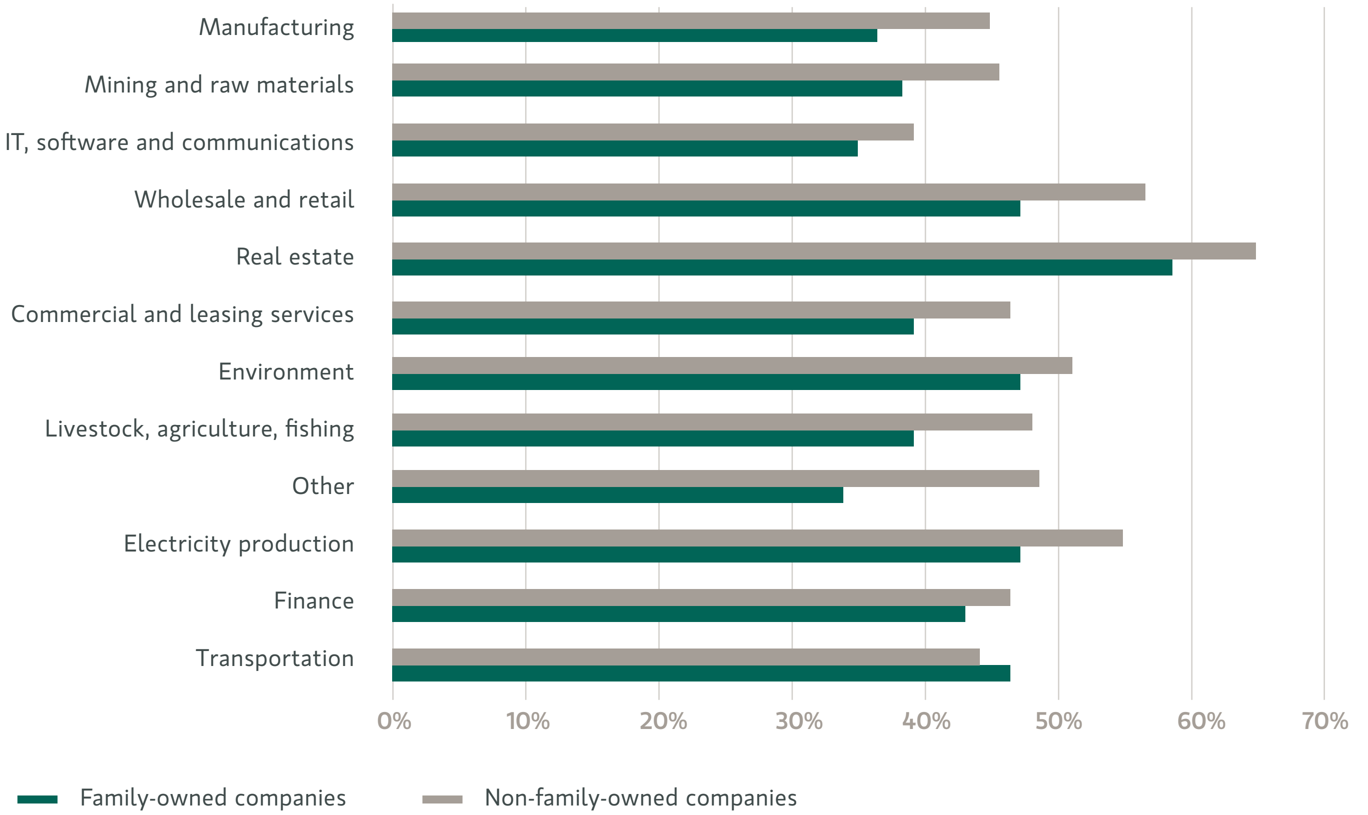
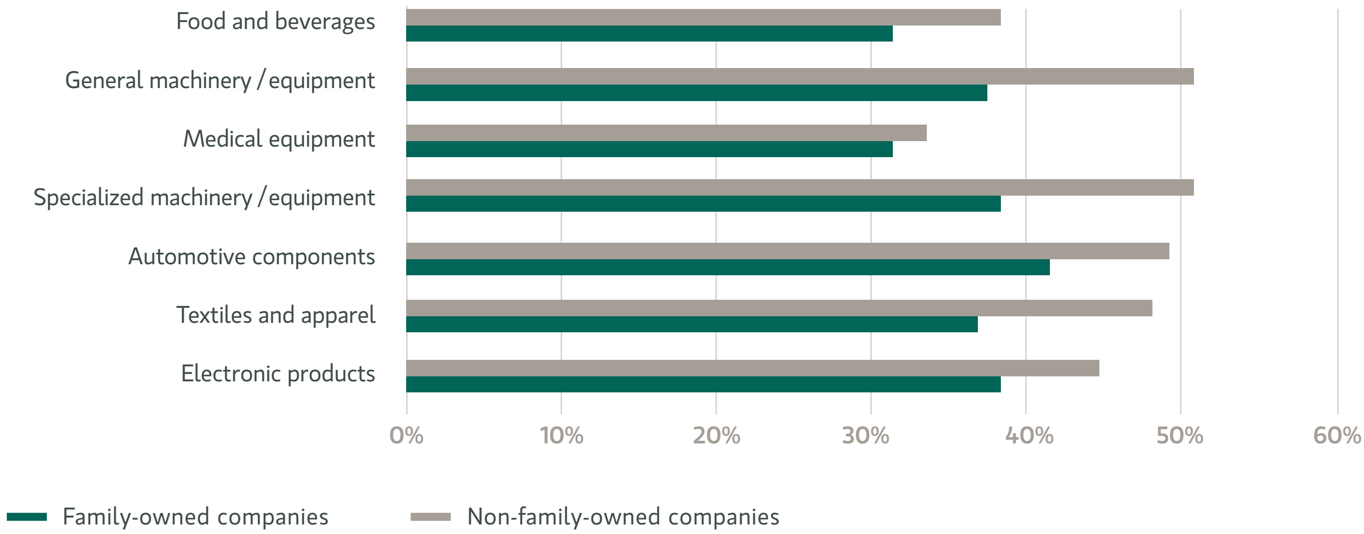


FIGURE 30.

Debt by type of manufacturing sector for Chinese listed family-owned companies vs. non-family-owned companies, 2020



APPENDIX 3.

PREDICTION MODEL ESTIMATING THE EFFECT OF FAMILY OWNERSHIP ON RETURNS

TABLE 28.

Prediction model estimating the effect of family ownership on returns

Variables	(1) ROA	(2) Stock market returns	(3) EVA
Family-owned company	**0.003*** **	**0.062*** **	**20.844*** **
	(3.39)	**(8.99)**	**(4.63)**
Market capitalization (USD million)	0.000**	0.000**	0.059***
	(2.02)	(1.98)	(14.25)
Year founded	0.000***	0.000	0.458
	(3.92)	(0.42)	(1.02)
Debt-to-asset ratio	-0.061***	0.023	-154.551***
	(-31.45)	(1.25)	(-13.99)
Beta	-0.003**	-0.008	-21.179**
	(-2.56)	(-0.30)	(-2.21)
Constant	-0.481***	-0.292	-862.001
	(-3.48)	(-0.25)	(-0.96)
Control by sectors	Included	Included	Included
Control by year	Included	Included	Included
Remarks	30.619	33.341	30.314
R^2 adjusted	0.12993	0.50755	0.15289

*** p < 0,01, ** p < 0,05, * p < 0,1

APPENDIX 4. ACCOUNTING PROFITABILITY RATIOS BY INDUSTRY FOR CHINESE LISTED FAMILY-OWNED COMPANIES VS. NON-FAMILY-OWNED COMPANIES, 2020

FIGURE 31.
ROA by industry for Chinese listed family-owned companies vs. non-family-owned companies, 2020

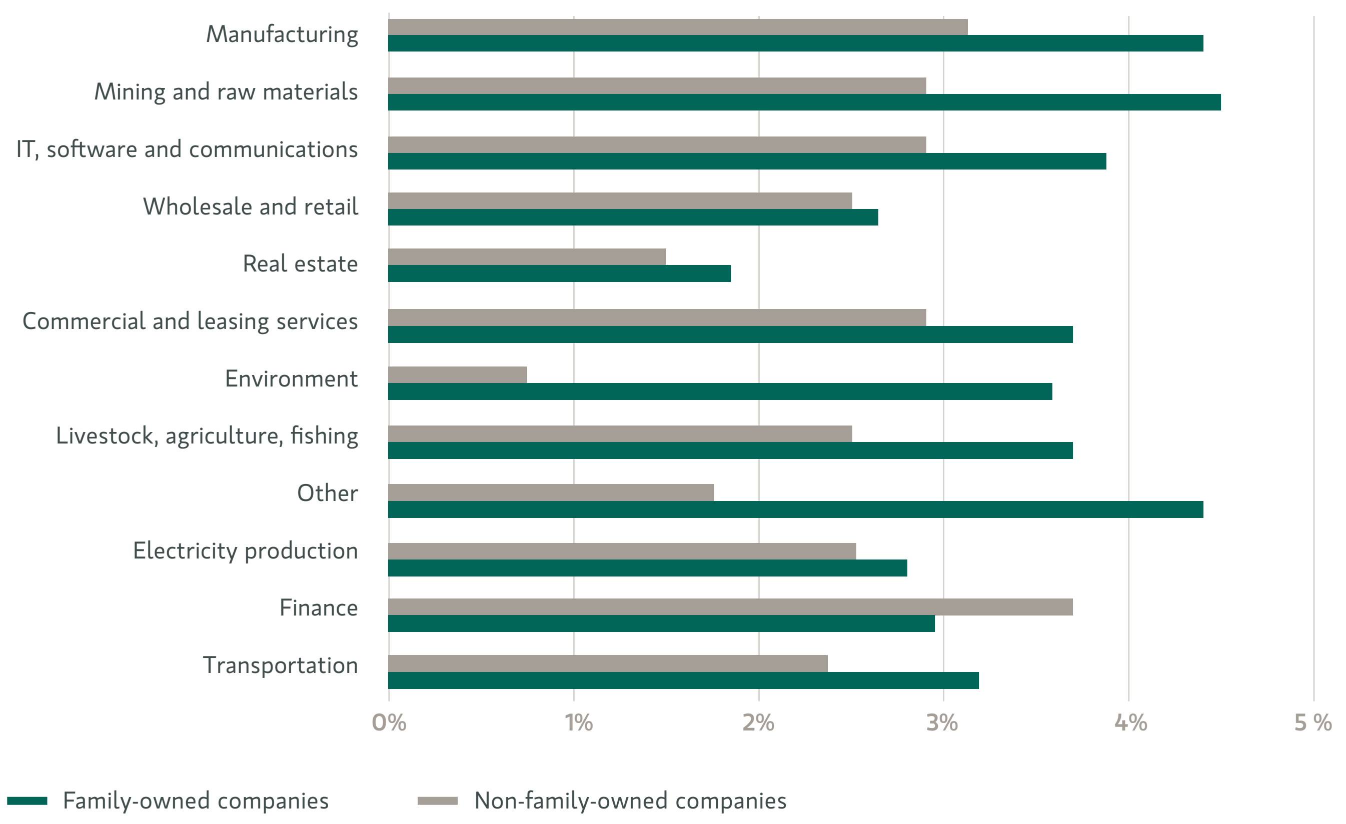


FIGURE 32.
ROA by manufacturing sector for Chinese listed family-owned companies vs. non-family-owned companies, 2020

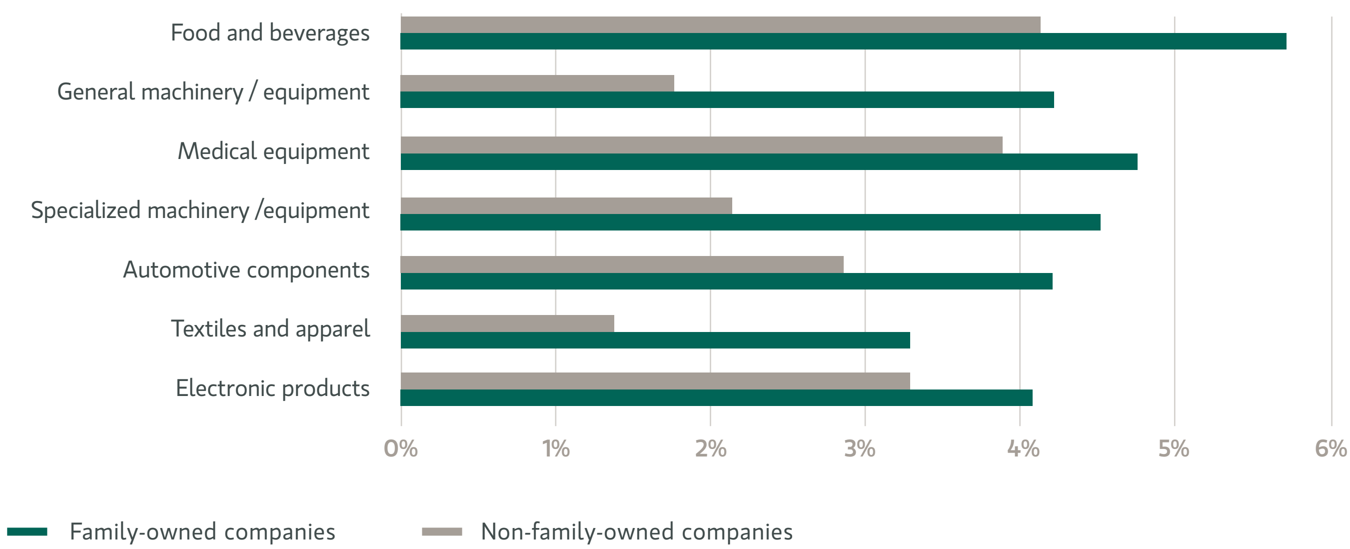


FIGURE 33.

ROE by industry for Chinese listed family-owned companies vs. non-family-owned companies, 2020

FIGURE 34.

ROE by manufacturing sector for Chinese listed family-owned companies vs. non-family-owned companies, 2020

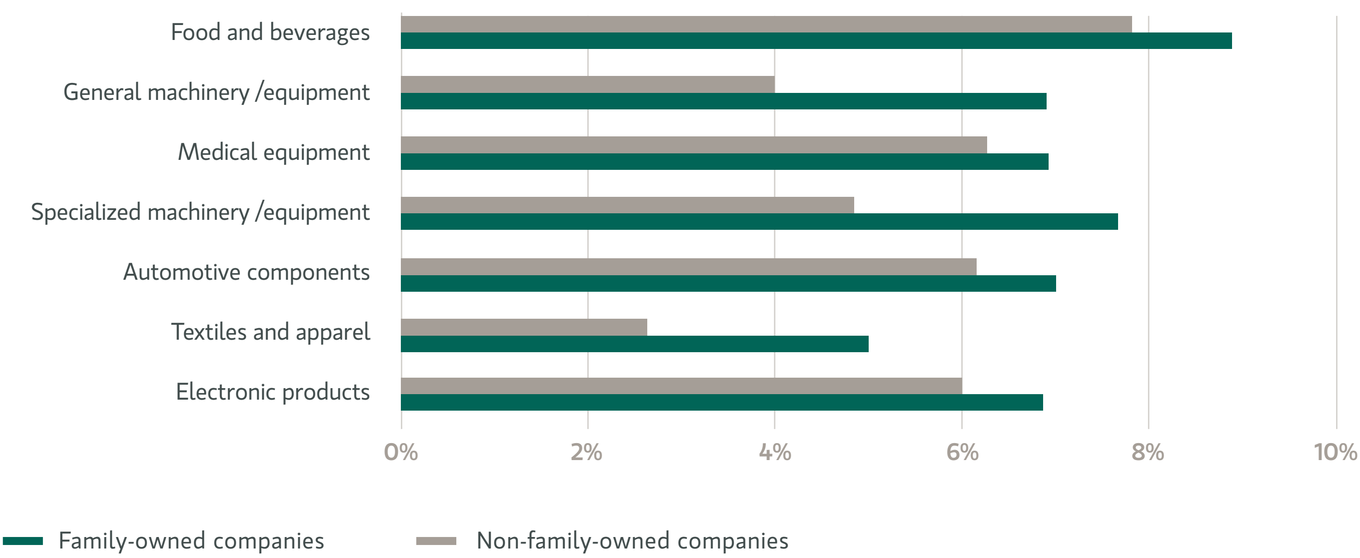


FIGURE 35.
ROCE by industry for Chinese listed family-owned companies vs. non-family-owned companies, 2020

FIGURE 36.
ROCE by manufacturing sector for Chinese listed family-owned companies vs. non-family-owned companies, 2020

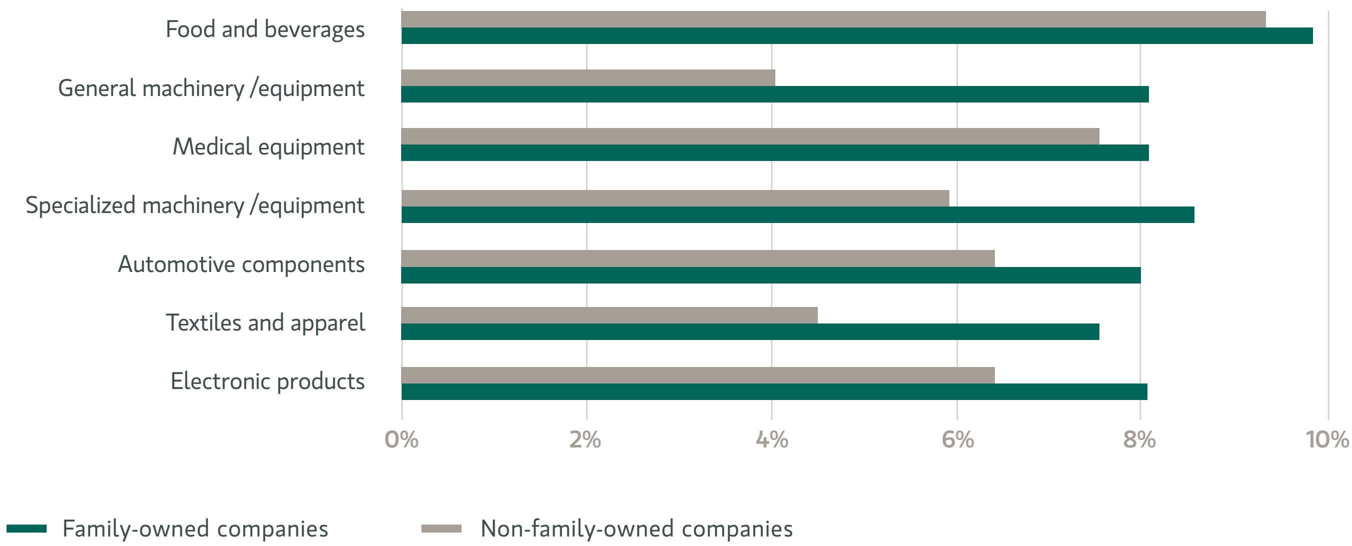


FIGURE 37.
ROIC by industry for Chinese listed family-owned companies vs. non-family-owned companies, 2020

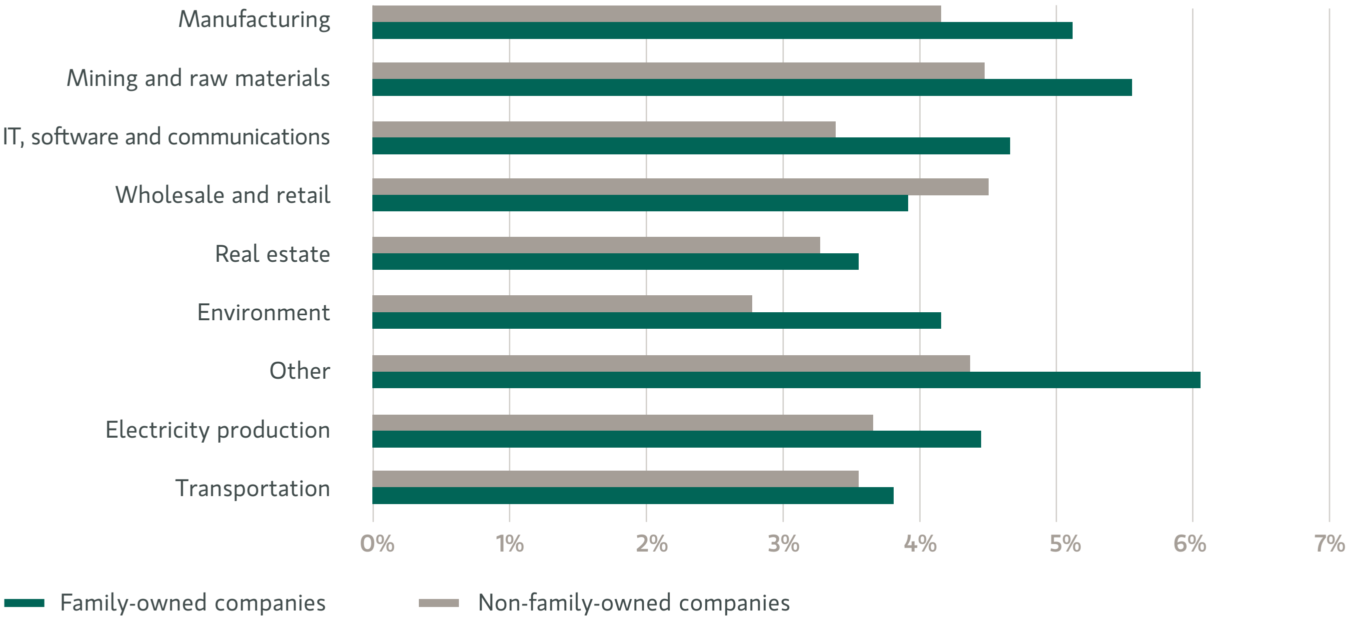
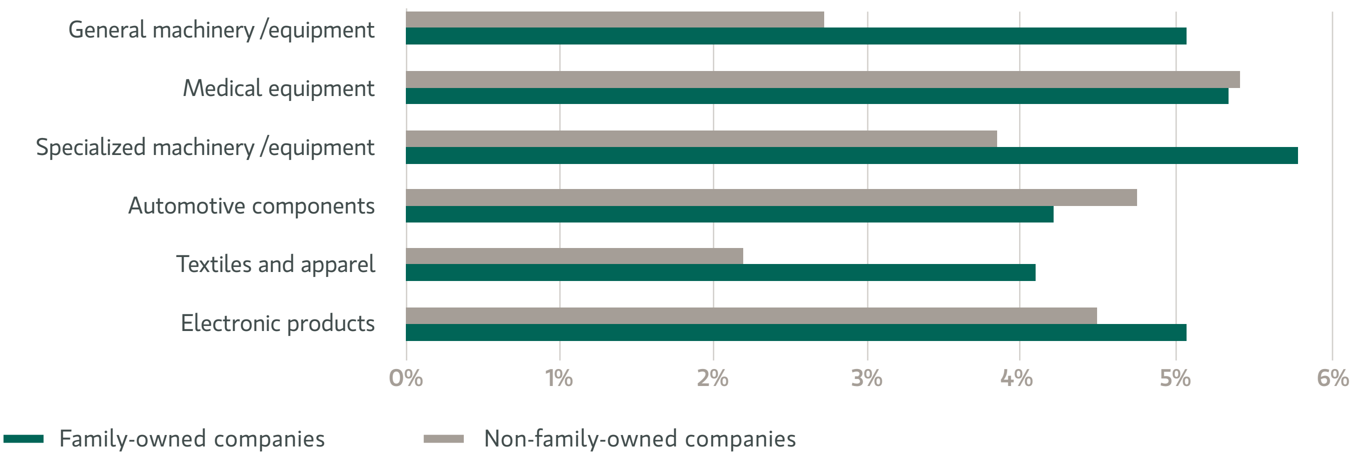


FIGURE 38.
ROIC by manufacturing sector for Chinese listed family-owned companies vs. non-family-owned companies, 2020



APPENDIX 5. P/E BY INDUSTRY FOR CHINESE LISTED FAMILY-OWNED COMPANIES VS. NON-FAMILY-OWNED COMPANIES, 2020

FIGURE 39.
P/E by industry for Chinese listed family-owned companies vs. non-family-owned companies, 2020

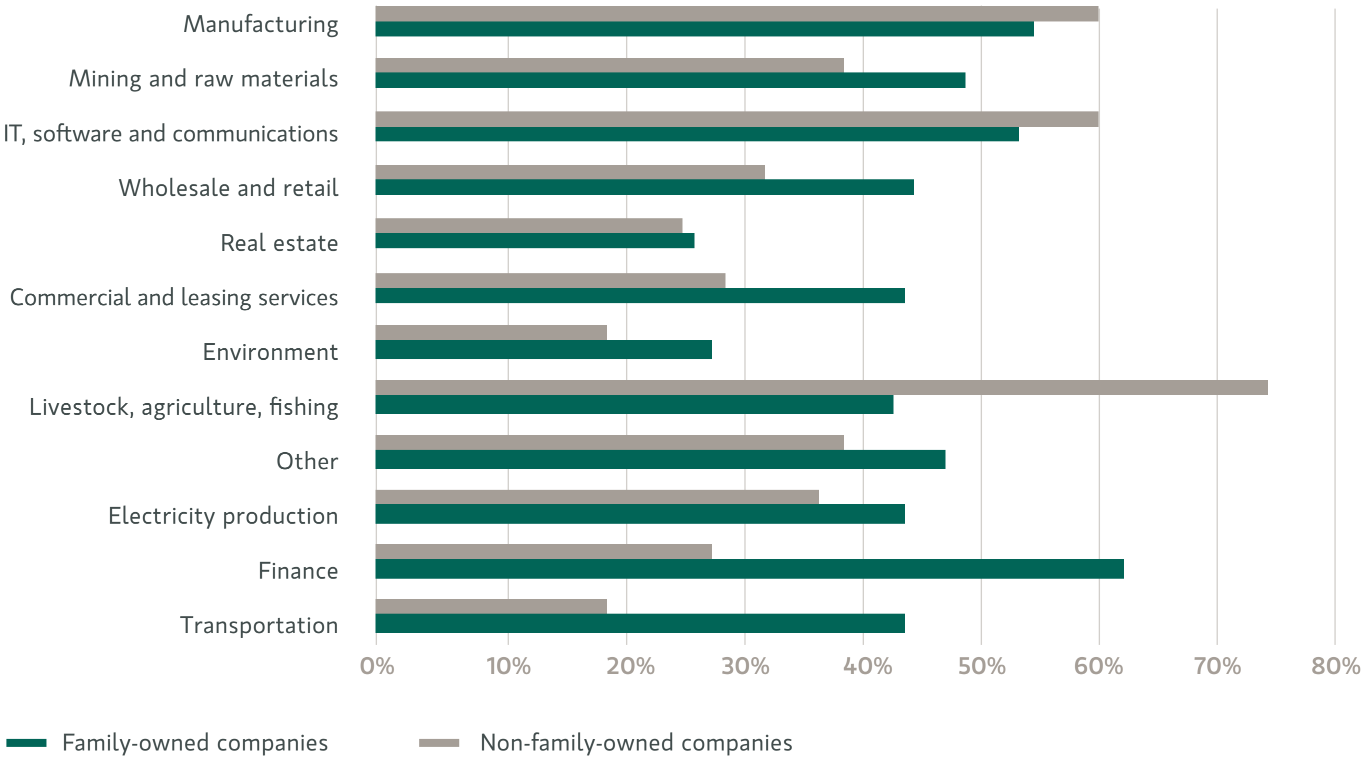
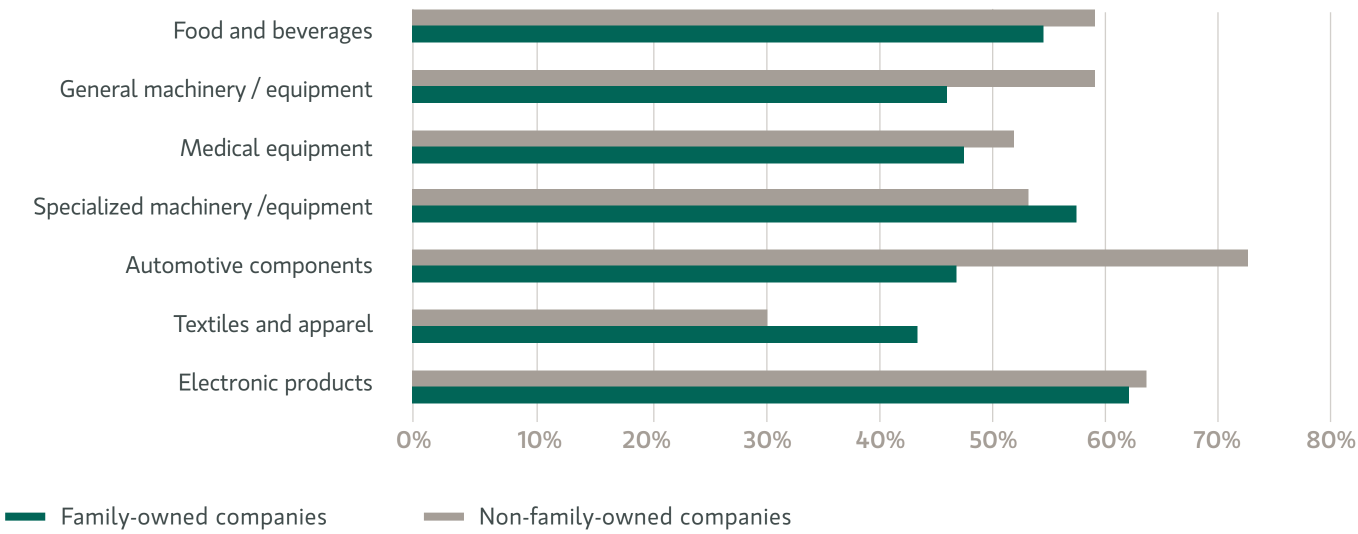


FIGURE 40.
P/E by manufacturing sector for Chinese listed family-owned companies vs. non-family-owned companies, 2020



APPENDIX 6. EVA SENSITIVITY ANALYSIS, 2005-2020

TABLE 29.
EVA sensitivity analysis, 2005-2020

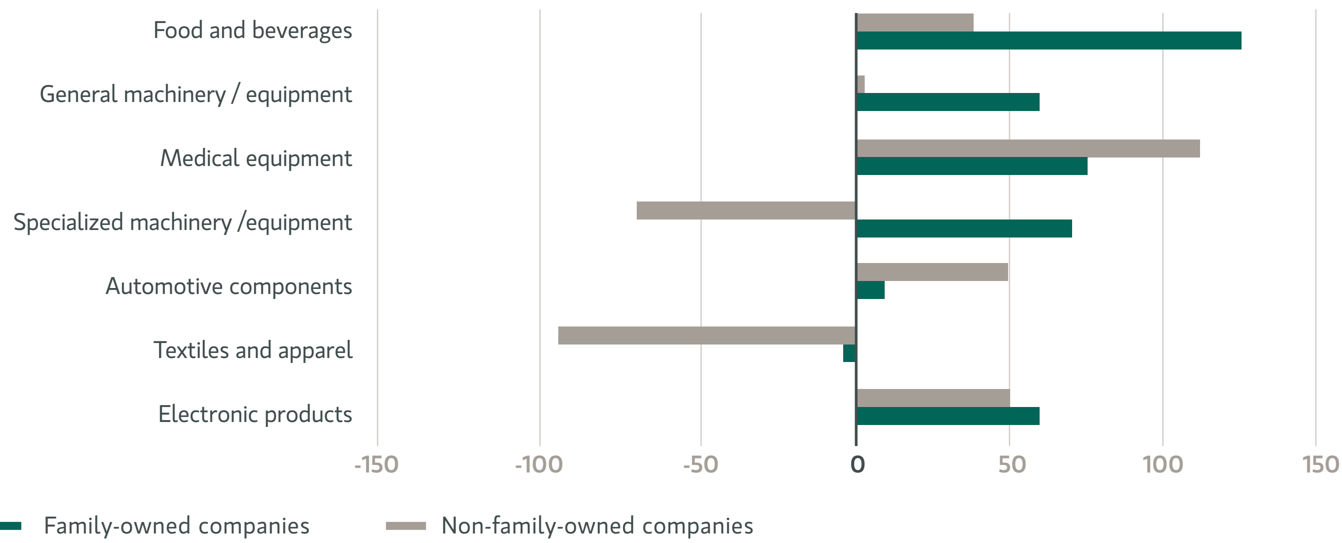
	Family-owned companies	Non-family-owned companies
EVA (cost of capital = 6%)	25.77	-7.03
EVA (cost of capital = 6.6%)	8.43	- 43.42
EVA (cost of capital = 7%)	-4.45	-58.89
EVA (cost of capital = 7.7%)	-25.79	-94.96

* Statistically significant differences.

APPENDIX 7. EVA BY INDUSTRY FOR CHINESE LISTED FAMILY-OWNED COMPANIES VS. NON-FAMILY-OWNED COMPANIES, 2020

FIGURE 41.
EVA by industry for Chinese listed family-owned companies vs. non-family-owned companies, 2020

FIGURE 42.
EVA by manufacturing sector for Chinese listed family-owned companies vs. non-family-owned companies, 2020



APPENDIX 8. TOP 100 CHINESE LISTED FAMILY-OWNED COMPANIES WITH THE HIGHEST AVERAGE ANNUAL STOCK MARKET RETURNS, 2016-2020

TABLE 30.

Top 100 Chinese listed family-owned companies with the highest average annual stock market returns, 2016-2020

Ranking	Company name	Industry	Stock market returns (2016-2020)	Market capitalization (USD million)
1	Sungrow Power Supply	Manufacturing	121%	14 746
2	Longi Green Energy Technology	Manufacturing	98%	48 686
3	Jiangsu Hengli Hydraulic	Manufacturing	93%	20 651
4	Guangzhou Tinci Materials Technology	Raw materials	88%	7936
5	EVE Energy	Manufacturing	87%	21 552
6	Muyuan Foods	Agriculture & livestock	78%	40 454
7	Luxshare Precision Industry	Manufacturing	77%	55 138
8	Shanghai Bairun Investment Holding Group	Manufacturing	75%	7824
9	Huatu Cendes	Leasing and other services	73%	970
10	Great Wall Motor Company Limited	Manufacturing	71%	32 165
11	Jiangxi Ganfeng Lithium	Raw materials	71%	15 581
12	Ingenic Semiconductor	Manufacturing	70%	6007
13	Shanghai Milkground Food Tech	Manufacturing	69%	3272
14	Shijiazhuang Tonhe Electronics Technologies	Manufacturing	66%	357
15	Lingyi iTech (Guangdong) Company	Manufacturing	66%	11 824
16	Chongqing Zhifei Biological Products	Manufacturing	66%	33 132
17	Aier Eye Hospital Group	Education and health	65%	43 212
18	Hangzhou Tigermed Consulting	Other	64%	16 955
19	Jiangsu Yoke Technology	Raw materials	64%	3894
20	Wingtech Technology	Manufacturing	63%	17 255
21	Gansu Huangtai Wine-Marketing Industry	Manufacturing	63%	792
22	Tongwei	Agriculture & livestock	62%	24 226
23	S.F. Holding	Transporte	60%	56 282
24	Top Choice Medical Investment	Education and health	60%	12 413
25	BYD Company Limited	Manufacturing	58%	49 321
26	Zhejiang Huayou Cobalt	Raw materials	57%	12 670
27	Foshan Haitian Flavouring and Food	Manufacturing	57%	90 977
28	Offcn Education Technology	Education and health	56%	30 333
29	Fushun Special Steel Shares	Raw materials	56%	4114
30	Beijing Oriental Yuhong Waterproof Technology	Raw materials	56%	12 761
31	Shenzhen Edifier Technology	Manufacturing	56%	1670
32	Shanghai Liangxin Electrical	Manufacturing	55%	3366
33	Suzhou TA&A Ultra Clean Technology	Manufacturing	53%	1899
34	Wuhan Guide Infrared	Manufacturing	53%	9304
35	Shenzhen Inovance Technology	Manufacturing	52%	22 463
36	Chifeng Jilong Gold Materias primas	Raw materials	52%	4172
37	Sany Heavy Industry	Manufacturing	51%	41 521
38	Shandong Bohui Paper Industry	Other	50%	2813
39	Guangdong Paisheng Intelligent Technology	Manufacturing	50%	414
40	Changzhou Xingyu Automotive Lighting Systems	Manufacturing	50%	7752
41	Jiangsu Hengrui Medicine	Manufacturing	49%	83 198
42	Anhui Honglu Steel Construction (Group)	Raw materials	49%	2678
43	Thunder Software Technology	IT	48%	6931
44	Midea Group	Manufacturing	48%	96 884
45	Zhejiang Wolwo Bio-Pharmaceutical	Manufacturing	48%	5622
46	Centre Testing International Group	Leasing and other services	46%	6380
47	Jiangxi Huangshanghuang Group Food	Agriculture & livestock	46%	1644

48	Goertek	Manufacturing	46%	17 114
49	Zhejiang Dingli Machinery	Manufacturing	46%	6878
50	JA Solar Technology	Manufacturing	45%	9095
51	Guangdong Xinbao Electrical Appliances Holdings	Manufacturing	45%	4890
52	Saturday	Manufacturing	45%	1671
53	Hangzhou Silan Microelectronics	Manufacturing	45%	4592
54	Sichuan Yahua Industrial Group	Raw materials	45%	3140
55	Glodon Company Limited	IT	44%	13 071
56	WUS Printed Circuit	Manufacturing	44%	4536
57	HNAC Technology	Manufacturing	44%	408
58	Shenzhen CAPCHEM Technology	Raw materials	44%	5832
59	Wuxi Lead Intelligent Equipment	Manufacturing	43%	10 669
60	Zhejiang Sanhua Intelligent Controls	Manufacturing	43%	12 396
61	Shanghai Kinlita Chemical	Raw materials	43%	1120
62	Sichuan Shuangma Cement	Raw materials	42%	1372
63	Xinjiang Tianshan Husbandry Bio-engineering	Agriculture and livestock	42%	954
64	Zhuzhou Kibing Group	Raw materials	42%	4814
65	Yongxing Special Materials Technology	Raw materials	42%	2989
66	Guangdong Haid Group	Agriculture and livestock	42%	15 233
67	Hangzhou First Applied Material	Raw materials	41%	9201
68	Fujian Torch Electron technology	Manufacturing	40%	4655
69	Lens Technology	Manufacturing	40%	18 787
70	Jiangsu Zitian Media Technology	Leasing and other services	40%	1145
71	C&S Paper	Other	40%	3833
72	Zhongji Innolight	Manufacturing	40%	5078
73	Chimin Health Management	Manufacturing	40%	606
74	Hubei Feilihua Quartz Glass	Raw materials	39%	2831
75	Rongsheng Petrochemical	Manufacturing	39%	26 093
76	Shanghai M&G Stationery	Manufacturing	39%	11 499
77	Jiangxi Zhengbang Technology	Agriculture and livestock	38%	6029
78	Jonjee Hi-tech Industrial & Commercial Holding	Manufacturing	38%	7433
79	Zhejiang Jiuzhou Pharmaceutical	Manufacturing	38%	4036
80	Risen Energy	Manufacturing	38%	3 638
81	Zhejiang NHU Company	Manufacturing	38%	10 131
82	Fuyao Glass Industry Group	Raw materials	38%	13 474
83	Tibet Rhodiola Pharmaceutical Holding	Manufacturing	38%	2335
84	Shenzhen Chengxin Lithium Group	Raw materials	36%	2565
85	Future Land Holdings Group	Real estate	36%	10 999
86	Lomon Billions Group	Raw materials	35%	8754
87	Shandong Sinocera Functional Material	Raw materials	35%	6339
88	Yonyou Network Technology	IT	35%	20 086
89	Hengli Petrochemical	Manufacturing	35%	27 564
90	Shenzhen Click Technology	Manufacturing	35%	885
91	Yangzhou Yangjie Electronic Technology	Manufacturing	35%	2936
92	Zhejiang Qianjiang Motorcycle	Manufacturing	35%	1625
93	New Hope Liuhe	Agriculture and livestock	35%	14 130
94	Shenzhen Changhong Technology	Manufacturing	35%	1929
95	Zhejiang Jingsheng Mechanical & Electrical	Manufacturing	34%	5414
96	Nanjing Aisidun Automation	Manufacturing	34%	3508
97	Zhejiang Huahai Pharmaceutical	Manufacturing	34%	6885
98	Anhui Jinhe Industrial	Manufacturing	34%	2547
99	Shanghai Fosun Pharmaceutical (Group)	Manufacturing	34%	15 200
100	Jiangsu Azure Corporation	Manufacturing	33%	1815

Source: authors' own elaboration based on CSMAR database.

APPENDIX 9. FORMULAS USED TO CALCULATE RATIOS

TABLE 31.

Formulas used to calculate ratios

Ratios	Formula
Debt to assets	Total liabilities / total assets
Debt to equity	Total liabilities / shareholders' equity
Debt to EBITDA	Since we do not have the short-term debt variable, which is required for calculating net debt, this variable was calculated as: total liabilities - cash and cash equivalents
R&D as a percentage of sales	R&D expenses /sales
ROA	Net income /total assets
ROE	Net income / net equity
ROCE	EBIT / capital employed
ROIC[58]	(Net income + financial expenses) / (total assets - current liabilities + promissory notes + short-term loans + non-current liabilities maturing within one year)
P/E	Price per share / earnings per share
EV/EBIT	Enterprise Value / EBIT
Average annual volatility	Average annual standard deviation of the stock market returns of the family or non-family business portfolio, as appropriate.
Beta	Linear regression using portfolio returns (family or non-family business, as appropriate) as the dependent variable (Rc) and market returns as the independent variable (Rm). $Rc = \alpha + \beta \times Rm + \varepsilon i$. The slope (β) obtained from the linear regression represents the portfolio beta.
Altman Z	The Altman Z indicator initially proposed to measure the insolvency risk of a sample of manufacturing companies comes from the following equation: Altman Z-*score* = 1.2 A + 1.4B + 3.3 C + 0.6D + 1.0E Where: • A: (working capital / total assets) • B: (retained earnings /total assets) • C: (EBITDA/total assets) • D: (market capitalization /total debt) • E: (net sales/total assets) The Z threshold values for classifying companies as solvent or insolvent are: • $Z > 2.99$ = solvent • $1.81 < Z < 2.99$ = risk area • $Z < 1.81$ = insolvent

[58]Formula used in CSMAR database.

APPENDIX 10. EVA (ECONOMIC VALUE ADDED) ESTIMATION

The CSMAR database uses the following formula to calculate EVA:

EVA = NOPAT - total capital * weighted average cost of capital (hereinafter abbreviated as WACC)

The calculation is made in accordance with SASAC's Interim Regulations on Supervision and Management of State-owned Assets of Enterprises.

Where:

- **NOPAT** = net income + (interest charges + R&D fee adjustment - non-operating income) × (1 - corporate income tax rate).
- **Total capital** = average equity + average total liabilities - average current non-interest-bearing liabilities - average project in progress.
- **The WACC** is fixed at 5.5%. This cost of capital was established by the Chinese authorities through SASAC for companies with state shareholdings.

Glossary

Stock CAGR. Stock Compound Annual Growth Rate.

CEO. Chief Executive Officer.

CSMAR. China Stock Market & Accounting Research.

HKD. Hong Kong dollars.

EBIT. Earnings Before Interest and Taxes.

EBITDA. Earnings Before Interest, Taxes, Depreciation and Amortization.

ESG. Environmental, Social and Governance.

EV. Enterprise Value.

EVA. Economic Value Added.

R&D & Innovation. Research, development and innovation.

ROA. Return on assets.

ROE. Return on equity.

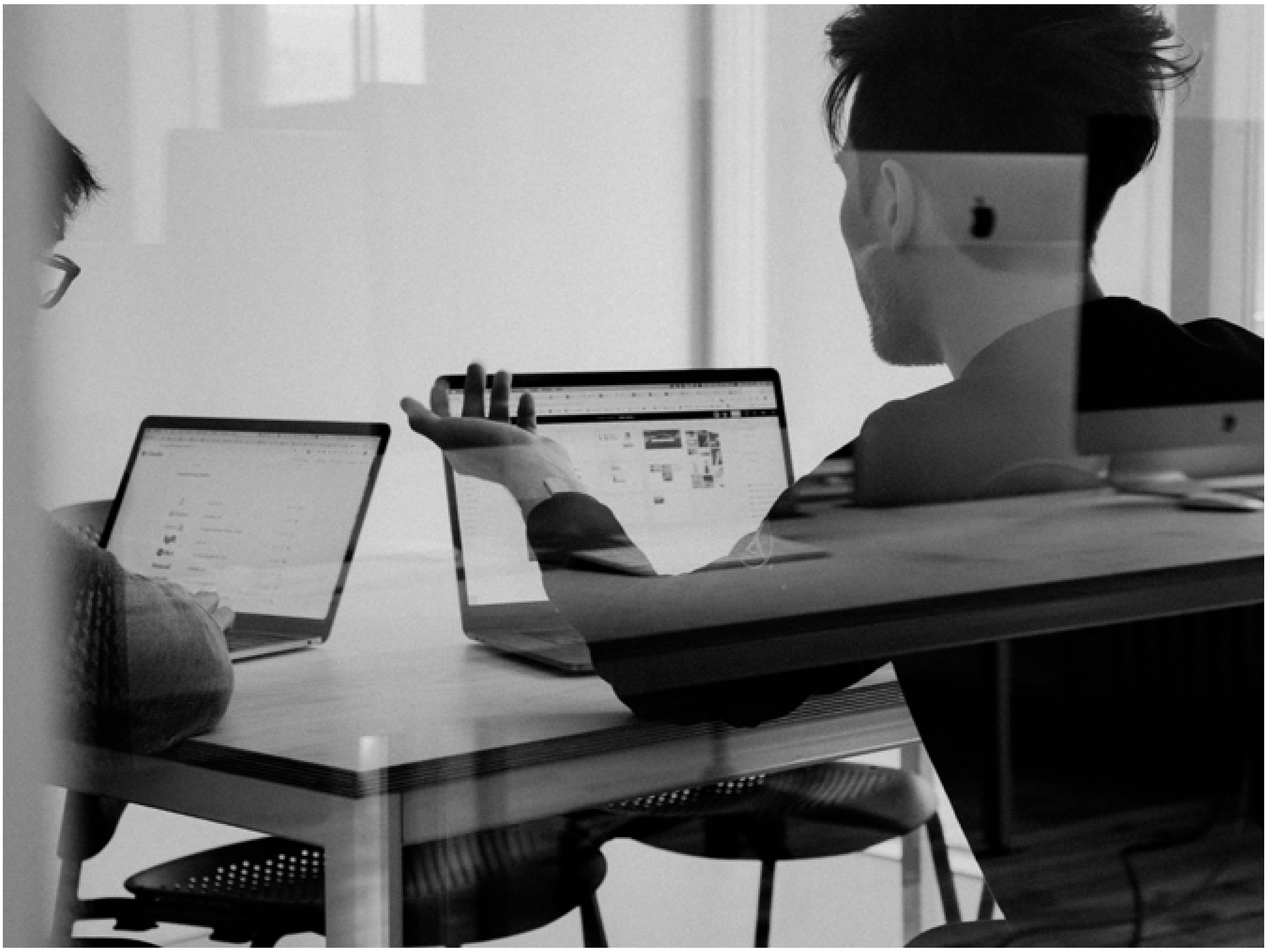
ROCE. Return on capital employed.

ROIC. Return on invested capital.

SASAC. State-owned Assets Supervision and Administration Commission of the State Council.

TWD. Taiwanese dollars.

USD. United States dollars.



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