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An Overview of Norwegian Firms

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BI NORWEGIAN BUSINESS SCHOOL

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1. Introduction

Norway is one of the wealthiest countries in the world, with the 3rd-largest GDP per capita in the OECD and the second-highest level of labor productivity[1]. At the same time, the Norwegian economy is facing important challenges, such as an ageing population and the green transition. It is therefore important to take stock and examine the current state of Norwegian firms. In this report we present an overview of their corporate governance characteristics and financial performance.

Our study starts from the universe of limited liability firms registered in Norway. It covers the period between 2000 and 2023. We group firms in business groups and present consolidated numbers for the group. That leaves us with a population that increases from around 100,000 limited liability firms (groups) in 2000 to 250,000 in 2023.

The vast majority (more than 99%) of the firms in our study are private firms. Our dataset therefore allows us to provide a detailed picture of nonlisted firms – firms that are largely missing from the finance and governance research that usually uses data reported by listed firms. We show that private firms represent a large proportion of economic activity, and that their governance characteristics are different.

The population of limited liability firms includes many very small firms, and a few very large ones. This heterogeneity is important, and we also present separate statistics for medium and large firms.

Firms in different industries can be quite different in terms of typical size, capital intensity, profitability, growth and even governance. We therefore also present industry-level statistics at several points in our study.

Norway is a country where the population is spread out over a relatively large area, and the balance between larger cities and small places is quite important. Our study examines the characteristics and overall importance of firms headquartered in more or less central regions, and presents the differences in terms of size, performance, ownership, and governance. We also look at the importance of foreign ownership across firm sizes, industries, and regions.

The vast majority of nonlisted firms are controlled by individuals and families. Family firms can be quite different from other firms in terms of their governance, financing, growth trajectories, and even financial performance. We present a detailed set of statistics on family firms throughout our report[2].

Family firms tend to be smaller on average than nonfamily firms – even though large family firms do exist. It is therefore important to try to distinguish between family firm characteristics that are driven by their ownership and those that are driven by their typically smaller size. Family firms are also more important in some industries than others, and represent a larger proportion of revenues, assets and employment in less central areas. To address these important sources of heterogeneity, we present separate statistics for family and nonfamily firms in different size brackets, industries, and geographies.

[1] OECD (2024), *OECD Compendium of Productivity Indicators 2024*, OECD Publishing, Paris, https://doi.org/10.1787/b96cd88a-en.

[2] We define family firms as firms where at least 50% of the equity is ultimately controlled by a family or a group of individuals who are related by blood or marriage.

Our report starts with a summary of key statistics in Section 2. We present details about the structure and sources of our dataset in Section 3. In section 4 we present general characteristics of Norwegian limited liability firms and differences across industries. Section 5 presents statistics on listed Norwegian firms, and compares them to the much larger set of private firms. In section 6, we look at the cohorts of new firms started during our sample period, and examine their performance during the first years of their existence.

Section 7 begins the exploration of family firms. It presents the proportion of family firms in the total number, revenues, assets and employment of limited liability firms. It describes the size distribution of family and nonfamily firms, and the importance of family firms across industries. Section 8 presents an overview of financial indicators for family and nonfamily firms of different sizes, while sections 9 and 10 present financial indicators over time and across industries respectively.

The corporate governance of various firms can be an important factor in their performance. Corporate governance structures can also be very different between family and nonfamily firms. Section 11 presents a basic overview of the ownership, board of directors and CEO characteristics for Norwegian limited liability firms. Section 12 compares the governance characteristics of family and nonfamily firms, section 13 links governance to firm size, and section 14 focuses on large family and nonfamily firms.

Some family firms also have minority shareholders, even if some of them do not. Most family firms have family CEOs – but some of them choose to have nonfamily CEOs. Section 15 presents an overview of family firms with those different characteristics.

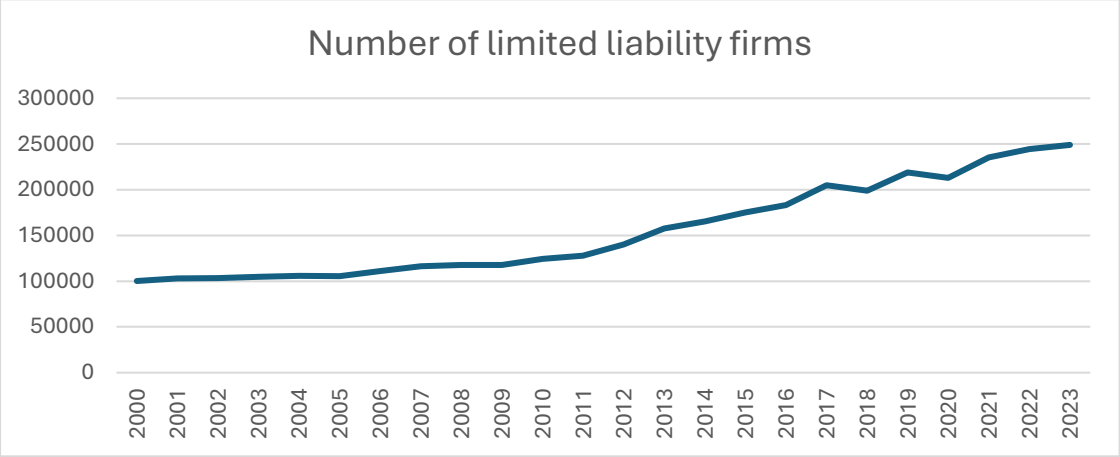
Foreign ownership is important on the Oslo stock market – and on Nordic markets in general, given that they are small open economies. Section 16 provides an overview of foreign ownership including private firms in various industries.

In firms with concentrated ownership, and in particular in family firms, there is a close connection between the finances of the firms and the owners' personal resources. Section 17 presents a brief overview of that connection.

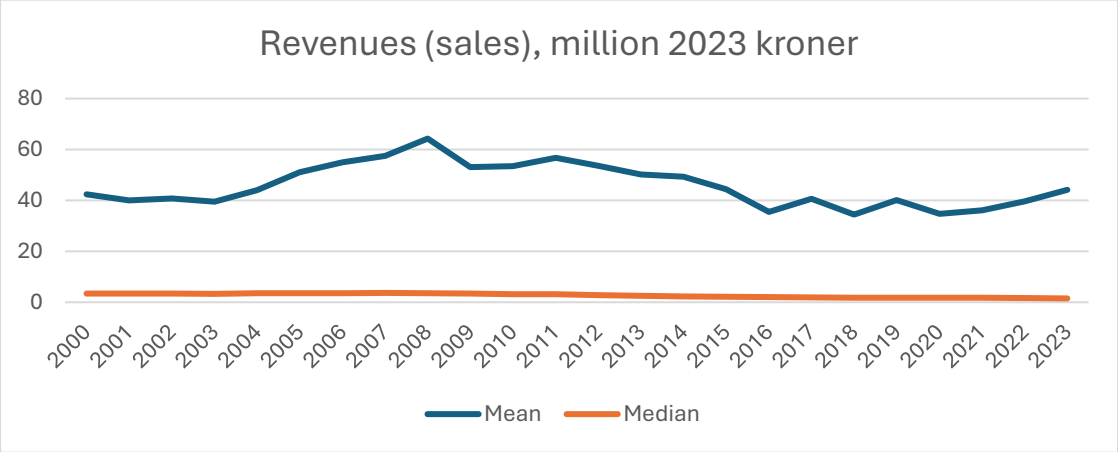
Geography can be an important factor for the size, financial performance, investor base and governance of firms. Section 18 presents an overview of firms in different geographical regions based on their centrality. It compares firms headquartered in large cities to firms in smaller and more remote communities. It showcases the fish farming industry as an industry that is well represented in less central regions, and also presents the importance of foreign ownership across regions.

2. Key statistics

The **number** of active Norwegian **limited liability firms**[3] has increased significantly in recent years, following a decrease in the amount of required equity and the relaxation of auditing requirements for small limited liability firms in 2011[4].



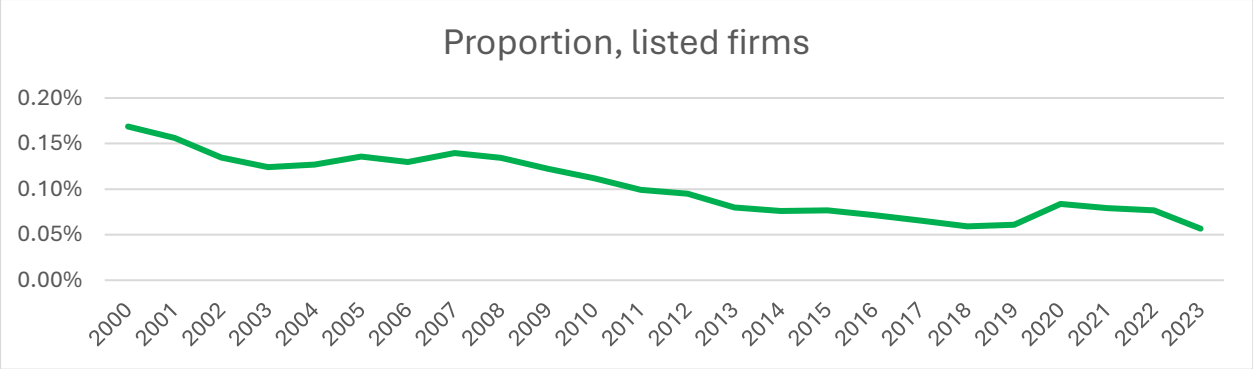
Since some small firms that were/would have been unlimited liability firms became limited liability firms, the average firm **size** has decreased slightly in recent years. The graph below presents the mean and median revenues (sales) of Norwegian limited liability firms in million NOK. The amounts are inflation adjusted and expressed in 2023 kroner.

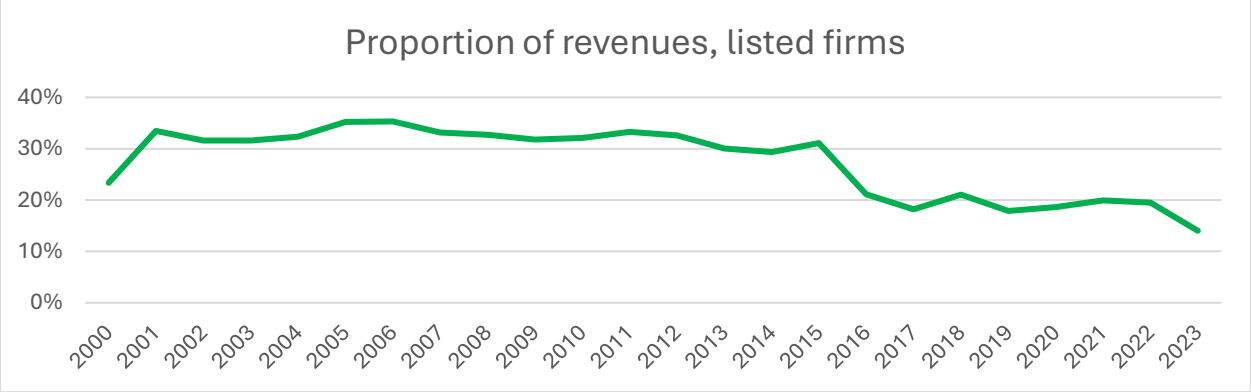


Given the increase in small limited liability firms, the proportion of **listed firms**, always quite low, has decreased slightly. Moreover, the share of listed firms in the total revenues of Norwegian limited liability firms has stabilized at a lower level since the oil price shock of 2015.

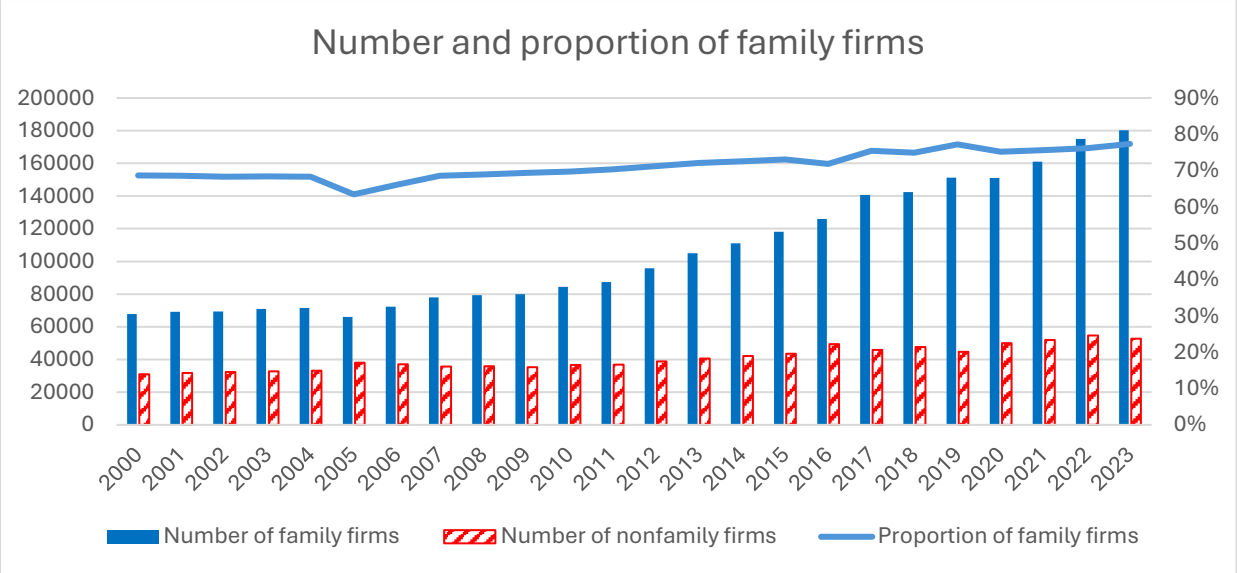
[3] We start from the universe of active limited liability firms in Norway. One business group counts as one observation, and we use consolidated data for business groups.

[4] The minimum amount of equity needed to start a limited liability firm (AS) was reduced from 100,000 to 30,000 kroner. Also, from 2012 the firm can choose to not have an auditor if sales are below NOK 6 mill., assets are below NOK 23 mill., and the average number of employees during the year is below 10.





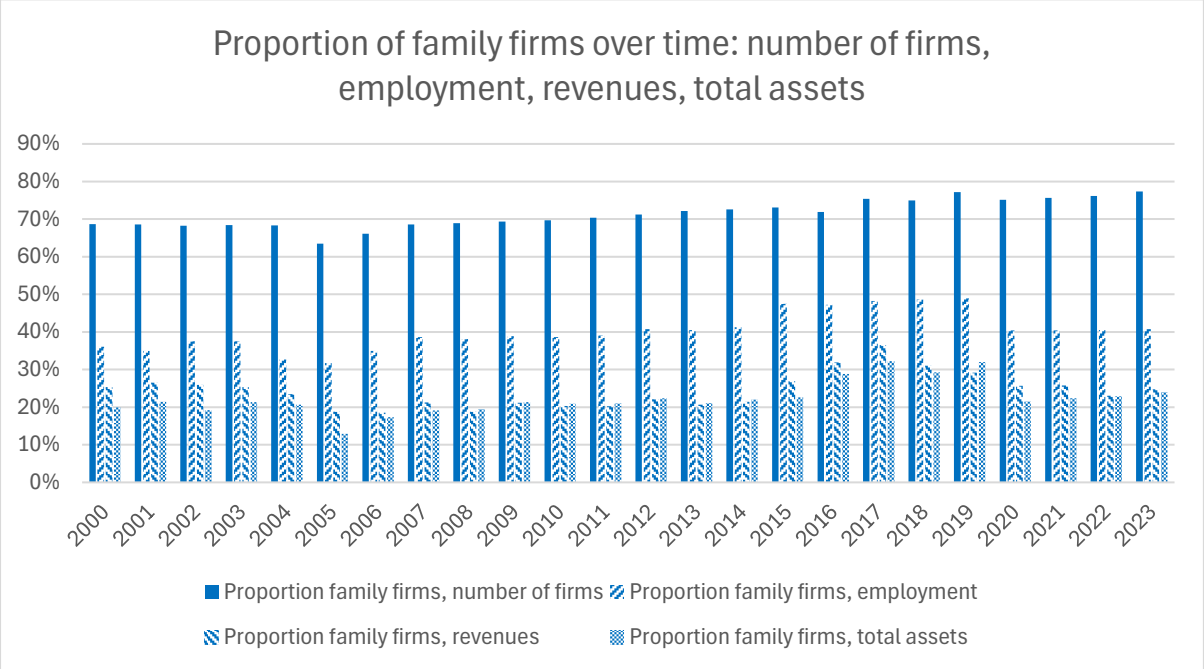
Family firms[5] represent a majority of Norwegian limited liability firms. The increase in the number of small limited liability firms is also associated with an increase in the number and even the proportion of limited liability family firms.



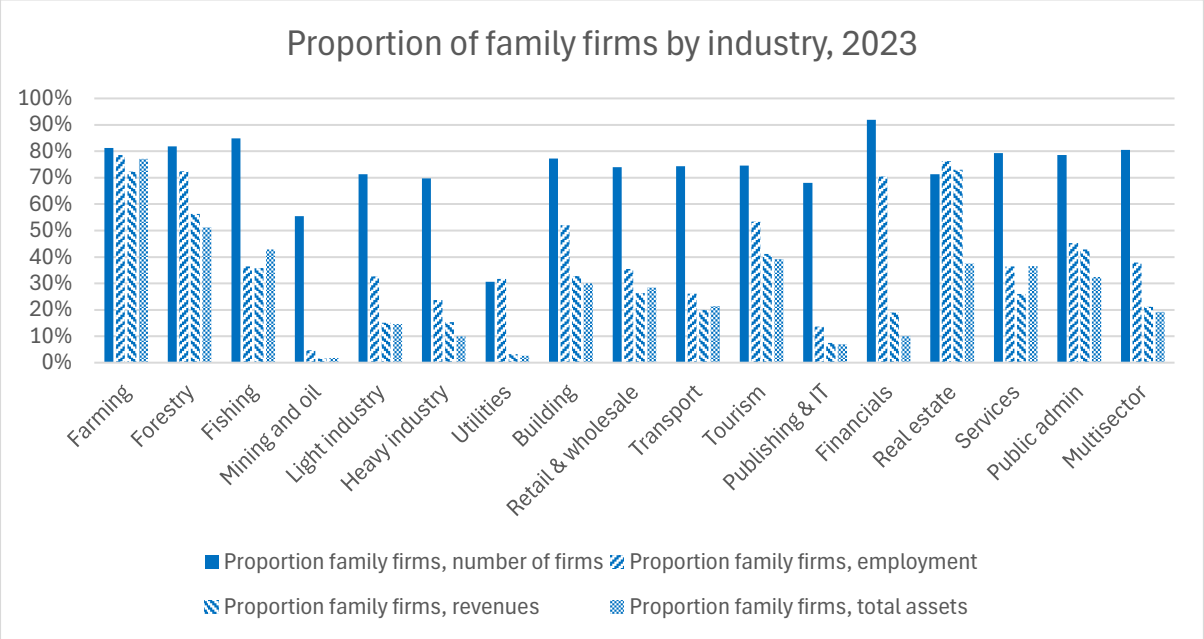
Left scale: number of firms. Right scale: the proportion of family firms in limited liability Norwegian firms in a given year.

[5] In this study family firms are defined as firms where an individual or a group of individuals related by blood and marriage ultimately control at least 50% of the equity. Additional sample and variable definitions can be found in the Appendix.

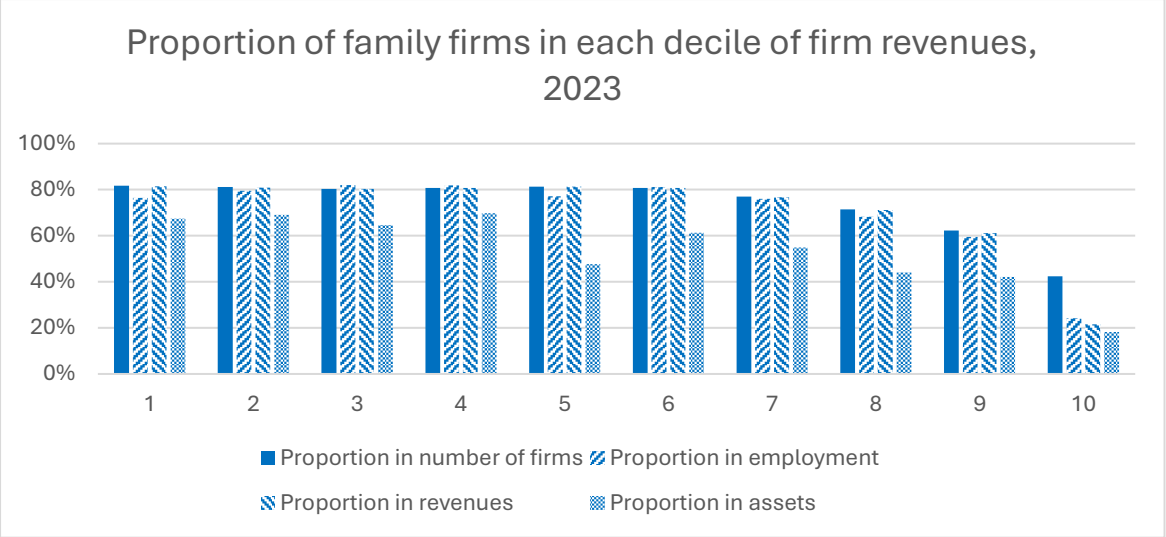
Even though they are on average smaller than nonfamily firms, family firms also represent a significant proportion of the overall employment, revenues, and assets in limited liability firms, and the proportions has been fairly stable over time:



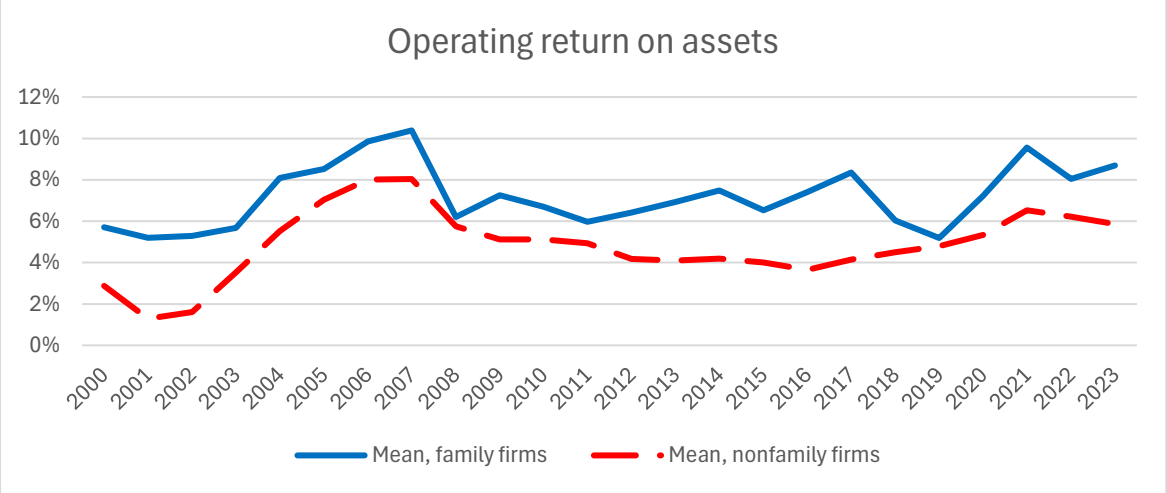
Family firms also play a major role across industries (with lower proportions in capital intensive industries such as mining and oil and utilities).



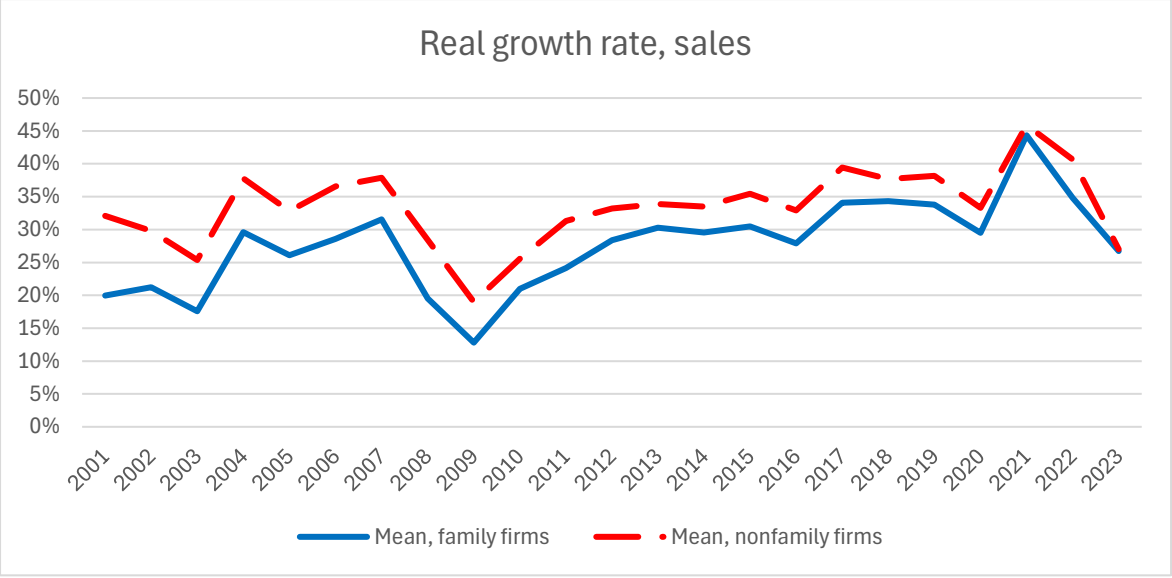
Family firms are dominant among small and medium enterprises, but they are also present among the largest firms in the economy. In the graph below, we group firms into size deciles based on their revenues in 2023, with 1 being the smallest and 10 being the largest firms. We calculate the proportion represented by family firms in each size decile.



Family firms have **higher profitability and lower growth** compared to nonfamily firms, and the difference seems to be stable across the business cycle.

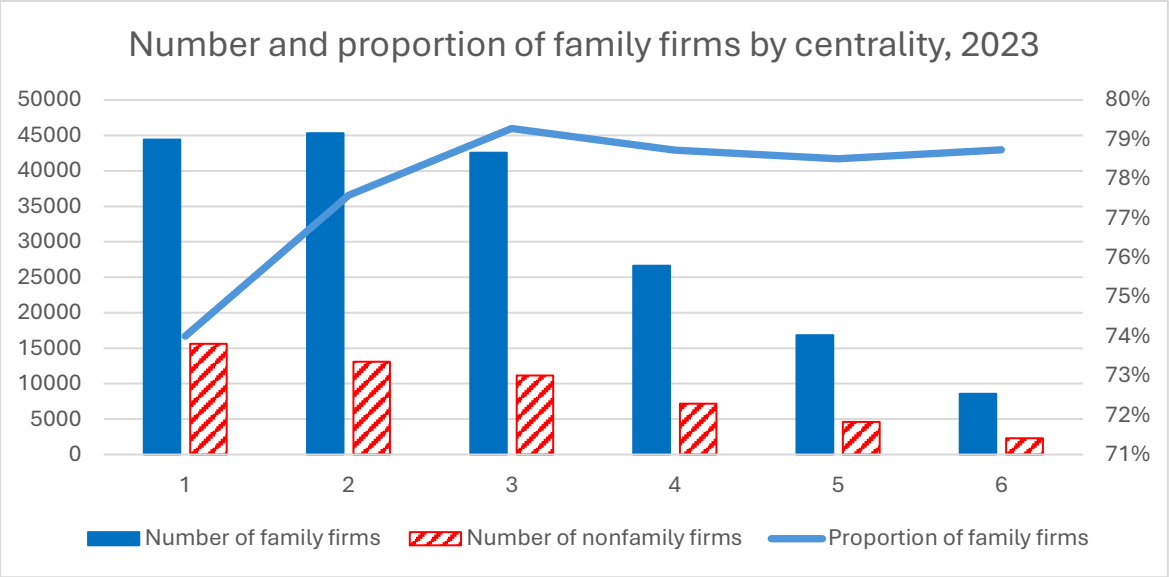


(The operating return on assets is calculated as the ratio of after-tax operating earnings to total assets, winsorized at 2.5% and 97.5%.)



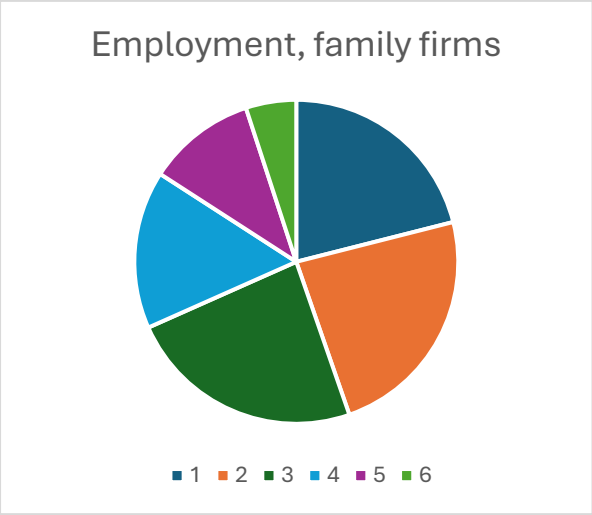
(The real growth of sales in year *t* is calculated as $(Sales_t - Sales_{t-1})/Sales_{t-1}$, where sales (revenues) are inflation adjusted and expressed in 2023 kroner. The ratio is winsorized at 97.5%.)

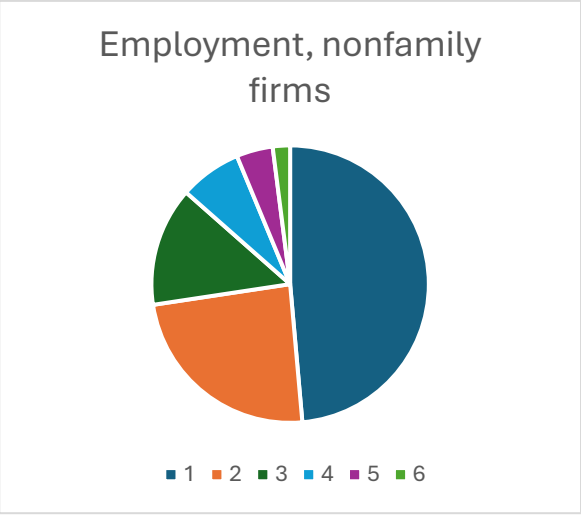
Norway has a relatively small population that is spread out across regions with varying densities and connectivity to the rest of the country. Family firms represent a larger share of firms in **less central regions**, as shown in the graph below[6].



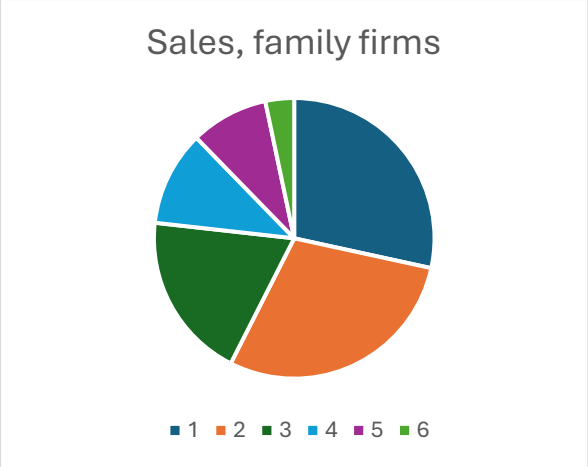
Left scale: the number of firms. Right scale: the proportion of family firms.

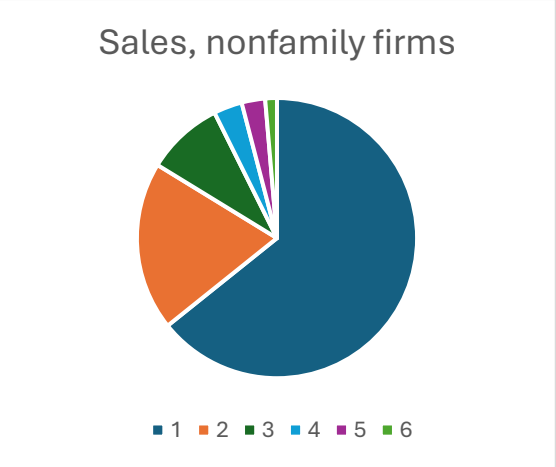
A significantly larger share of the employment, revenues, and assets of family firms is located in less central areas. The graphs below show the proportion of employees, revenues, and assets in firms headquartered in municipalities with a given centrality class, for family and nonfamily firms respectively.

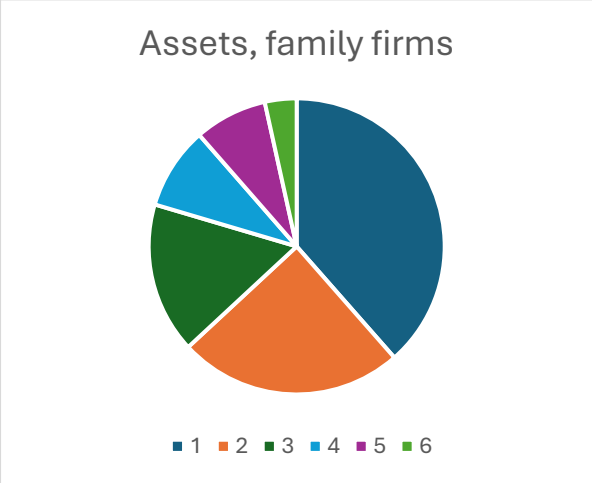


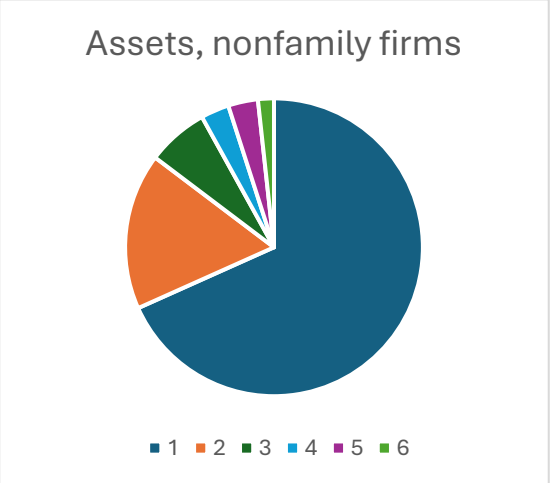


[6] We use the centrality index from Statistics Norway (https://www.ssb.no/befolkning/folketall/artikler/sentralitetsindeksen) to classify firms and business groups based on the location of their headquarters. 1 is the Oslo region (the most central), 2 includes other large cities (Bergen, Trondheim, Stavanger, more distant municipalities in the Oslo region), 6 represents the least central municipalities (e.g. Karasjok, Dovre, Moskenes or Ulvik).

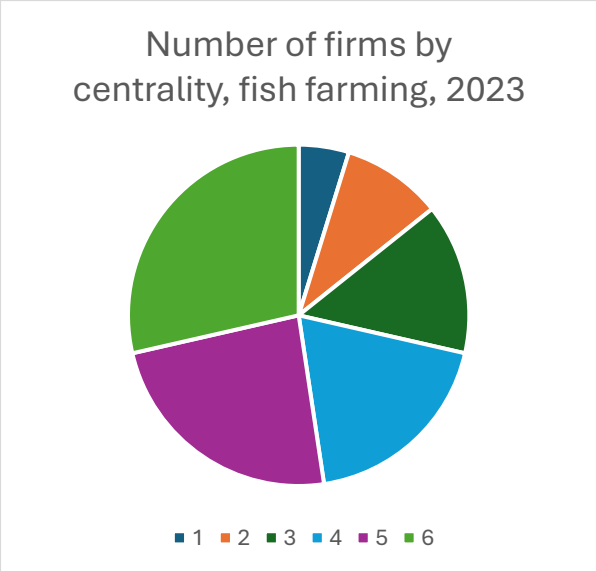


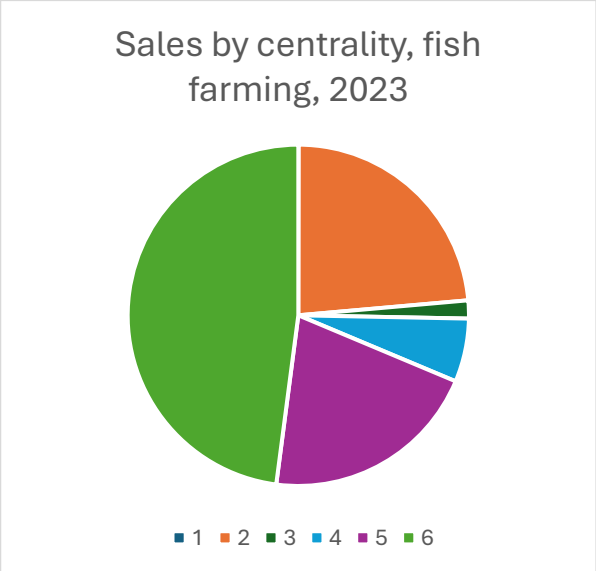




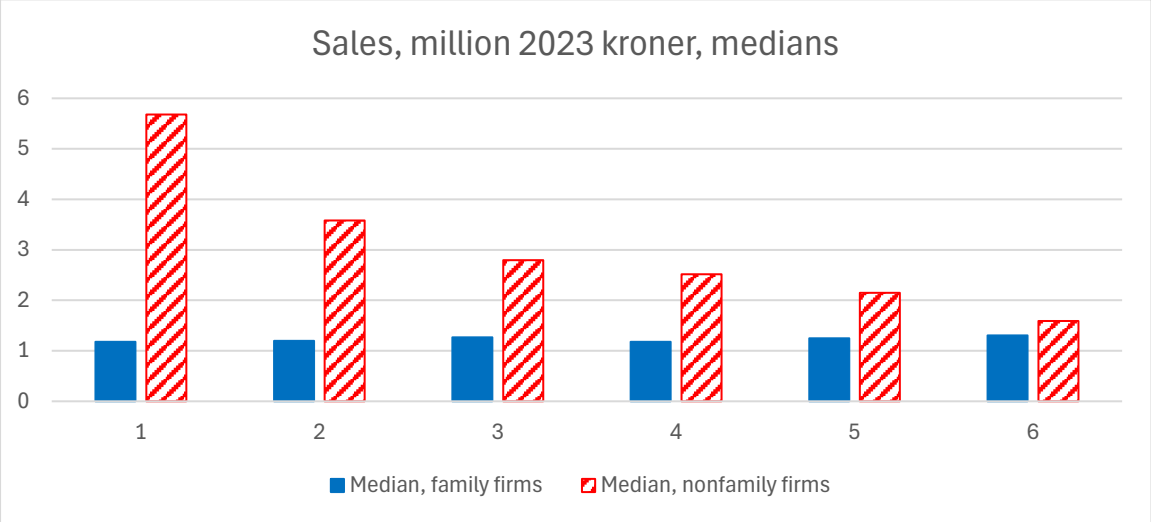


There are industries that are significantly better represented in less central regions, such as fish farming. Around half (between 40% and 60%, depending on centrality index) of fish farming firms are family firms.

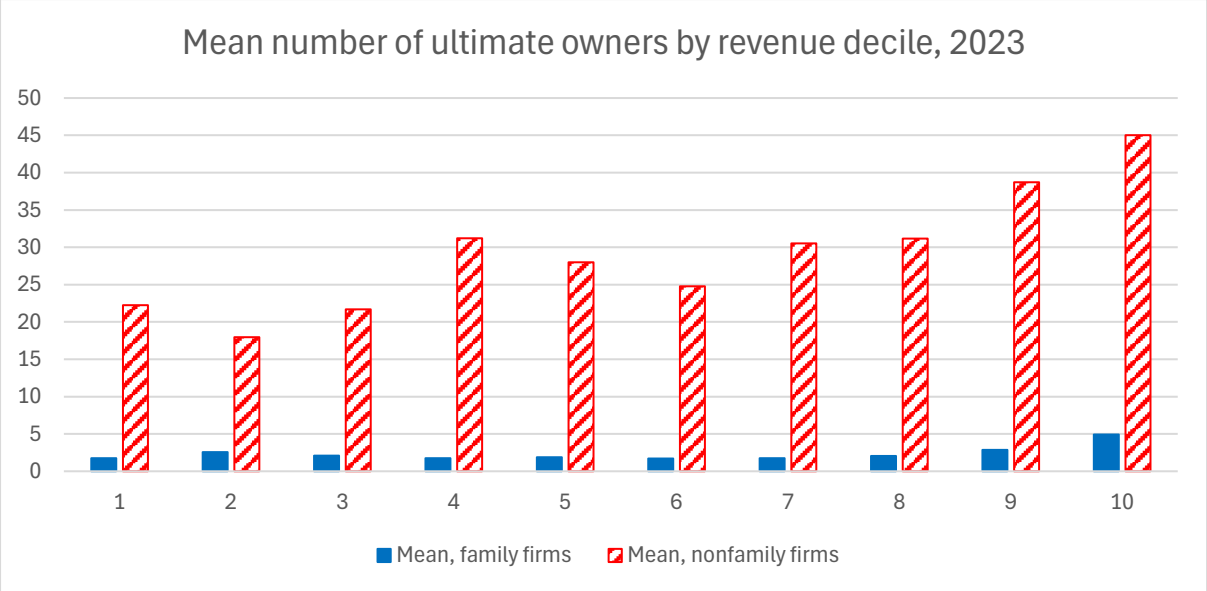




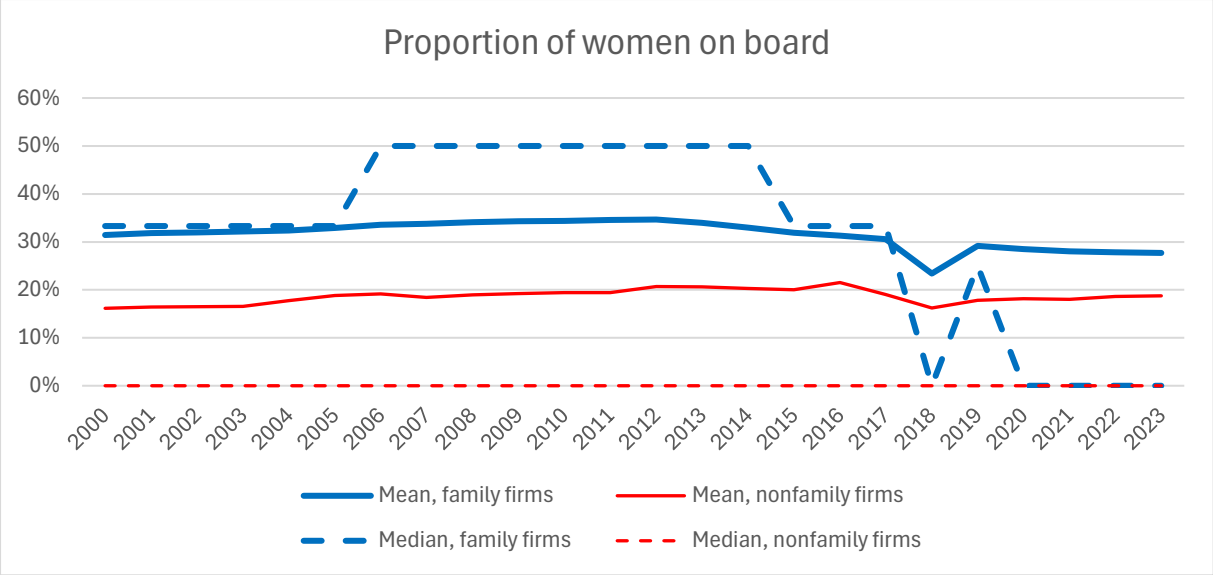
The typical **size** of nonfamily firms decreases as we go from more to less central locations. That is not the case for family firms – which means that the size difference between family and nonfamily firms is much smaller in less central regions.

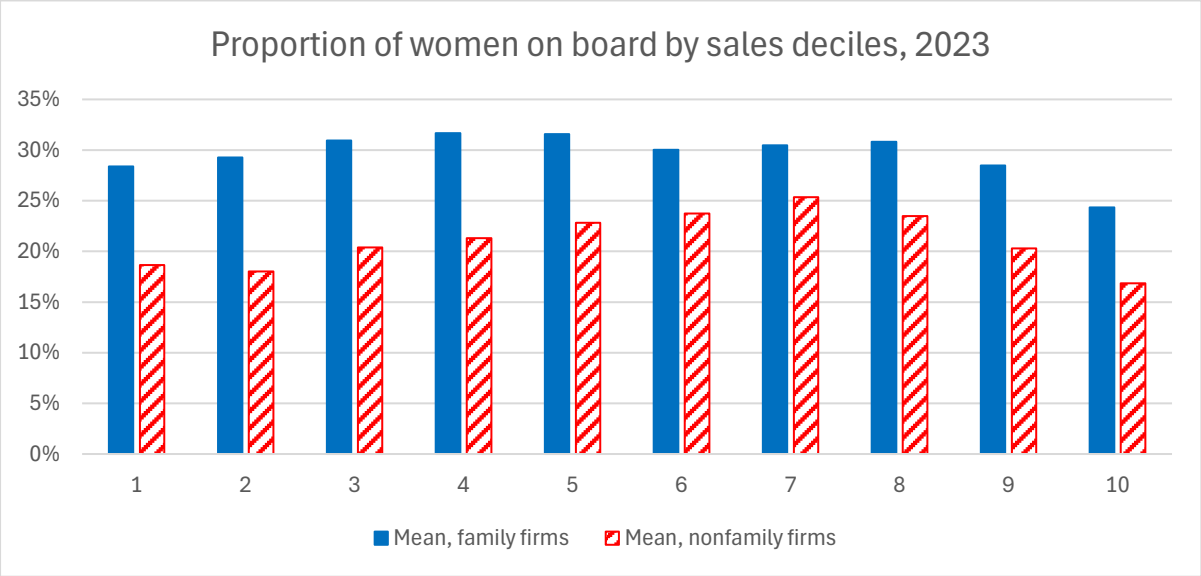


In a majority of family firms, the family controls 100% of the shares. The typical **number of owners** is significantly larger in nonfamily than in family firms in all size brackets (1 = smallest decile of firms by revenues in 2023, 10=the largest decile).

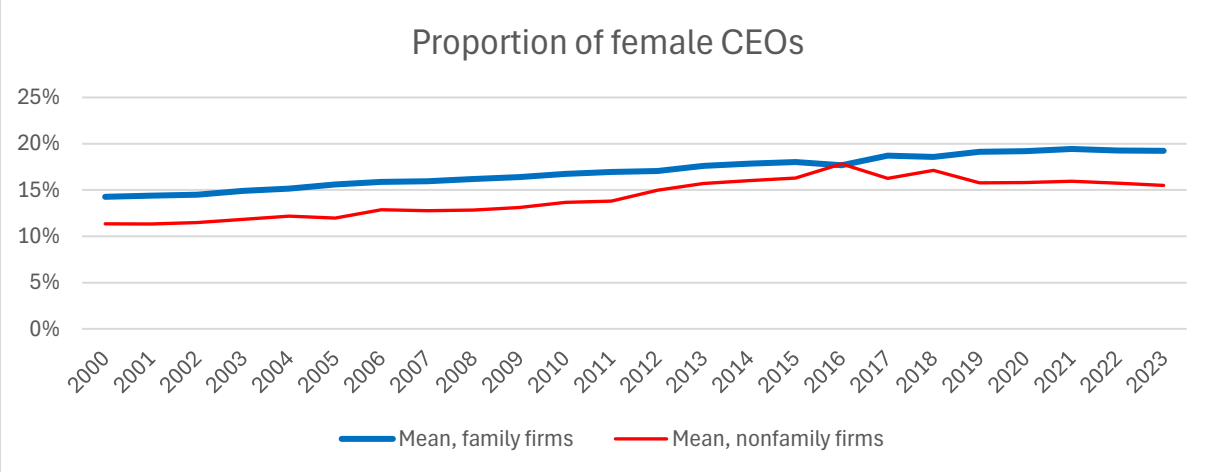


Norway pioneered the introduction of **gender balance** requirements in large (ASA) firms. Looking at all limited liability firms – not just the largest ones – the proportion of women on board has been larger in family firms throughout our sample period, but it is still far from balanced. The proportion of women on board is also higher in family firms across the firm size distribution – but it is still slightly lower in the largest firms.

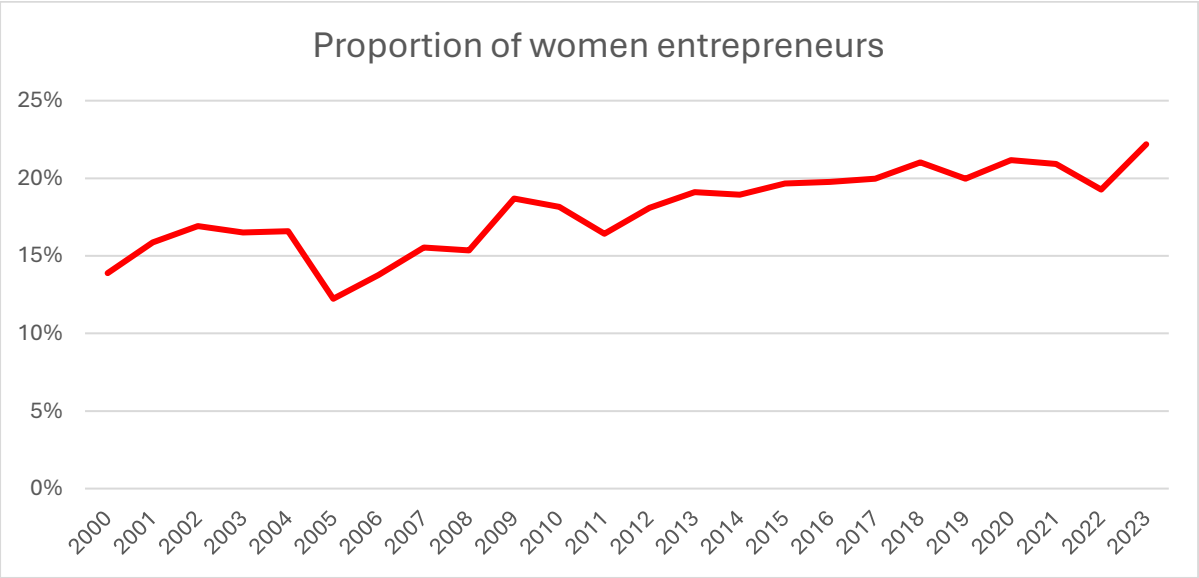




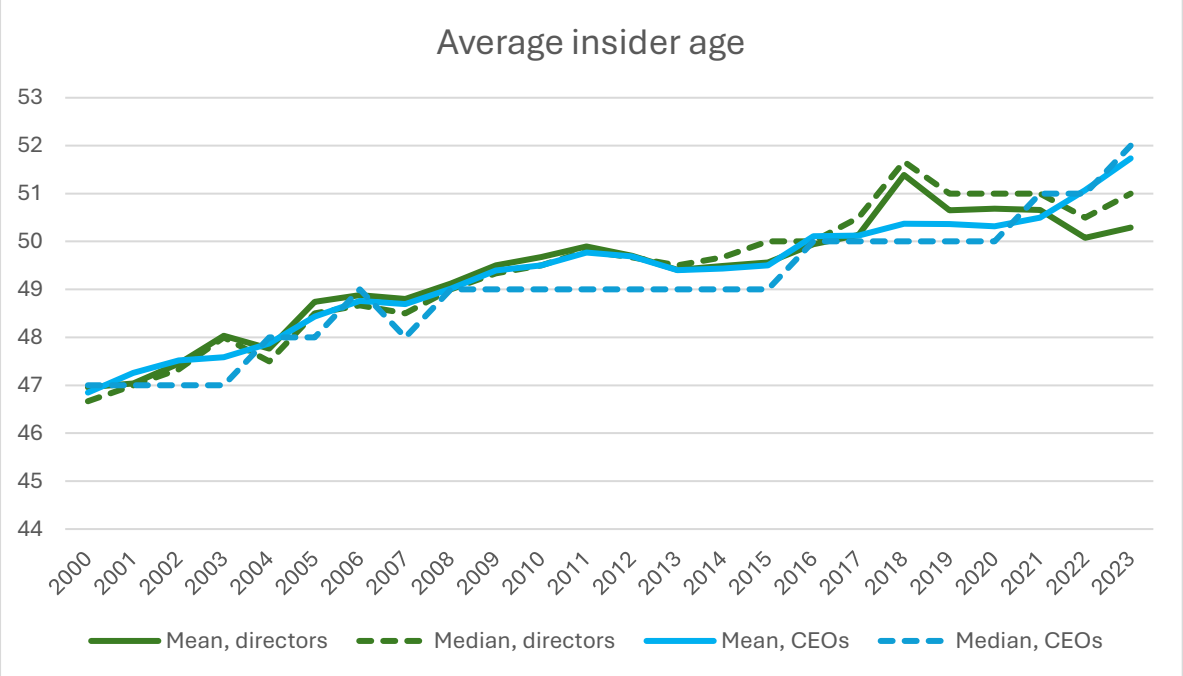
The proportion of women CEOs has been increasing over time, but it is still quite low. It is higher in family firms.



The proportion of women entrepreneurs[7] has also been slowly increasing over time, in line with similar evolutions in other Scandinavian countries.

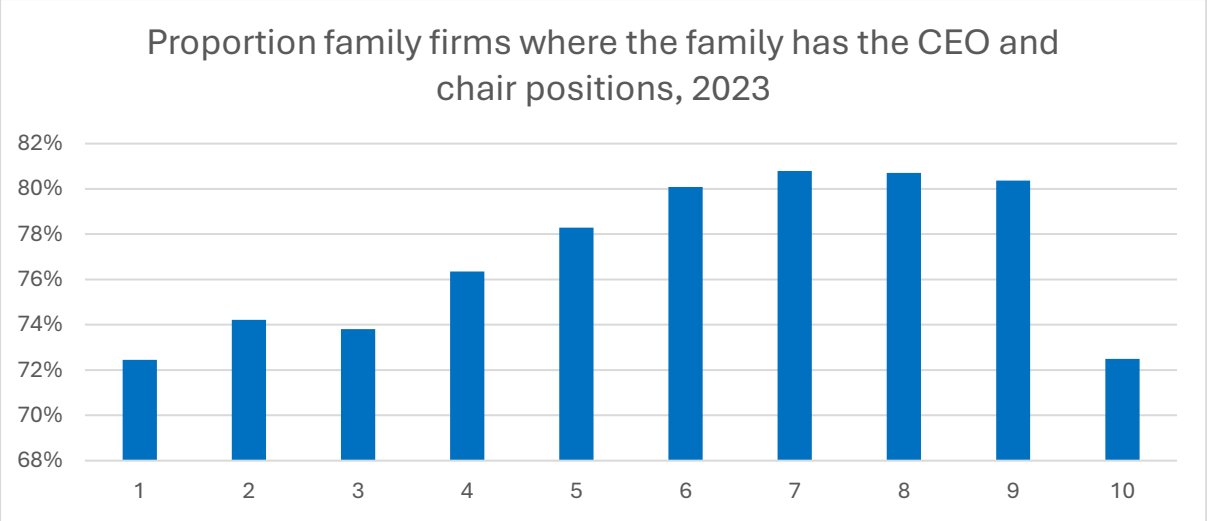


In Norway, as in most other countries, the population has been growing **older** in recent decades. That is also reflected in an increasing typical age of firm insiders (directors and CEOs).



Controlling families are usually **closely involved** in the family firm. Even among firms in the largest size decile, the chair of the board and the CEO are family members in most cases.

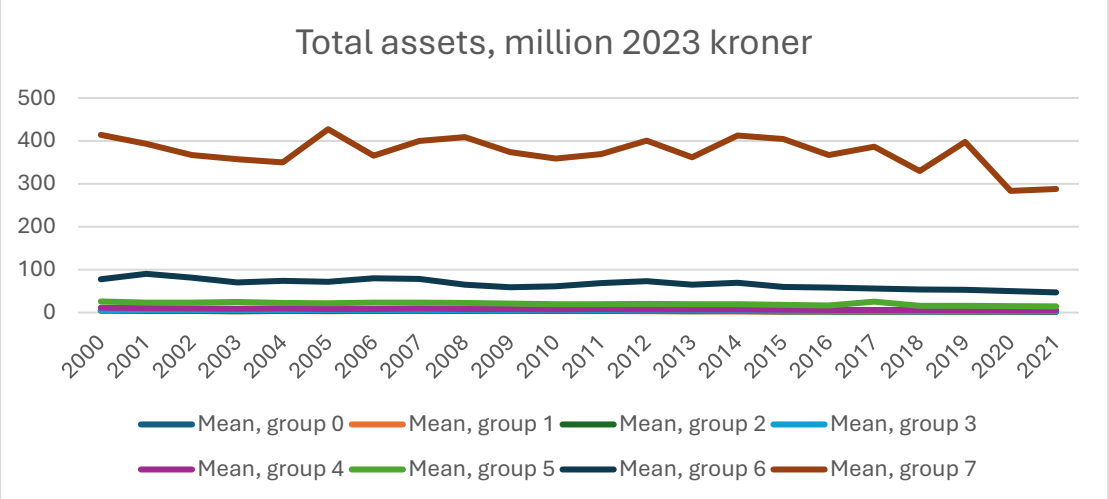
[7] In this analysis we define entrepreneurs as the CEOs of newly established limited liability firms that also control at least 50% of the firms' equity.



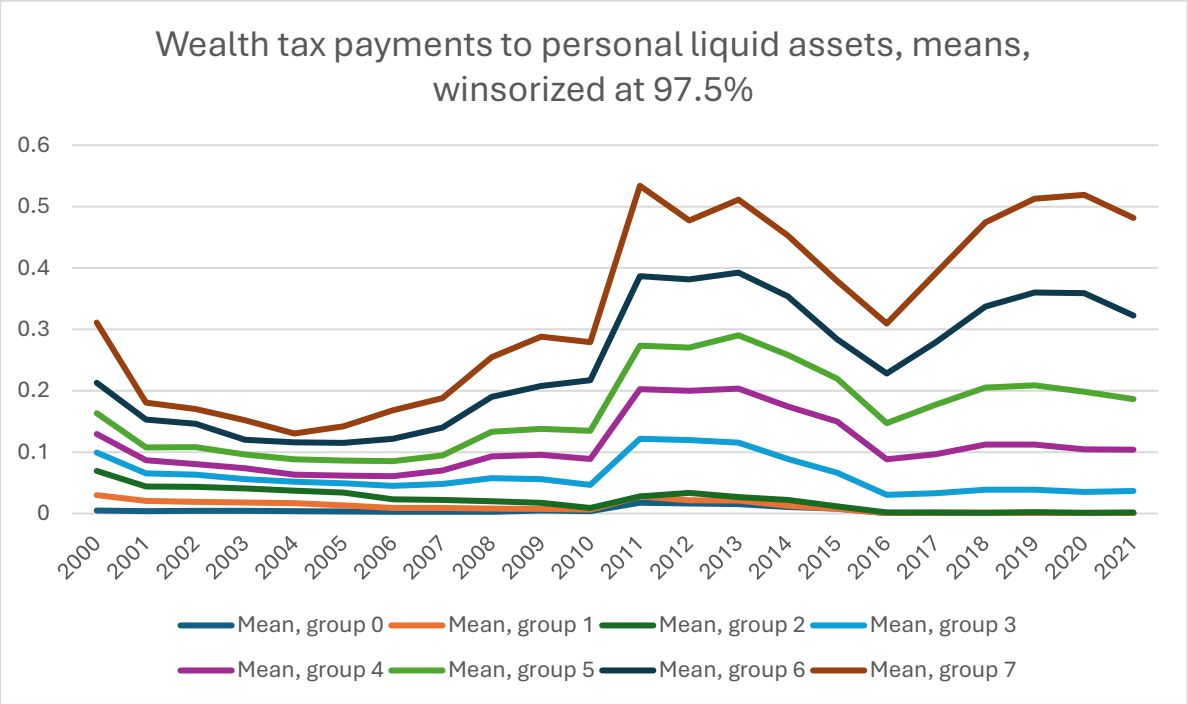
The equity financing of family firms comes mostly from the family, and controlling families are usually not well diversified regardless of the size of the family firm. To illustrate the resulting close connection between firm and personal finances, we form the following groups of family businesses based on the net wealth of the controlling family:

- Group 0: negative net wealth;
- Group 1: net wealth between 0 and 500,000 kroner (adjusted for inflation, in 2023 kroner);
- Group 2: net wealth between 500,000 and 1,000,000 kroner;
- Group 3: net wealth between 1,000,000 and 5,000,000 kroner;
- Group 4: net wealth between 5,000,000 and 10,000,000 kroner;
- Group 5: net wealth between 10,000,000 and 50,000,000 kroner;
- Group 6: net wealth between 50,000,000 and 100,000,000 kroner;
- Group 7: net wealth above 100,000,000 kroner.

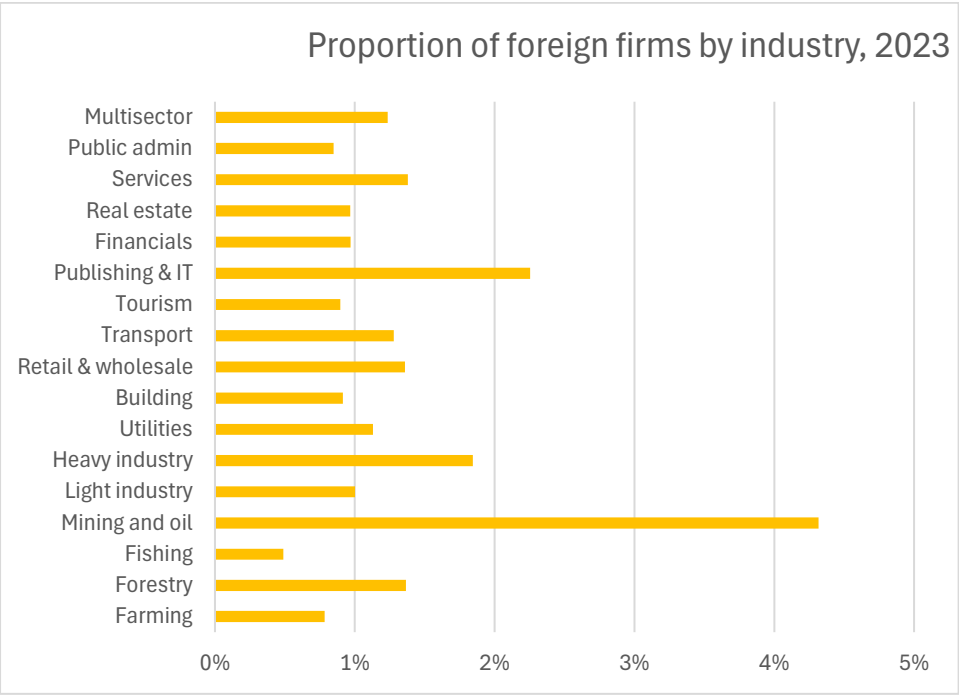
The size distribution of the firms follows closely the distribution of the controlling family's wealth, indicating the lack of personal diversification and the limited role of personal and corporate leverage.



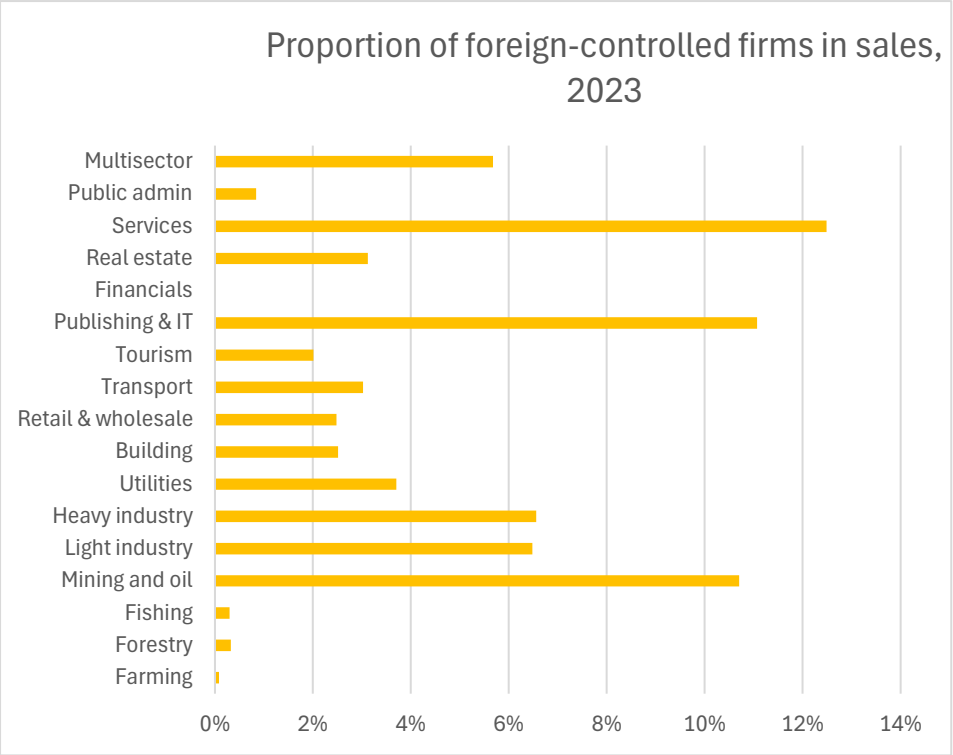
The net wealth is also the tax base for the wealth tax. We calculate the ratio between the controlling family's annual wealth tax payment and its personal holdings of liquid assets (bank savings and listed securities). We can see that wealthier business owners also pay more in the wealth tax relative to their personal liquid assets. The ratio has increased in the second half of our time period.



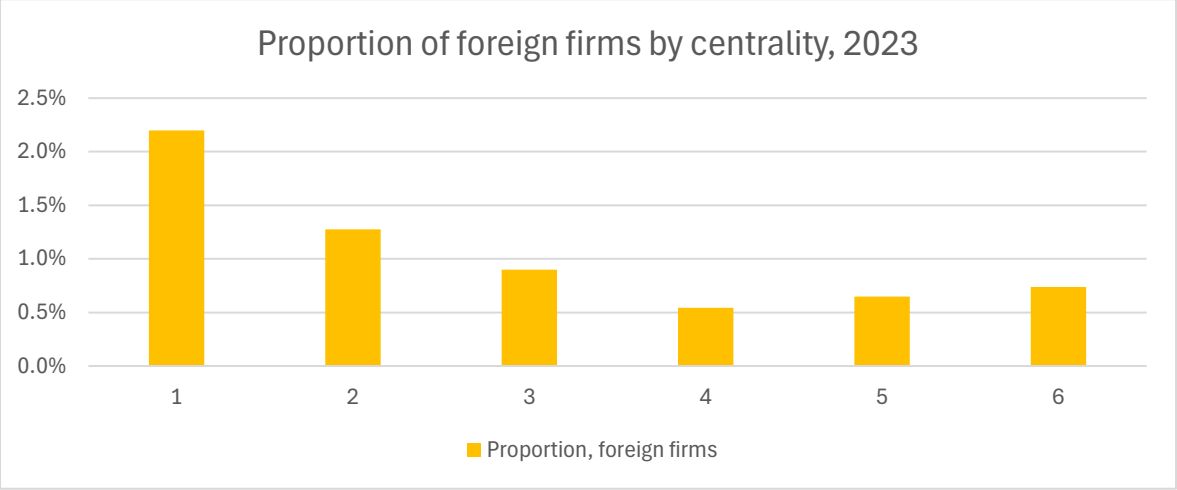
Foreign ownership represents an important type of funding and governance. It is also well represented in Norway given its status as a small open economy. We define foreign-controlled firms as firms where foreign individuals or companies ultimately control more than 50% of the equity. The proportion of firms with foreign majority ownership is highest in mining and oil and IT. It is lower in fishing and farming.



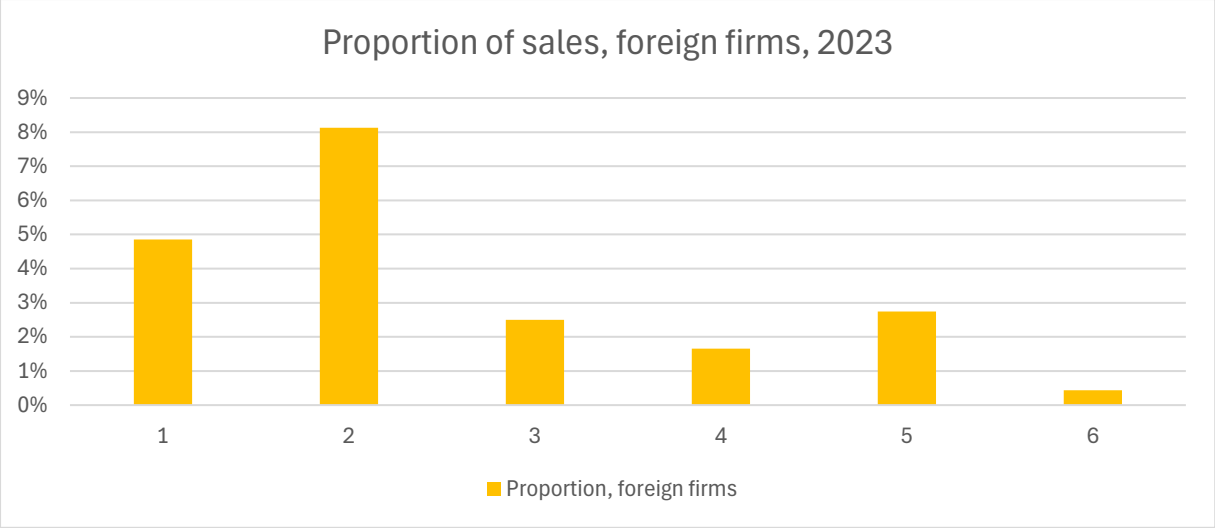
In terms of revenues, foreign-controlled firms are important in services, mining and oil, and IT.



Firms controlled by non-Norwegian individuals or corporations represent a relatively higher proportion in more central regions.



Foreign-controlled firms tend to be larger and to represent a larger proportion of revenues in more central regions.


Proportion of sales, foreign firms, 2023
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
1
2
3
4
5
6
Proportion, foreign firms

3. Dataset

Our starting dataset consists of all limited liability firms registered in Norway between 2000 and 2023. Accounting, ownership, and board data are delivered by Experian (www.experian.no). Data on family relationships are from Folkeregisteret (www.skatteetaten.no/en/person/national-registry), which stores the census data. These two data sets are organized as one integrated database by the CCGR, which is the Centre for Corporate Governance Research (www.bi.edu/ccgr). Statistics Norway (www.ssb.no/en) and Skattedirektoratet (www.skatteetaten.no/en/person) have delivered the data on shareholder wealth and income from the tax returns as well as data on individual salary and dividends income.

Every Norwegian firm with limited liability is legally obliged to publish full accounting statements every year. The firm must also report the identity of its CEO, directors, and owners, as well as each owner's equity holding in the firm. These data are submitted to a state agency (*Brønnøysundregistrene*; www.brreg.no/home). Experian acquires the data.

We compute several main measures from the basic data to organize the data along two major dimensions: links between the firms and links between the owners.

We compute the ultimate ownership structure by looking up the shareholders of corporate owners, thus accounting for indirect ownership in every firm. The ultimate owner can only be an individual (local taxpayer or foreigner), state, financial institution, foreign firms, or a firm with unknown owners (domestic of foreign).

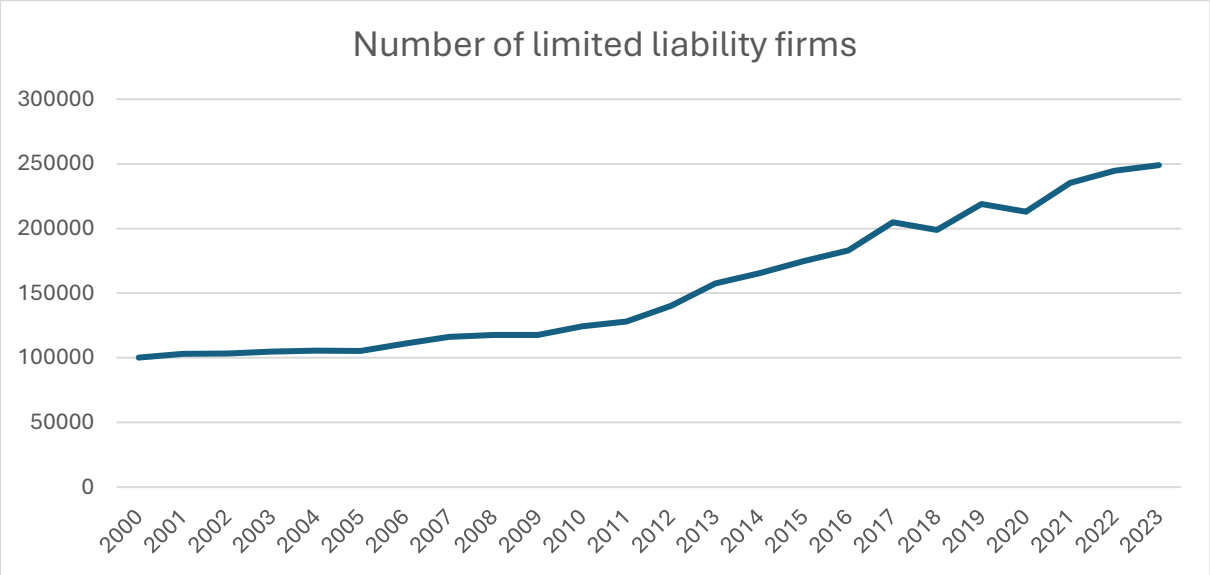
Building indirect ownership chains also enables us to control for the fact that many firms in our sample belong to business groups (*konsern*). That allows us to avoid the double counting that would happen if we considered group member firms as independent entities. A group in our data is constructed by examining majority ownership links between firms, where the majority link can also be indirect as long as it goes through another corporate entity. We find that the groups are up to ten levels deep.

We identify the firms in the group with most representative finance and governance reporting. These may be two different firms in the group. For financial variables, we use the consolidated values reported at the highest level in the group where consolidation occurs. In a few cases, that is not the level where we have the largest or most representative board, and in those cases we choose the alternative firm as representative for governance variables.

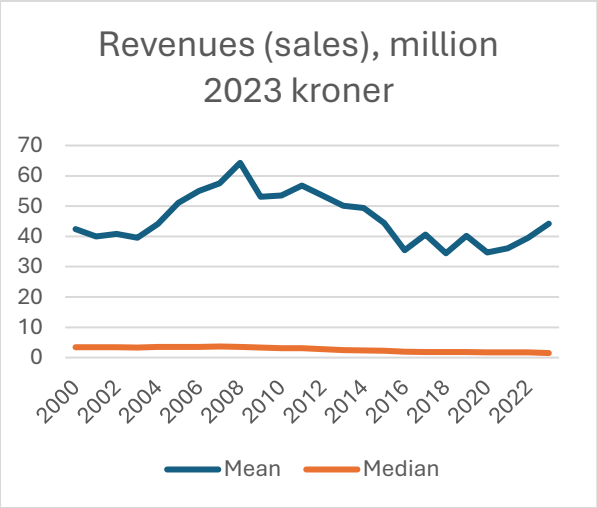
We group individuals (shareholders, directors and CEOs in a firm) into families using four vertical degrees of kinship, both up and down (e.g., a parent is up while a child is down) and two lateral degrees (e.g., cousins are second lateral degree). We define family firms (business groups) as firms (groups) where a family ultimately controls at least 50% of the equity.

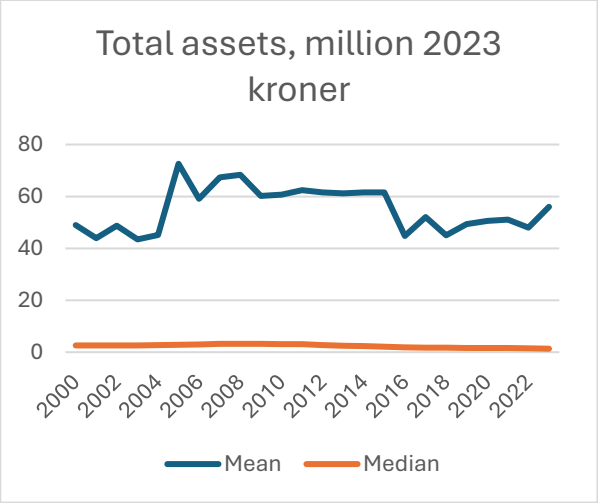
4. General overview of Norwegian limited liability firms

The number of limited liability firms in Norway has increased in line with population growth and the growth of the economy, but also due to regulatory changes that reduced the minimum capital required to start a limited liability firm from 2012. The total went from around 100,000 in 2000 to almost 250,000.

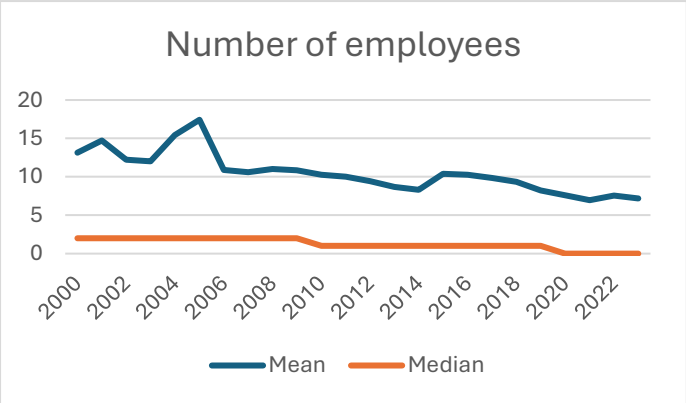


The typical firm size, measured by revenues (sales), total assets, and employment has declined slightly as a result of the influx of relatively smaller firms. The size distribution is highly skewed (there are many small firms and a few very large firms)[8].

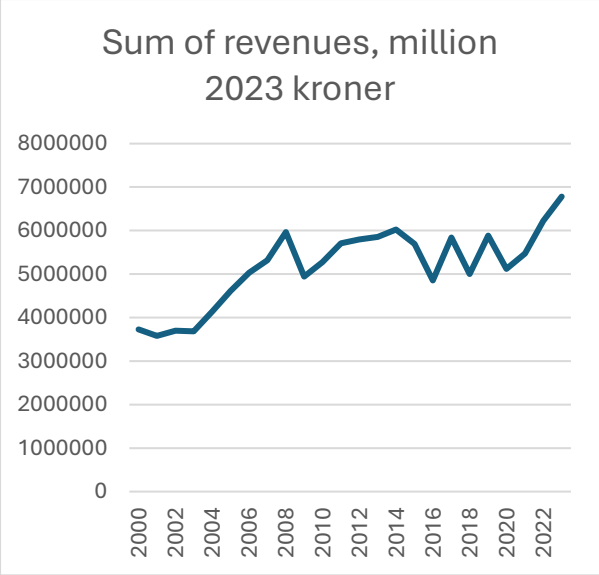


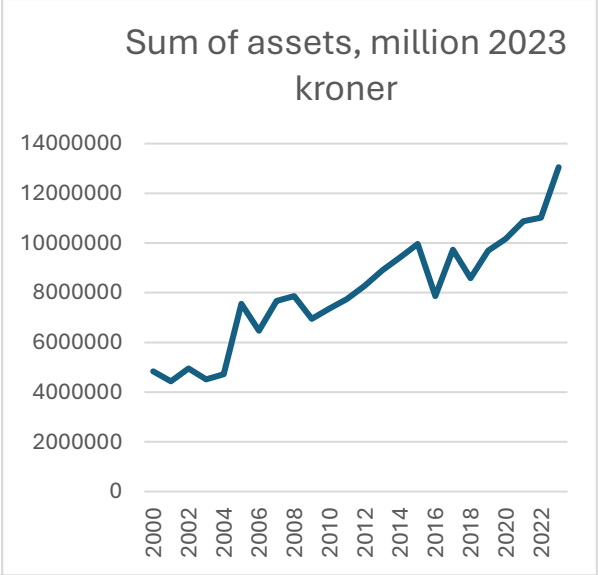


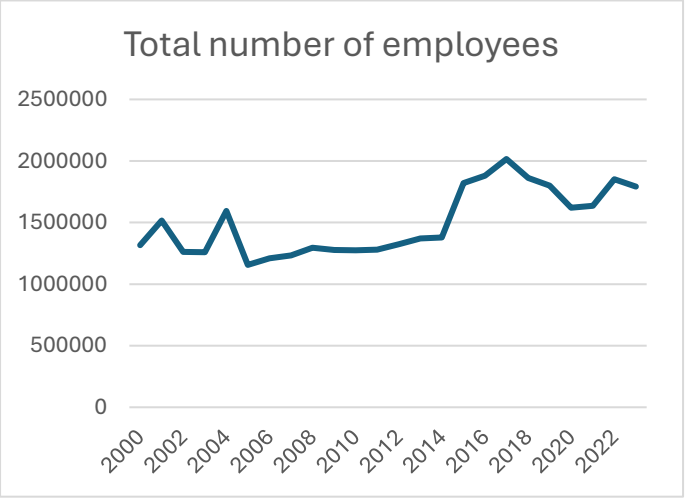
[8] The reporting rules for employment changed in 2015 (https://www.skatteetaten.no/en/business-and-organisation/employer/the-a-melding/about-the-a-ordning/about-a-ordningen/), hence the increase from previous years.



The *total* amount of revenues, total assets and employment in limited liability firms has increased gradually over time[9].

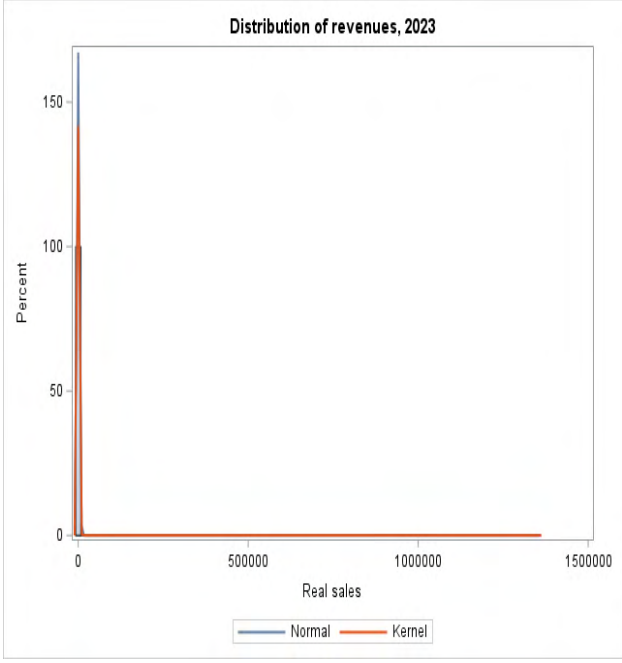


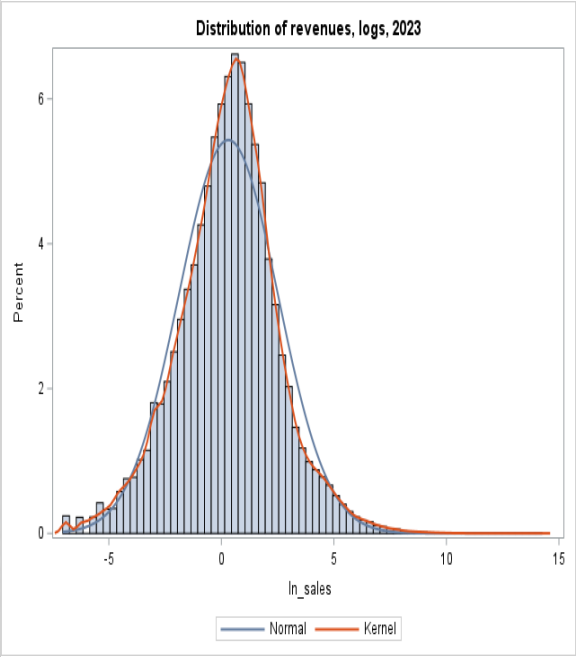


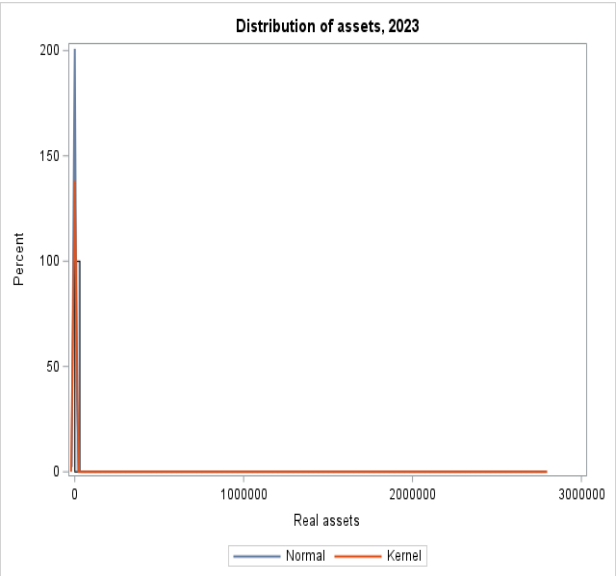


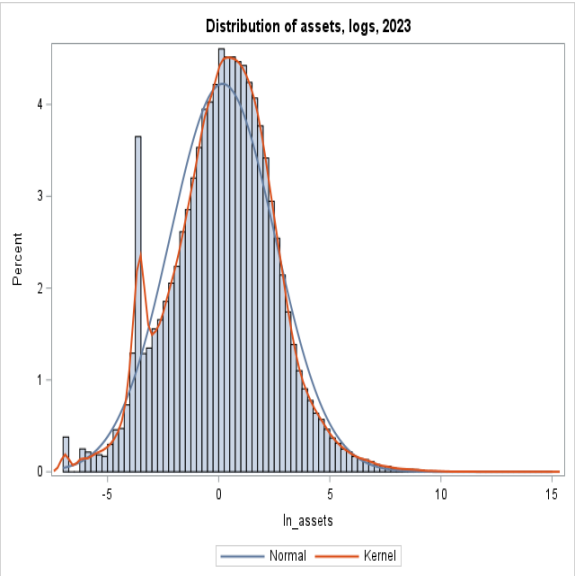
[9] Note that the amounts are inflation adjusted (expressed in million 2023 kroner), so this is growth in real terms.

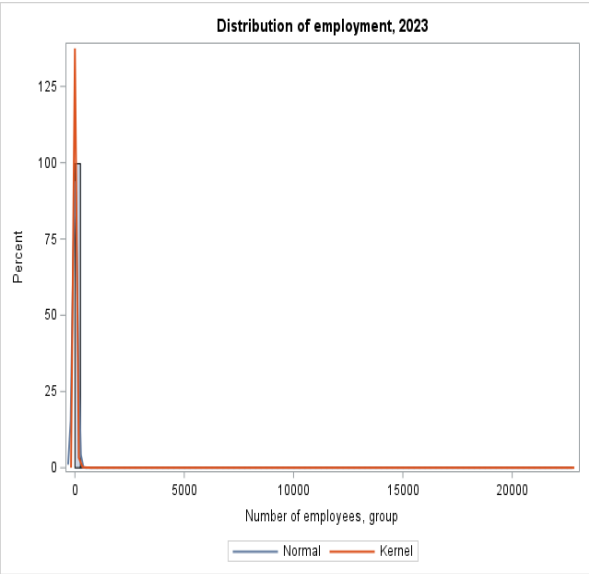
The significant skewness of the distributions is also illustrated below. The distributions of the logs of revenues and assets is leptokurtic, with heavier tails (a higher proportion of very small and very large firms) than the normal distribution. The distribution of employment is also very highly skewed, with many firms with one employee and a few with large numbers of employees.

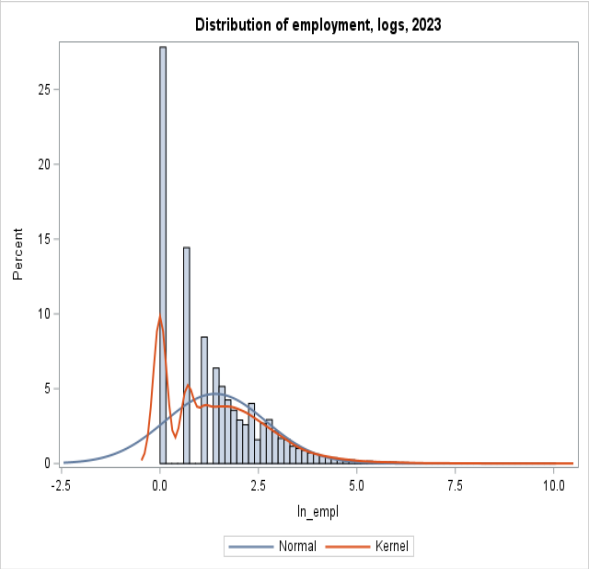








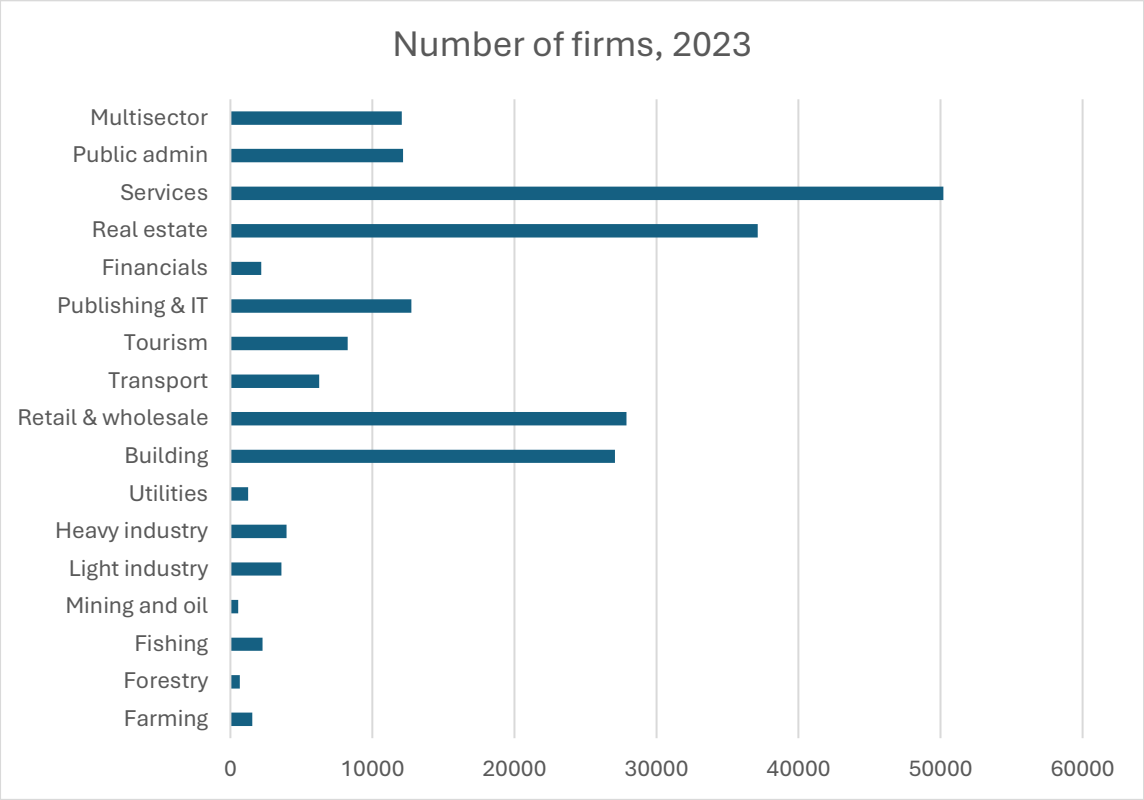




4.1. Limited liability firms by industry

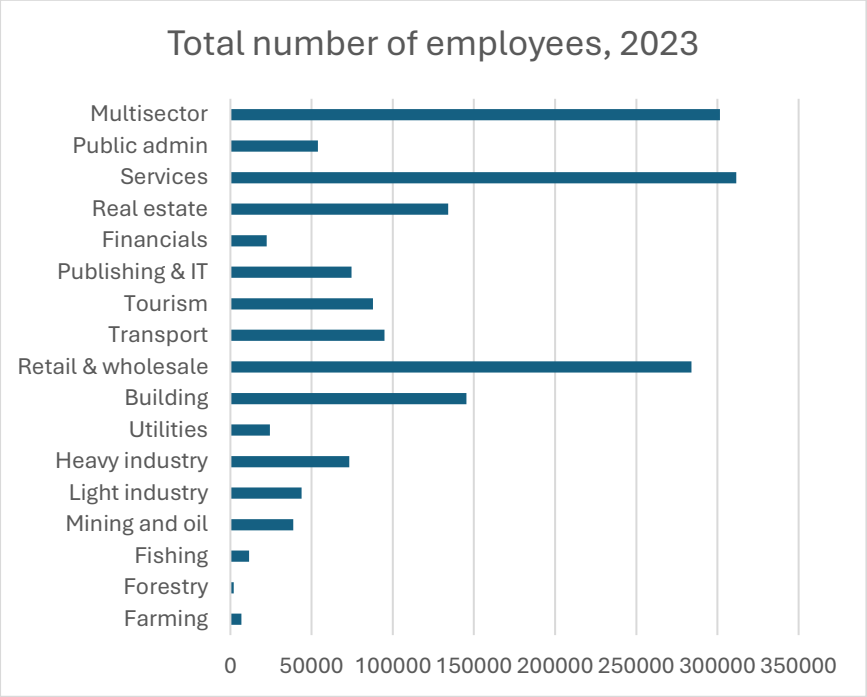
The Norwegian economy has a diversified structure, with some industries such as oil and gas, fishing and tourism playing an important role in its exports. We present an overview of firm characteristics by industry below. We group limited liability firms in 17 industries[10].

The largest numbers of firms are in services, real estate, retail and wholesale trade, and construction.

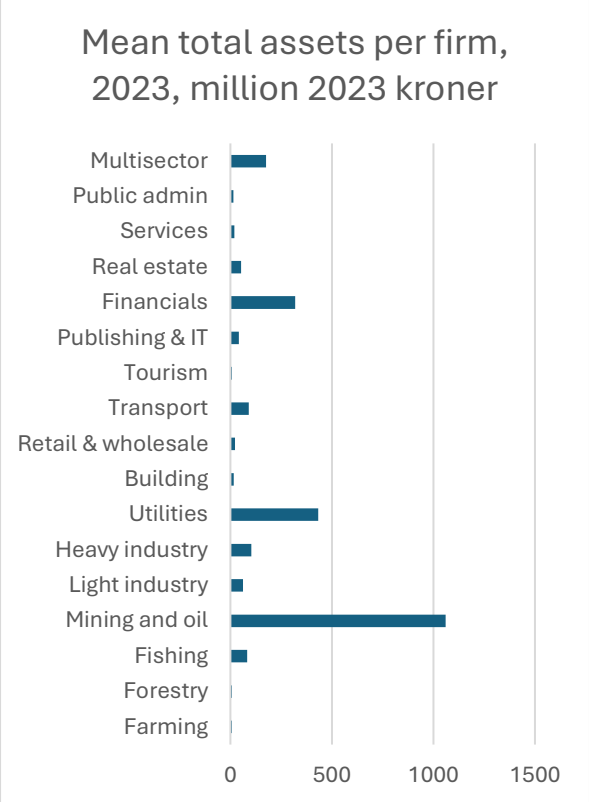


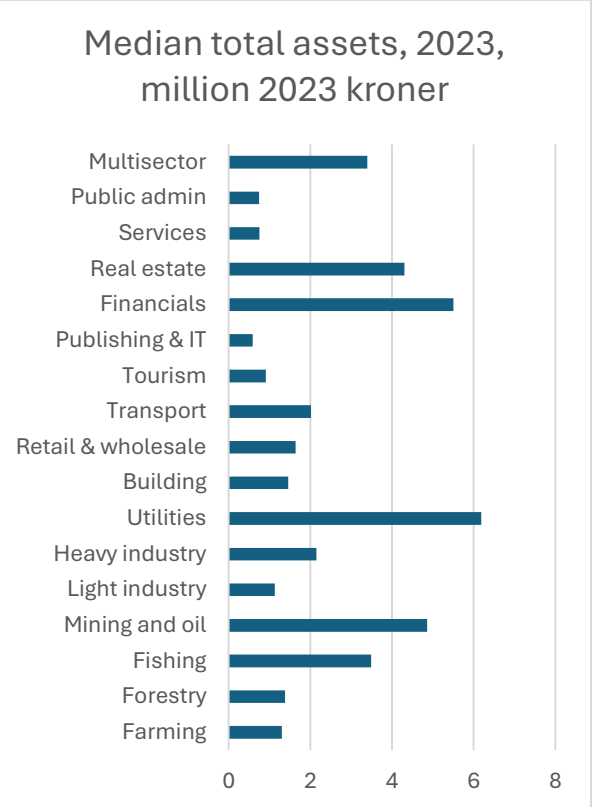
[10] "Public administration" includes services that are similar to the ones usually offered by the public sector, e.g. private kindergartens or clinics. "Multisector" includes firms and business groups that report industry codes from multiple industries.

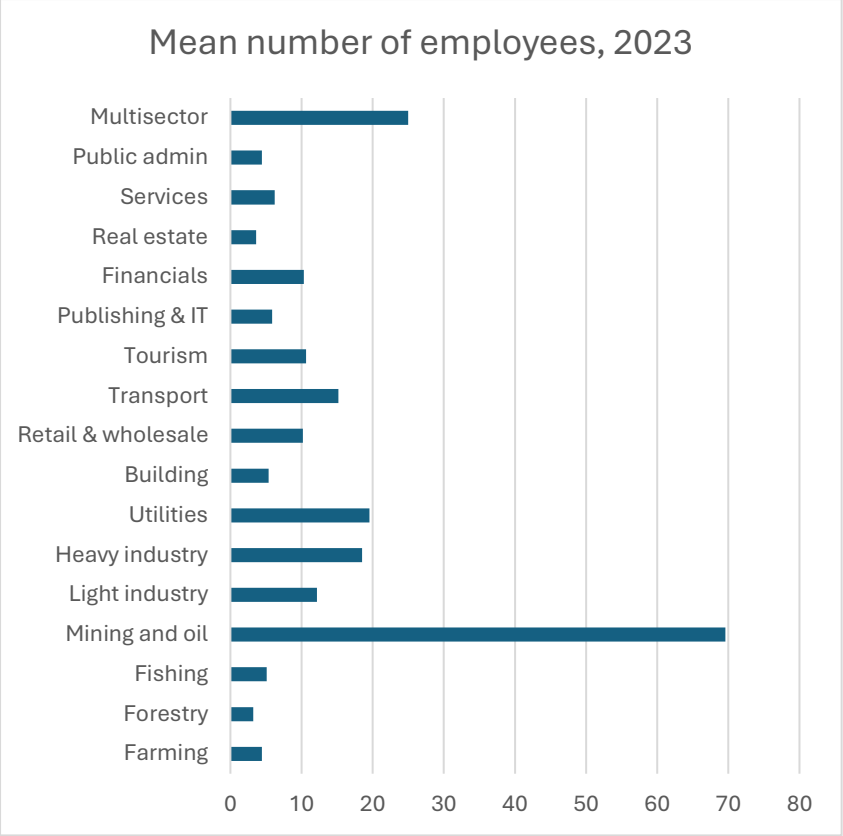
However, those industries have many small firms. If we look at the distribution of total activity, measured by revenues (sales), total assets, and employment, the weight of multisector firms (firms and business groups that are active in multiple industries) increases. Some industries are more labor intensive and have a relatively larger share in employment (services, retail and wholesale), while others are more capital intensive and are more important in terms of total assets (real estate, mining and oil).



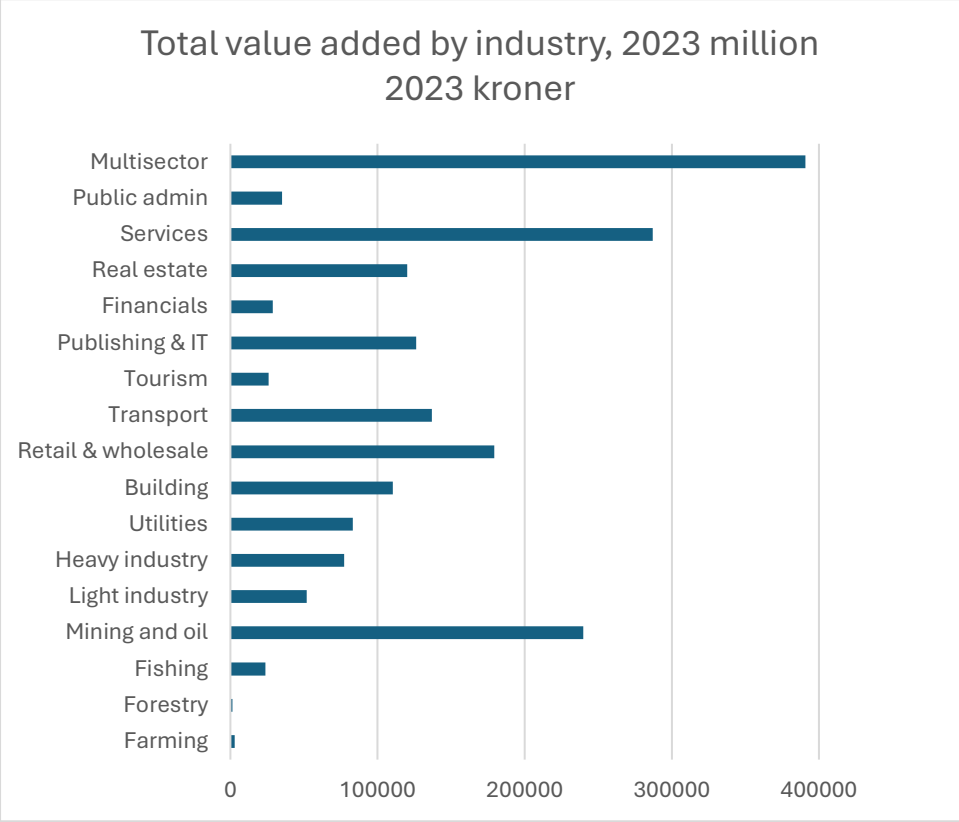
The firm-level averages confirm the skewed distributions (the large differences between means and medians), and the relatively large size of firms in mining and oil. Utility firms are obviously capital intensive.

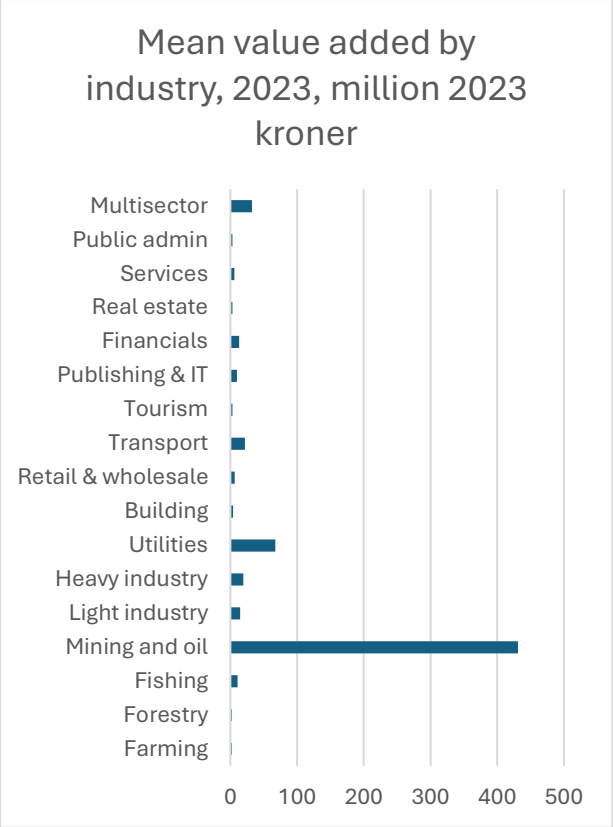


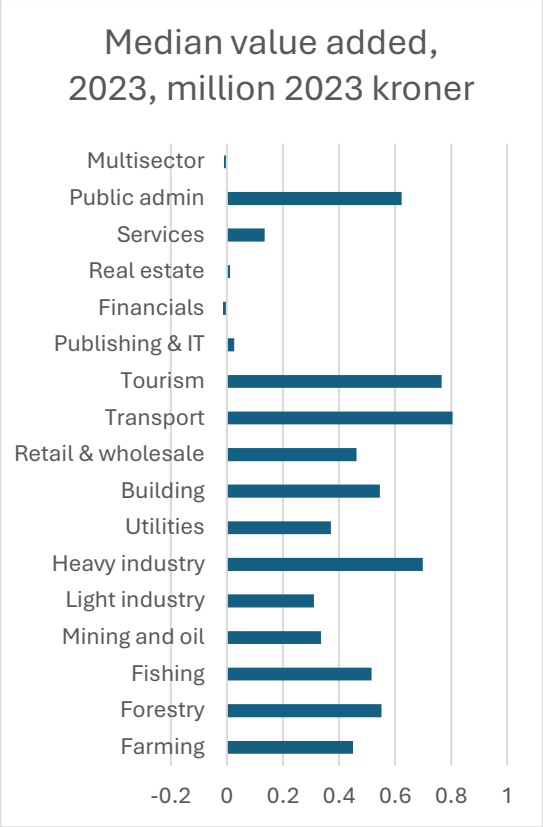




The distribution of value added (total payroll plus total earnings) across industries confirms the importance of mining and oil, services and multisector firms.



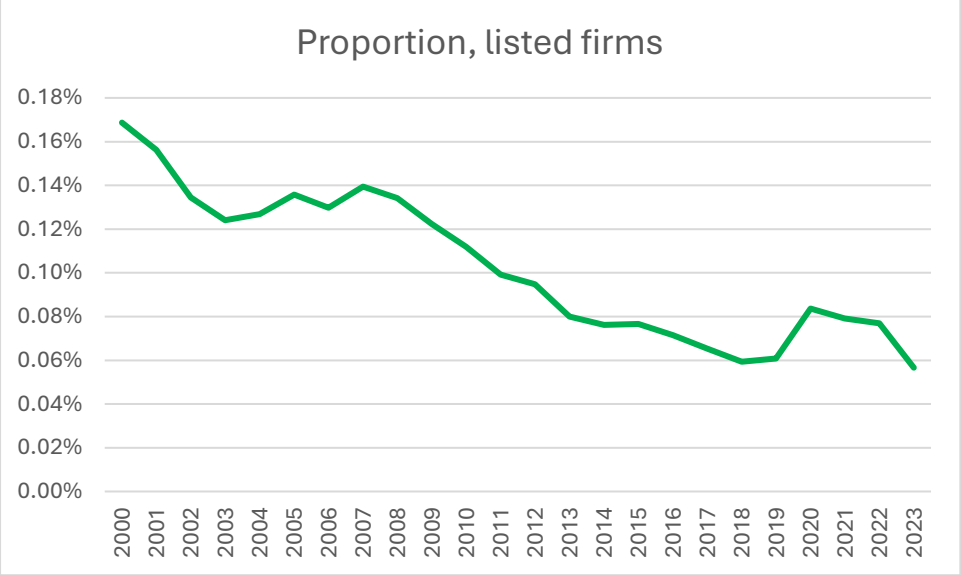

Mean value added by industry, 2023, million 2023 kroner
Multisector
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
100
200
300
400
500


Median value added, 2023, million 2023 kroner
Multisector
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-0.2
0
0.2
0.4
0.6
0.8
1

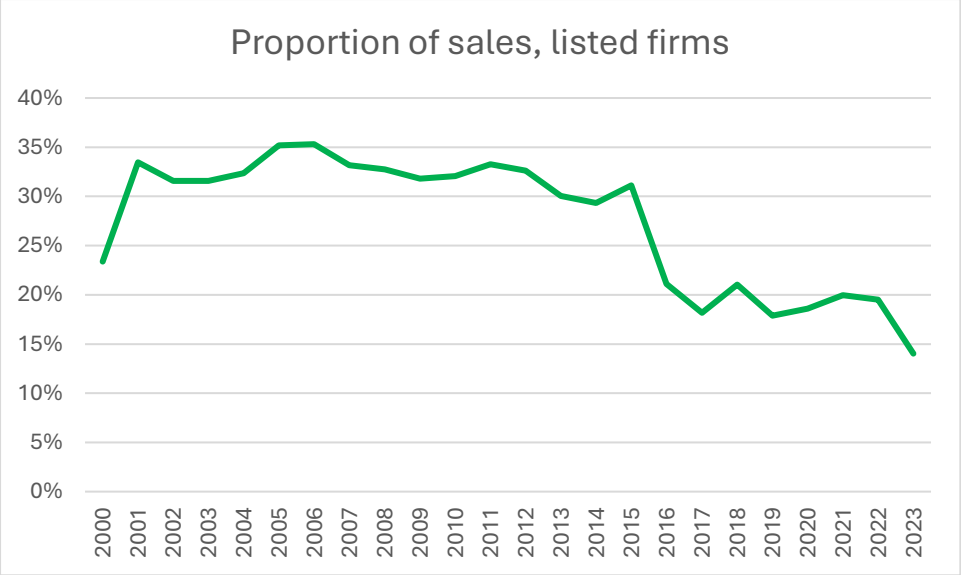
5. Listed and nonlisted firms

Recent research points to a decline in the number of listed firms, even on the successful and dynamic US markets (Doidge et al. 2017). The reasons behind this trend have been debated, with acquisitions and delistings aimed at gaining a more concentrated and stable investor base as partial explanations (Doidge et al. 2017, Boot et al. 2008). At the same time, there has been considerable growth in private markets, and many large firms tend to stay private for longer. Private firms have become larger, with more dispersed ownership and governance structures reminiscent of listed firms (Lowry 2023).

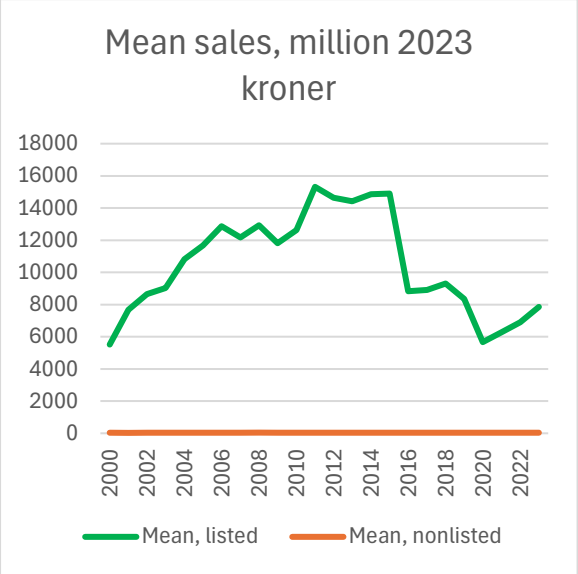
Listed firms represent a small proportion of firms in Norway. Given the increase in the overall number of limited liability firms in Norway and relatively stable number of listed firms, the proportion of listed firms has declined slightly in recent years:

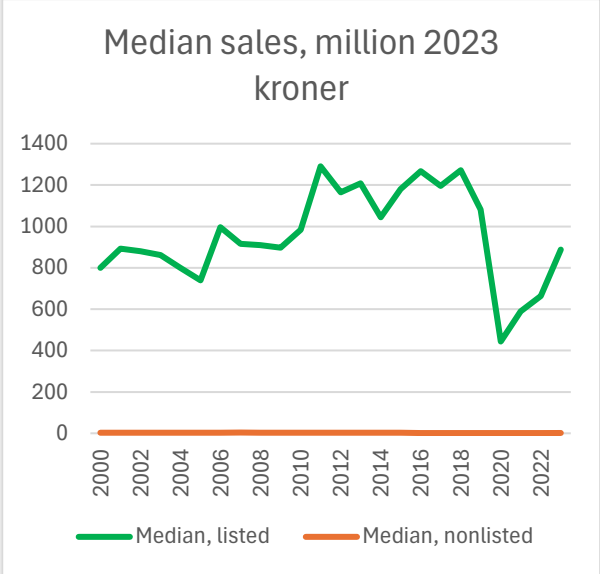


Listed firms are much larger than nonlisted firms, and that is shown by their significant share in the total revenues of Norwegian limited liability firms. That share moved from around one third to around one fifth following the oil price shock of 2015.

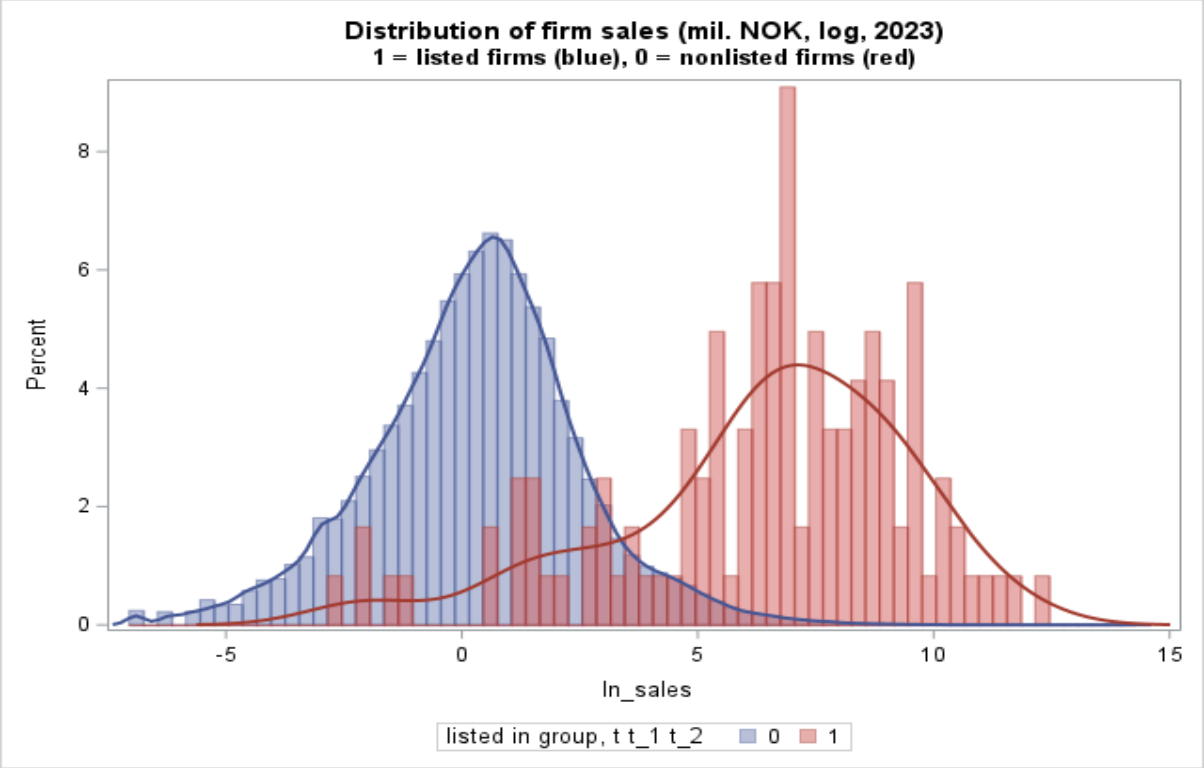


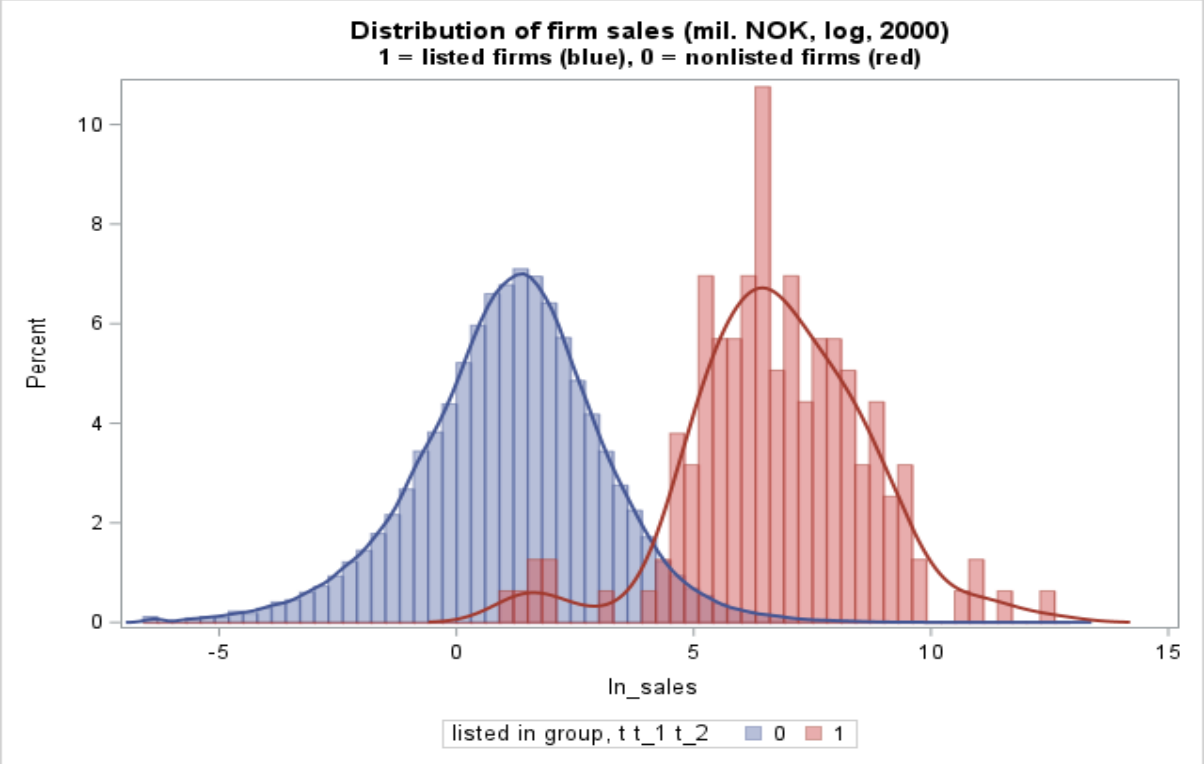
Even though there are some smaller listed firms that are of comparable size to nonlisted firms, the typical listed firm is significantly larger:



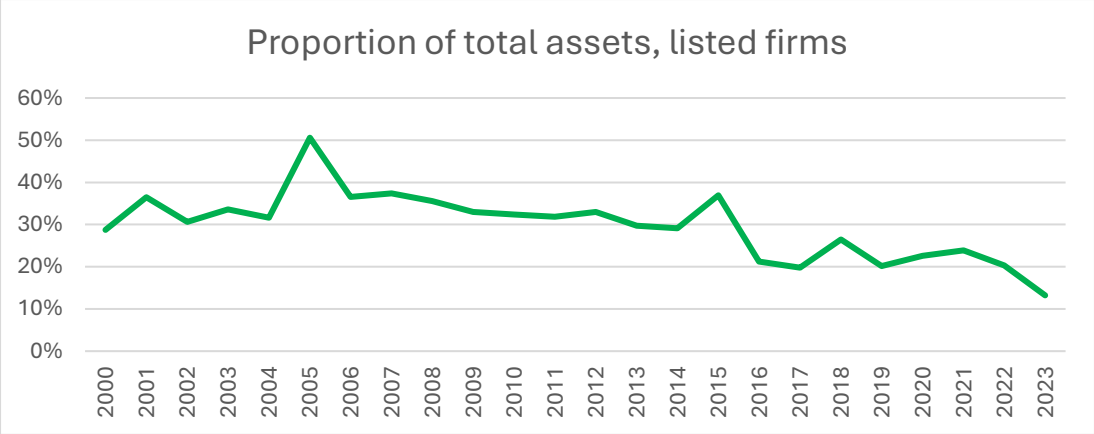


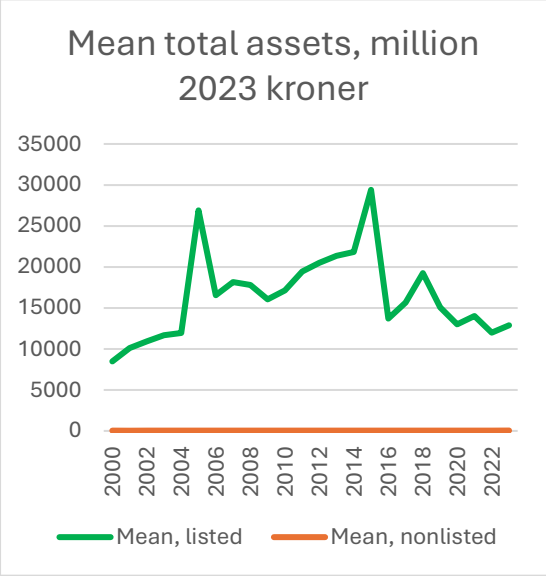
Perhaps consistent with the idea of a blurring of the lines between listed and nonlisted firms, the overlap between the size distribution of the two groups has increased over time. The histograms below present the distribution of the log of sales (in million 2023 kroner) for listed firms (in red) and nonlisted firms (in blue), in 2023 and 2000 respectively. Comparing the two graphs we can see that the overlap between the two size distributions seems to have increased over time, perhaps consistent with the idea of a blurring of the lines between listed and private firms.

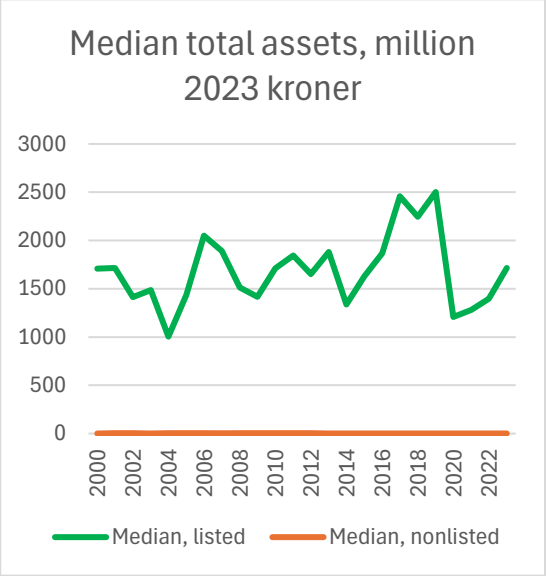


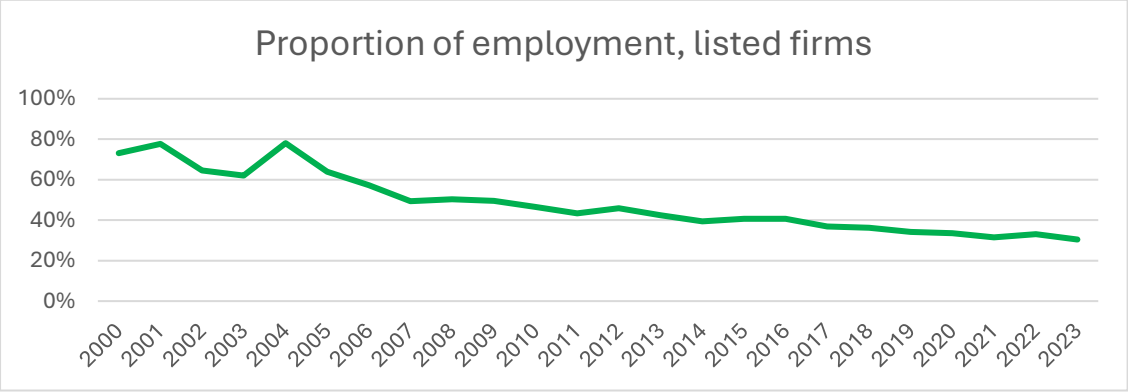


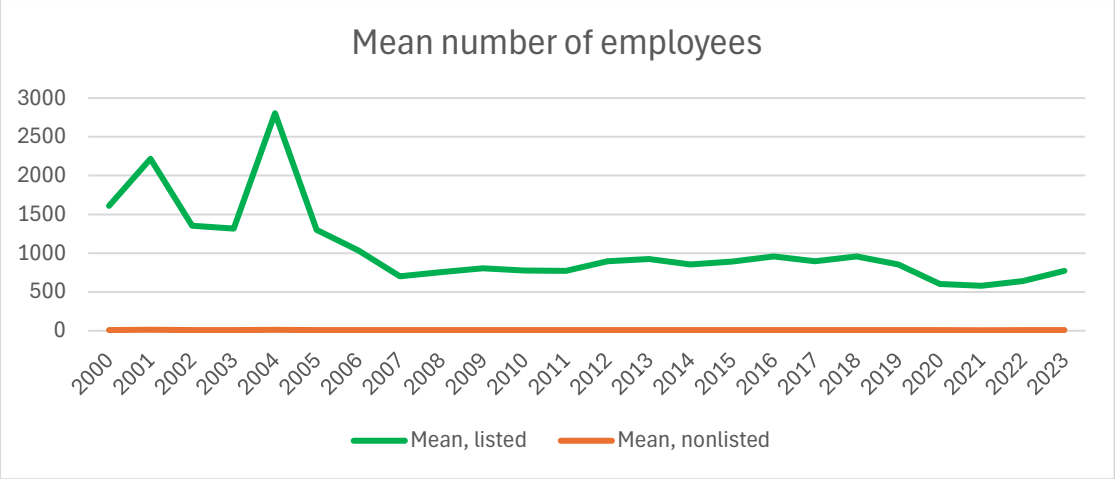
Listed firms also represent a large part of the total assets and employment in Norwegian firms:


Proportion of total assets, listed firms
60%
50%
40%
30%
20%
10%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023

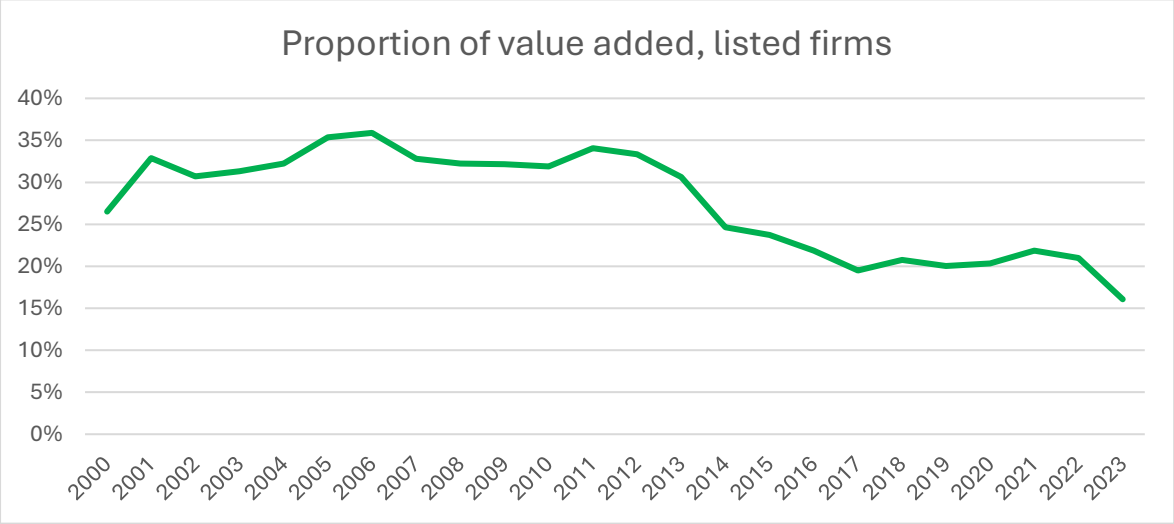

Mean total assets, million 2023 kroner
35000
30000
25000
20000
15000
10000
5000
0
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Mean, listed
Mean, nonlisted

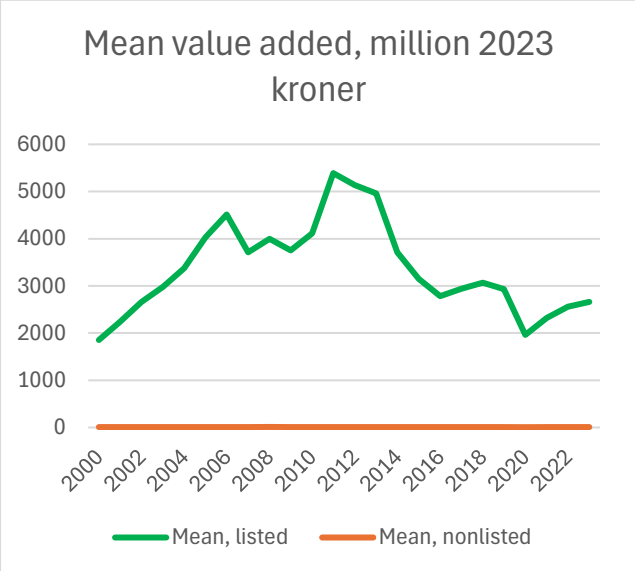

Median total assets, million 2023 kroner
3000
2500
2000
1500
1000
500
0
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Median, listed
Median, nonlisted

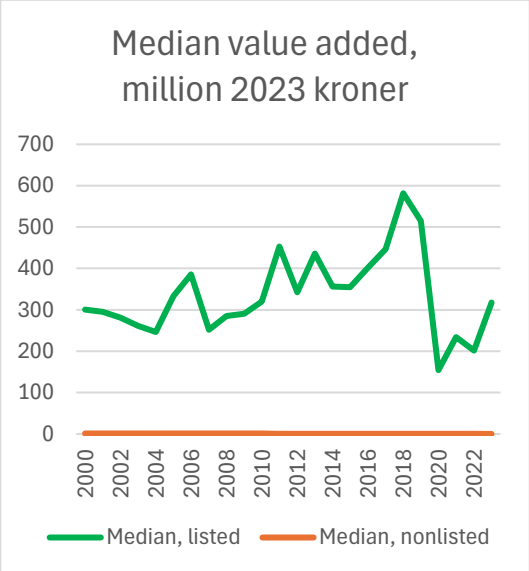

Proportion of employment, listed firms
100%
80%
60%
40%
20%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023



Listed firms have represented between 20% and 35% of the value added by Norwegian limited liability firms, where value added is calculated as the sum of salaries and earnings. The value added is cyclical and it decreased in 2008, during the oil price shock of 2015, and during the Covid-19 crisis:



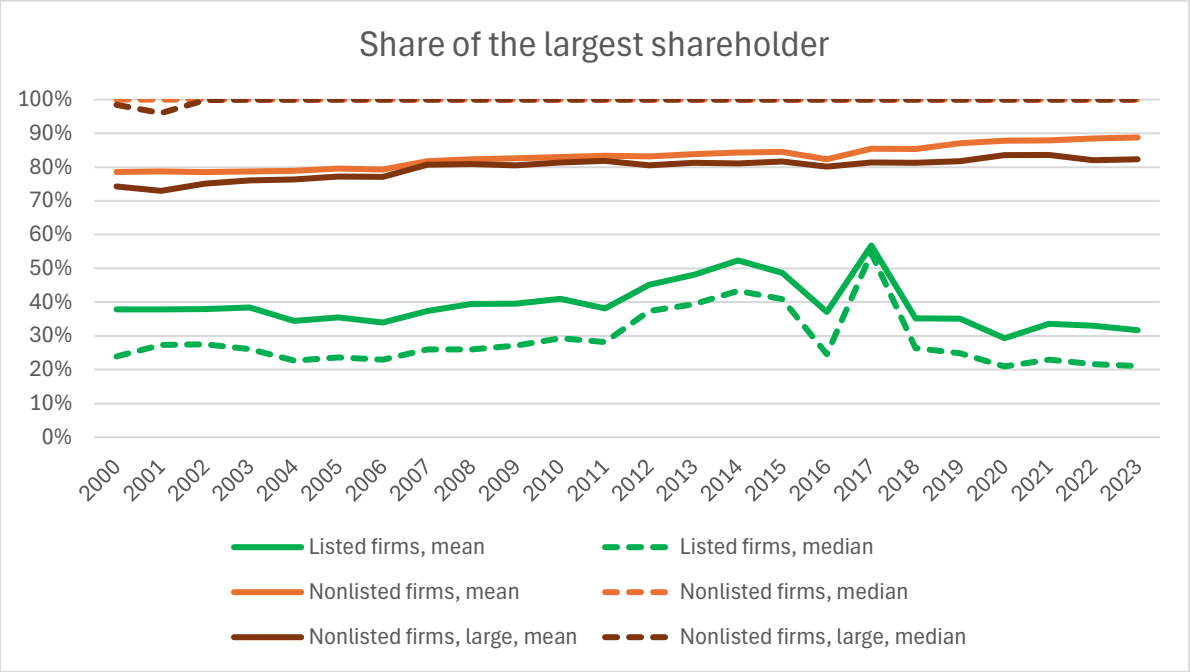




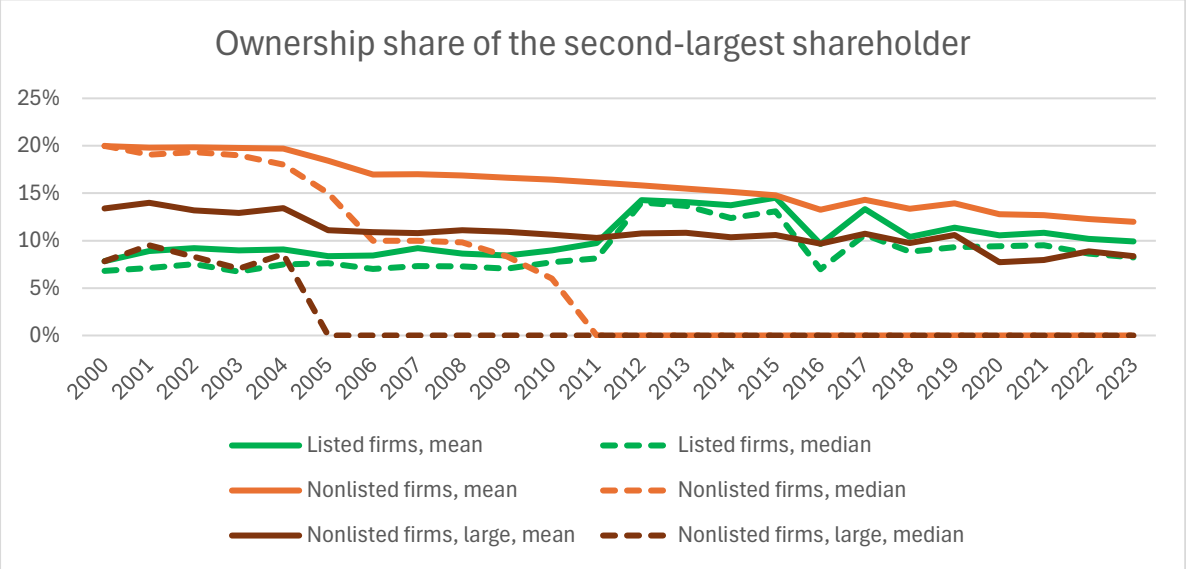
The ownership structure of private firms is much more concentrated than that of listed firms. Moreover, directors and managers are more likely to be large shareholders themselves.

We illustrate those differences in the graph below, which presents the share of the largest shareholder. Given that listed firms tend to be much larger than nonlisted firms, we also include large nonlisted firms as an additional category, where large firms are defined as firms (or business groups) with at least 100 employees and at least 100 million (2023) kroner in sales.

As expected, the share of the largest shareholder is much larger in private than in listed firms. Indeed, the median private firm is a single-owner firm: an individual or family controls 100% of the equity. Large private firms are very close to the typical nonlisted firm and quite far from the listed firms of similar size.

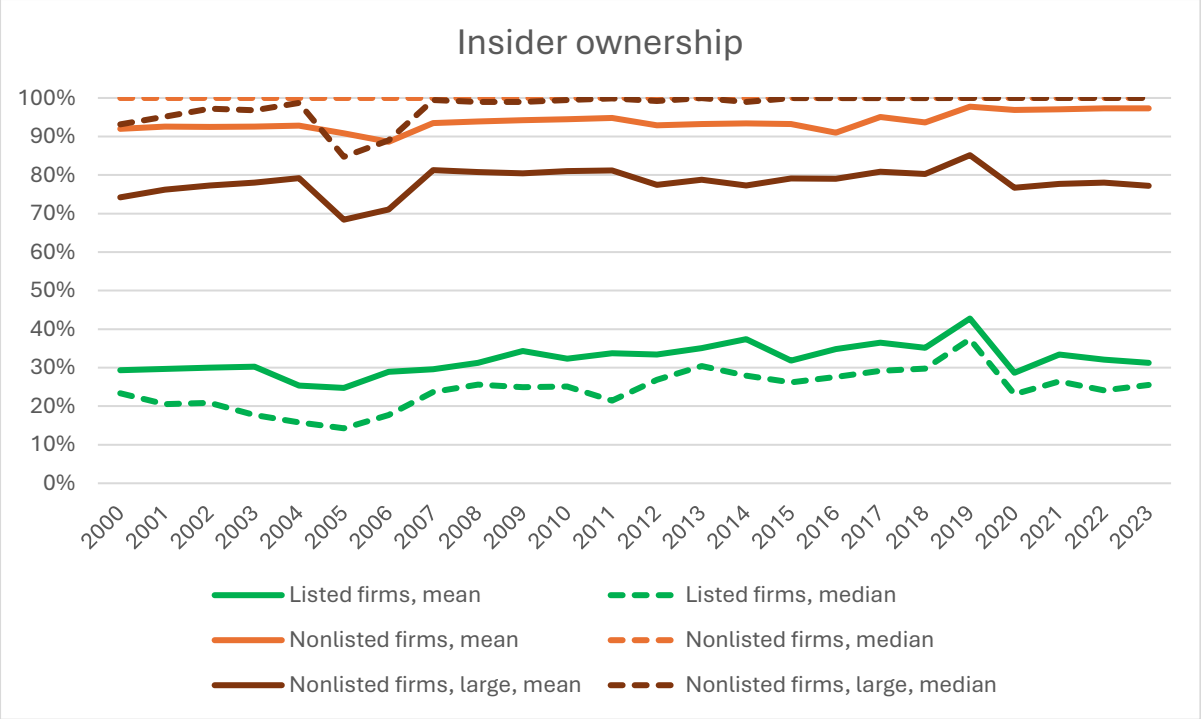


Unusually in comparison to other countries, listed Norwegian firms are characterized by having multiple large blockholders (Bøhren and Ødegaard 2000). The ownership share of the second-largest shareholder is fairly large in both listed and nonlisted firms.

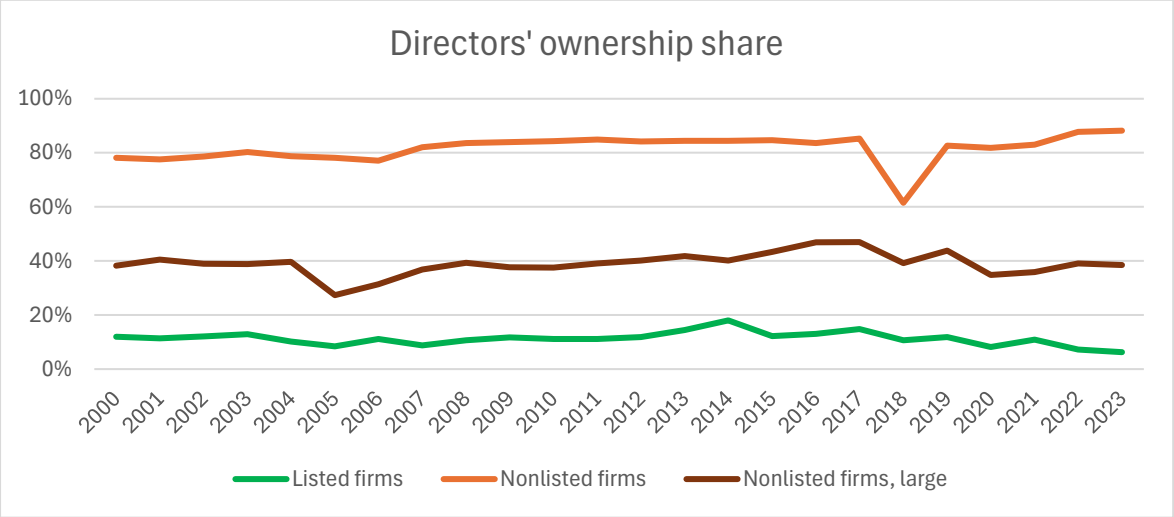


Ownership by insiders (directors and CEOs) presents the advantage of stronger incentives, and the potential problem of entrenchment. We present statistics on insider ownership below.

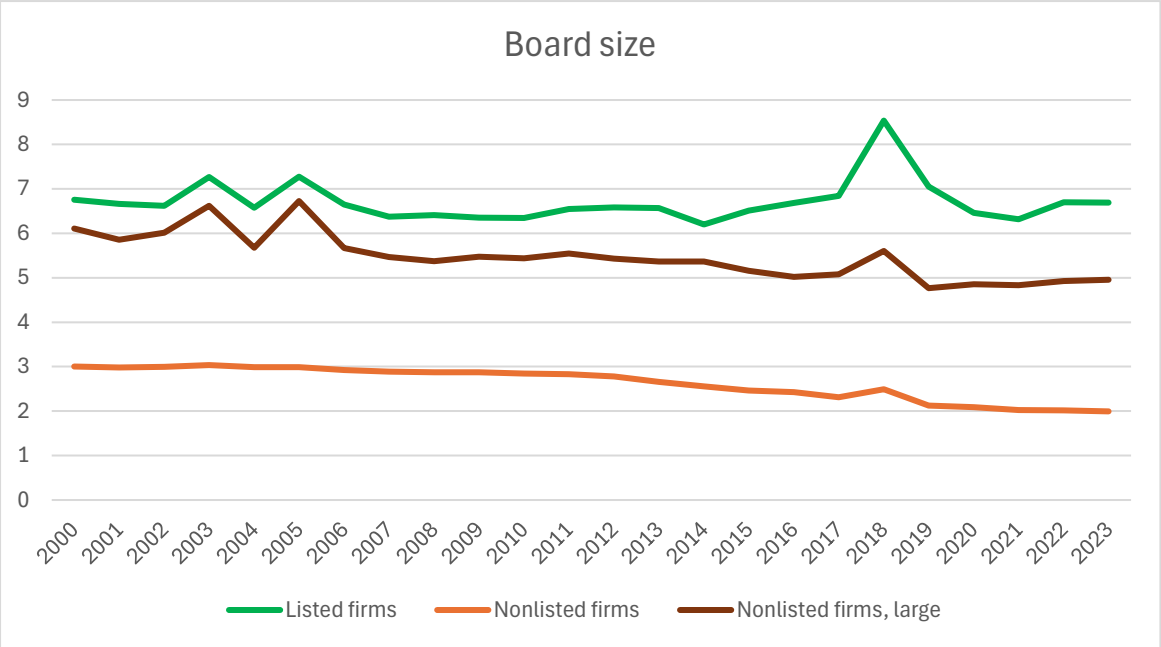
We can see that the insider ownership share is much lower in listed than in private firms. Even though large nonlisted firms are closer in size to listed firms, they are much closer to the typical private firm in insider ownership.



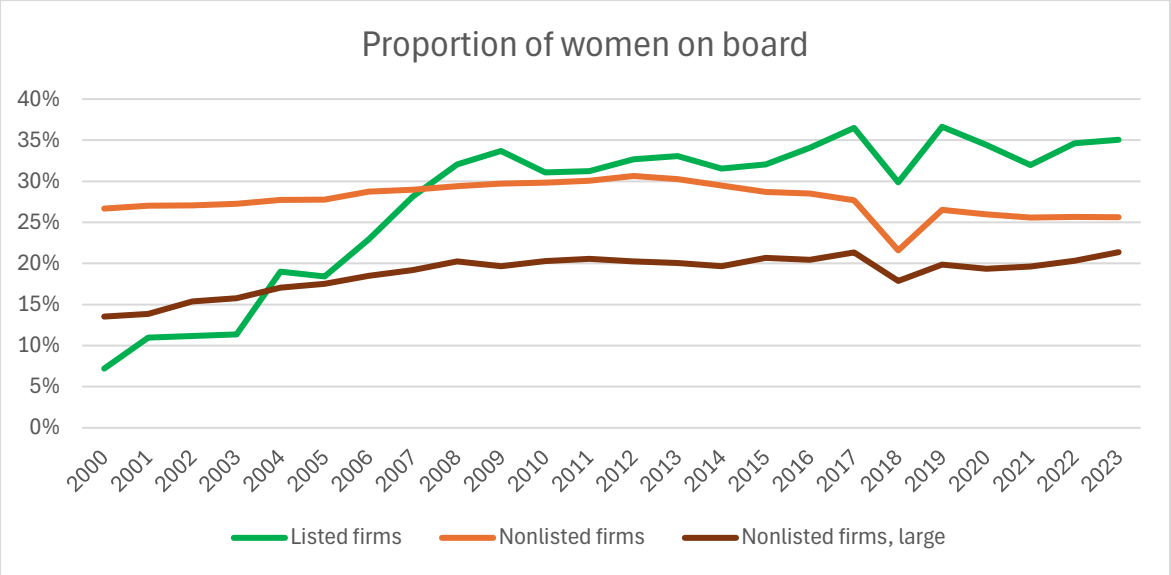
If we look at just ownership by directors, there is once again a large difference between listed and nonlisted firms, with large nonlisted firms somewhere in the middle between listed and the typical private firm.



Norwegian boards tend to be small by international standards. The boards of large private firms tend to be smaller than the boards of listed firms, and both groups are much above the typical number of directors in a private firm. Board size is positively correlated with firm size.

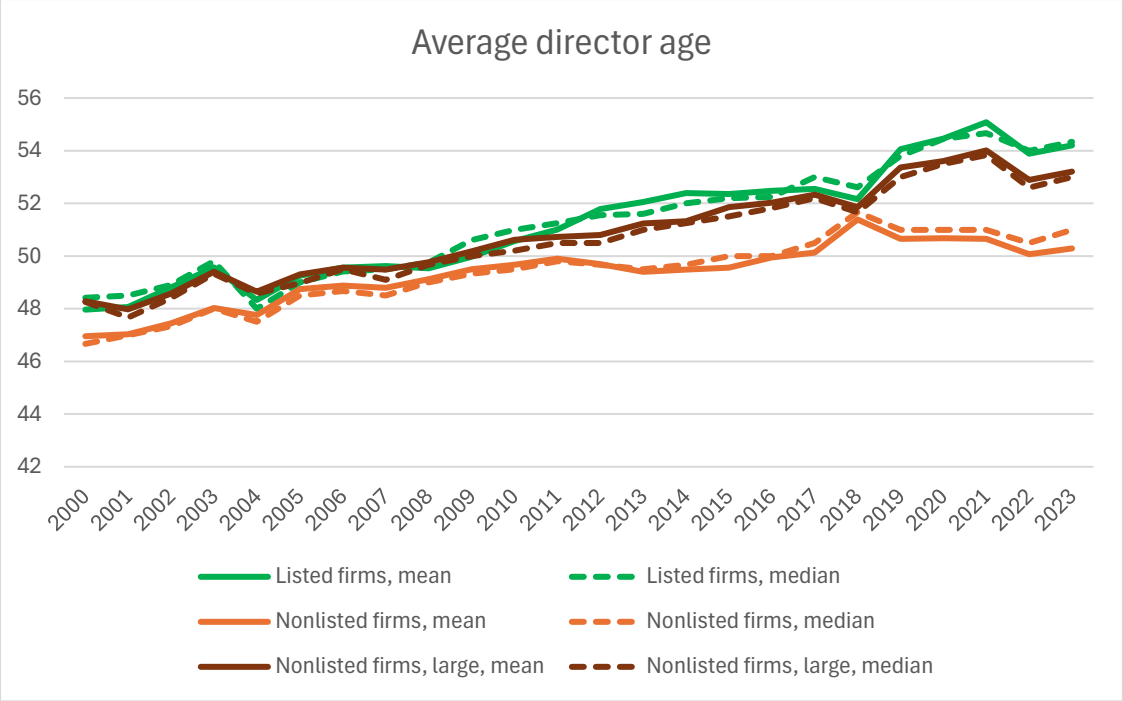


Norway was the first country to impose a gender balance rule for the boards of corporations[11], and that is reflected in the relatively high (and stable) proportion of women on the boards of listed firms after 2006. The proportion was higher in nonlisted firms prior to the quota, but it has lagged behind listed firms in more recent years. Interestingly, large private firms (with relatively large boards) have a lower proportion of women on board than the average private firm.

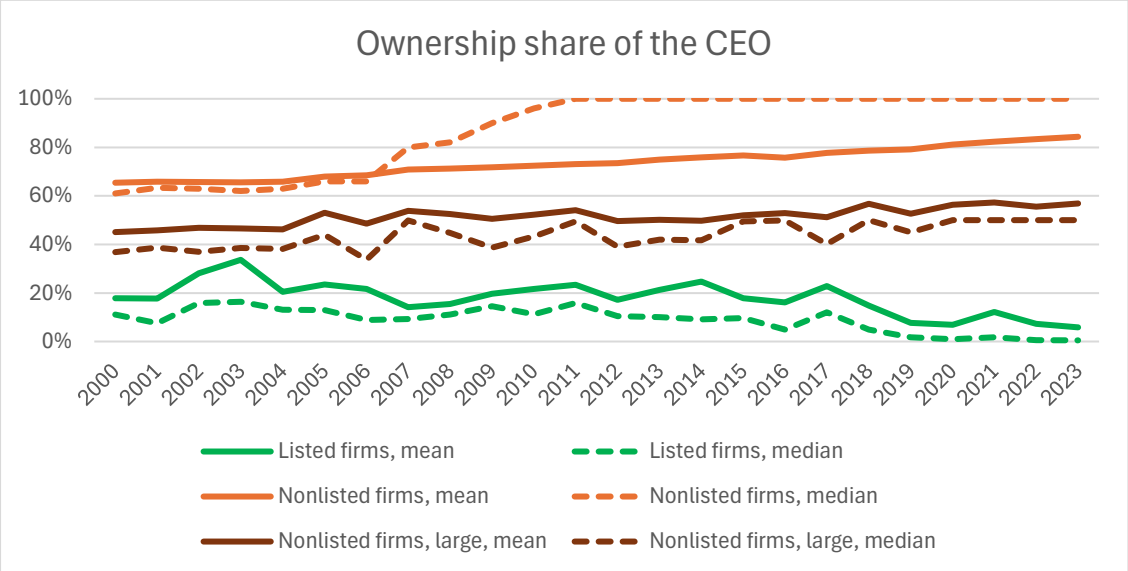


The typical director age has been increasing in recent years. Directors in larger firms, especially in listed firms, tend to be older.

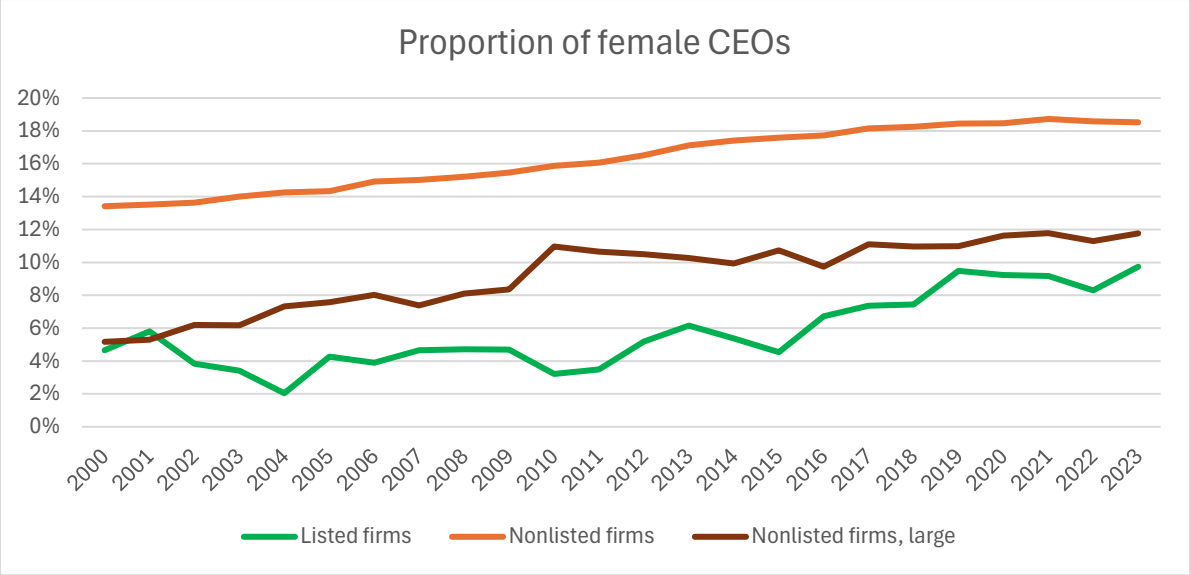
[11] An overview of the board reform and its impact can be found in Eckbo et al. (2022), Bøhren and Strøm (2010), Bøhren and Staubo (2016), Ahern and Dittmar (2012).



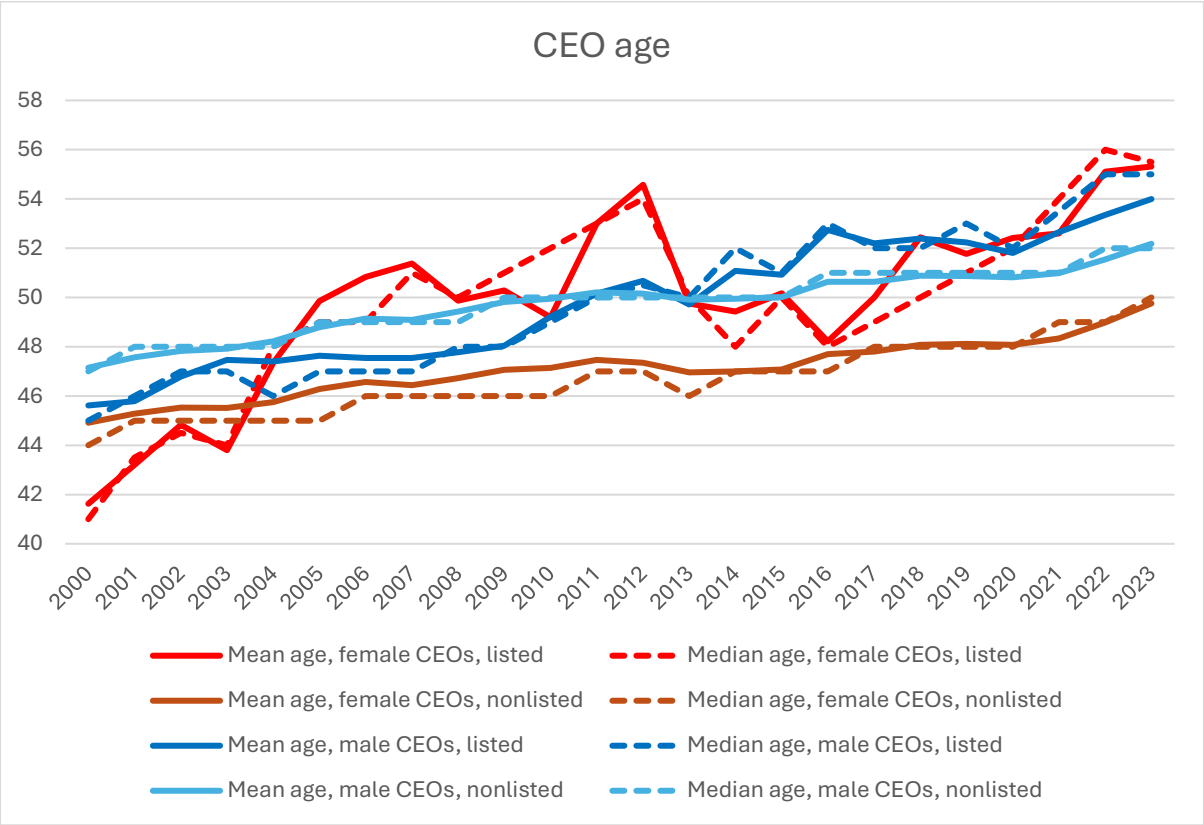
The higher ownership concentration in private firms is also associated with higher ownership by CEOs. Indeed, the CEO is the only shareholder in the median private firm in recent years. Even in large private firms, the CEO's average ownership share is twice the share in listed firms.



The proportion of female CEOs is quite low, and it has been increasing at a slow pace over the past two decades. It is significantly smaller in larger firms, particularly in listed firms, where the average proportion of female CEOs is half of the typical proportion in nonlisted firms.



Similarly to the age of directors, the average CEO age has also been on an increasing trend.



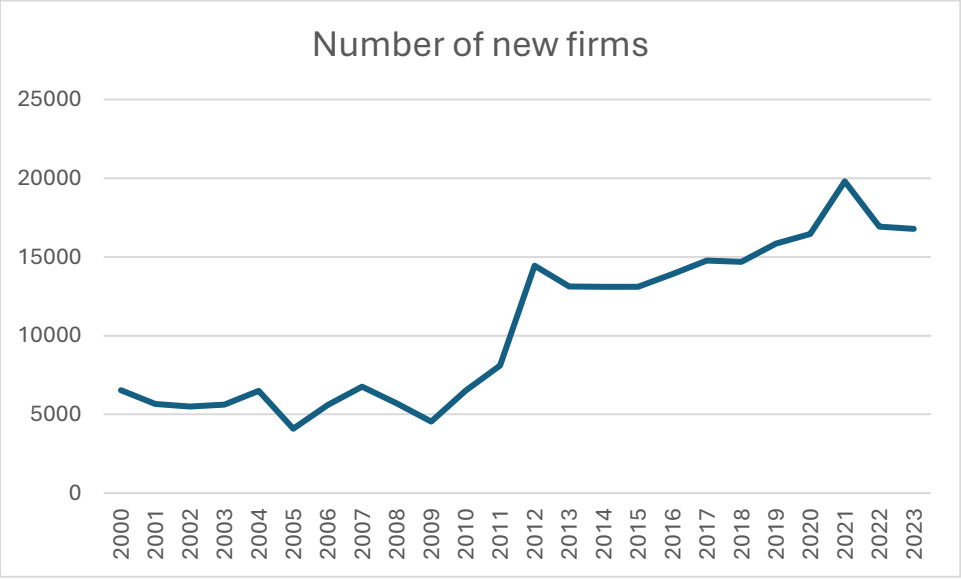
6. New firms

The establishment of new firms is often associated with innovation, risk taking, and economic growth (Audretsch 2018). Entrepreneurs are the ones that experiment with new ideas and can produce new businesses and new technologies (Kerr et al. 2014, Manso 2016). The recent EU Competitiveness Compass (January 2025) emphasizes the importance of entrepreneurship in achieving the bloc's goals and enhancing productivity growth.

At the same time, not all entrepreneurs are successful (Hamilton 2000), and some entrepreneurship, especially at the top of the wealth distribution, is less productive and has sometimes been considered a "luxury good" (Hvide and Møen 2010). Skills, risk taking, industry knowledge, peer effects and financial constraints are important success factors (Giannetti and Simonov 2009, Hall and Woodward 2010, Andersen and Nielsen 2012, Lerner and Malmendier 2013, Hvide and Panos 2014, Hvide and Oyer 2017, Hombert et al. 2020).

In this section, we present an overview of Norwegian new (entrepreneurial) firms during our sample period. We define new firms as newly registered firms and present them from their first year of activity[12].

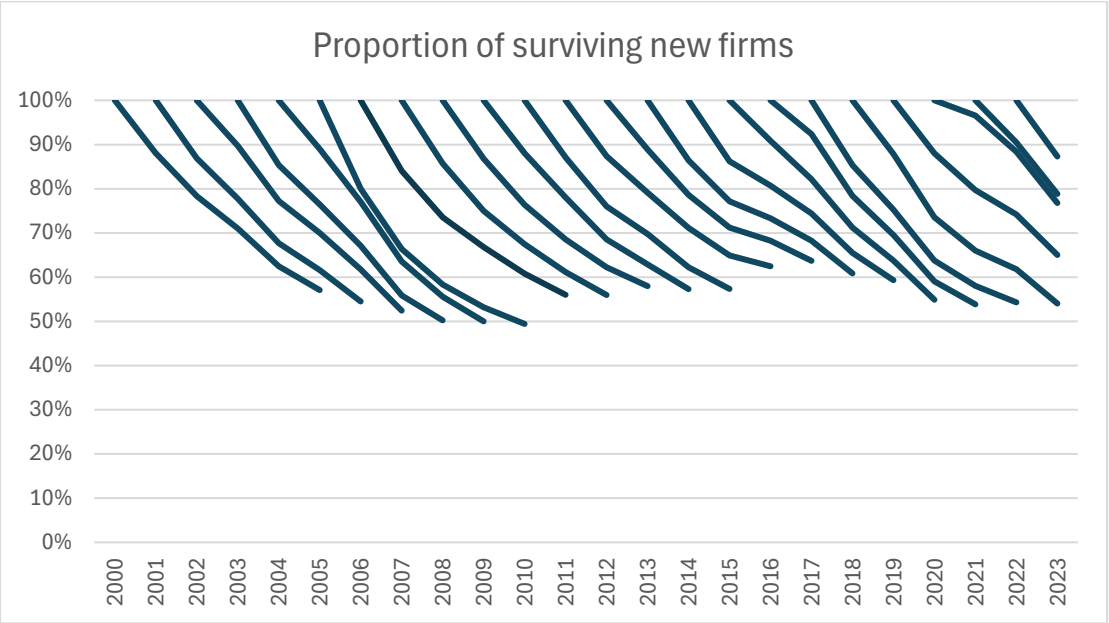
The number of new Norwegian limited liability firms has increased from around 5,000 per year in the early 2000s to around 15,000 in more recent years. The change occurs around the 2012 regulatory changes that made it easier to start a limited liability firm.



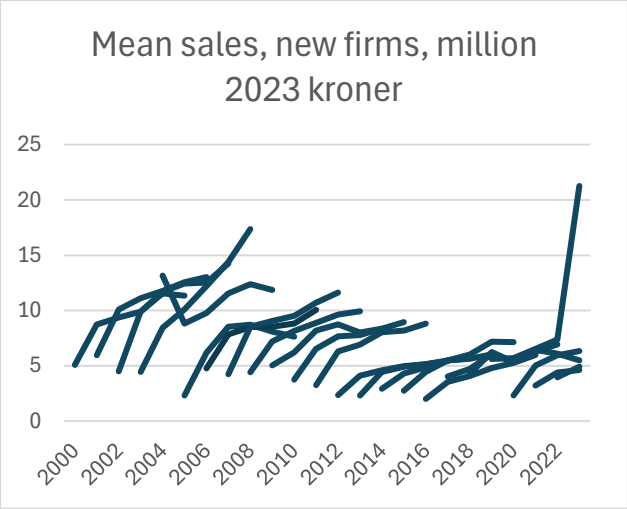
Firms started in the same year may share common characteristics and may be affected by similar macroeconomic shocks. There may also be significant differences between firms from cohorts started in different years. We present below some statistics that group new firms by cohorts and follow them over their first 5 years.

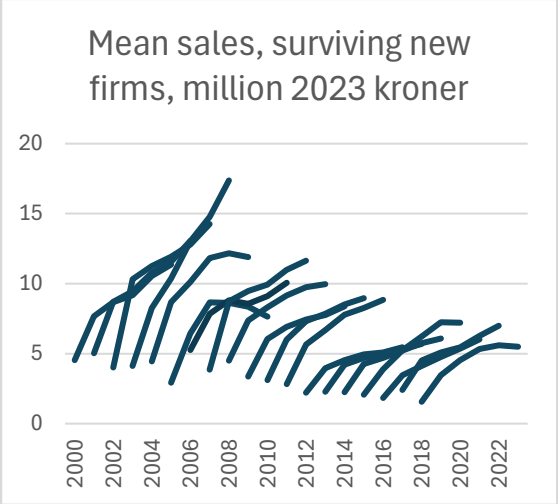
[12] For an earlier analysis of entrepreneurship in Norway that also includes self-employment, see Berglann et al. (2011).

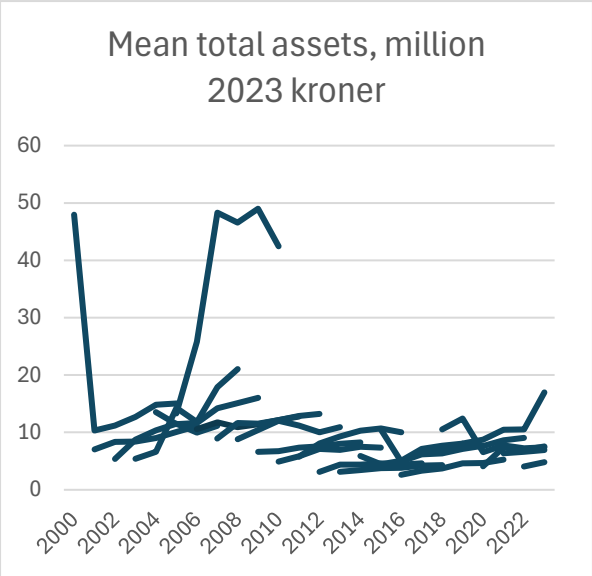
Many young firms fail within the first years. As shown in the next graph, almost half of new firms do not survive for at least 5 years. Survival rates are lower during downturns, such as the 2008 financial crisis.

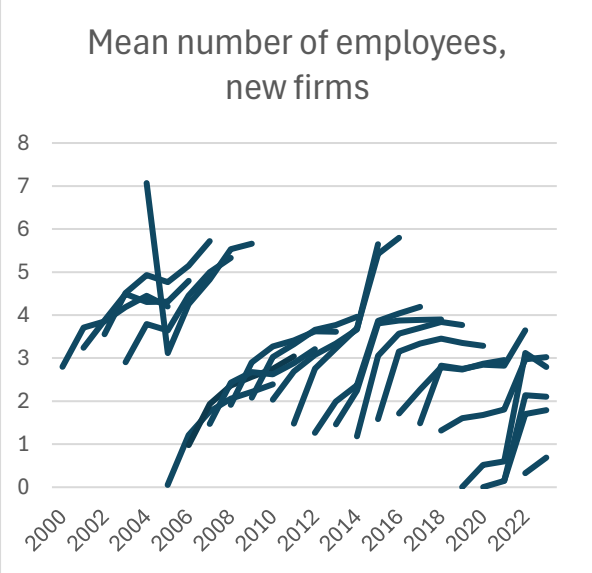


The first years in a firm's life are also characterized by high growth, whether we measure that in terms of sales, total assets, or employment. Firm size and growth are similar if we just focus on the firms that survive for the first 5 years.

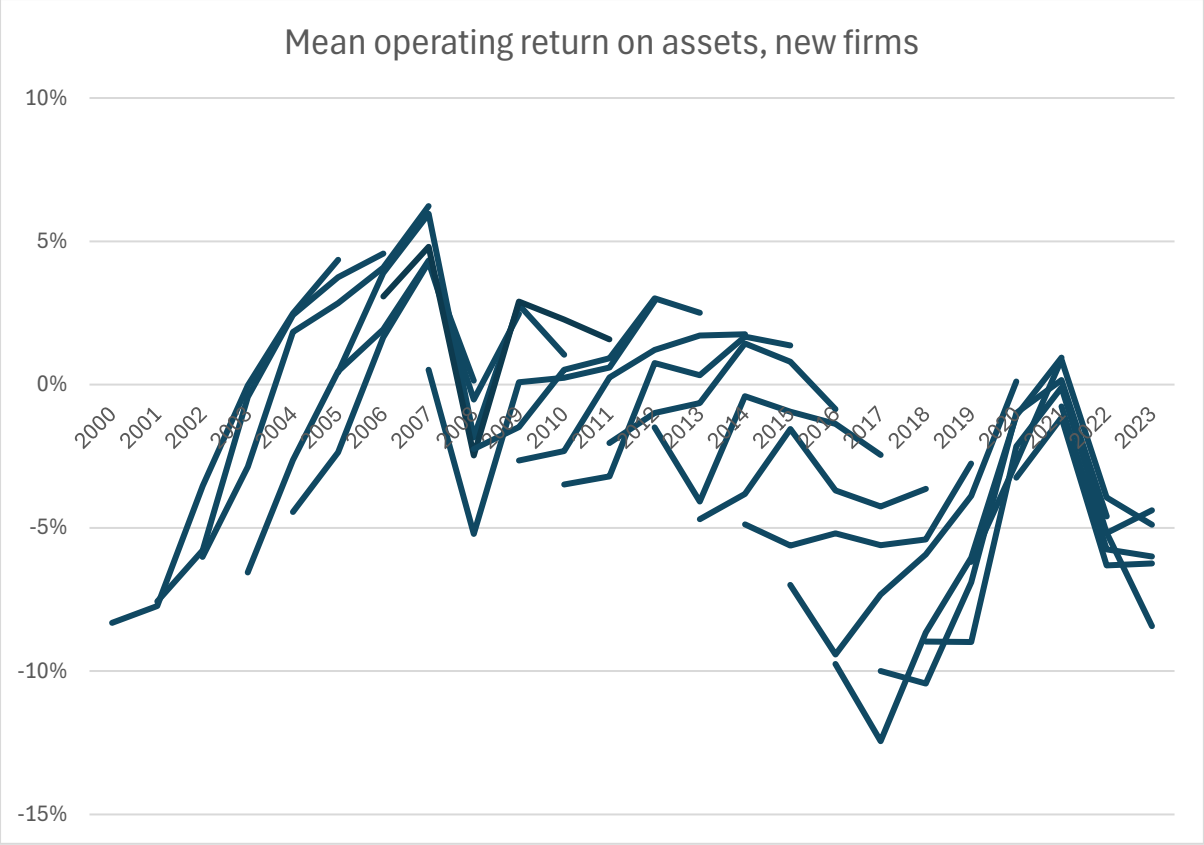


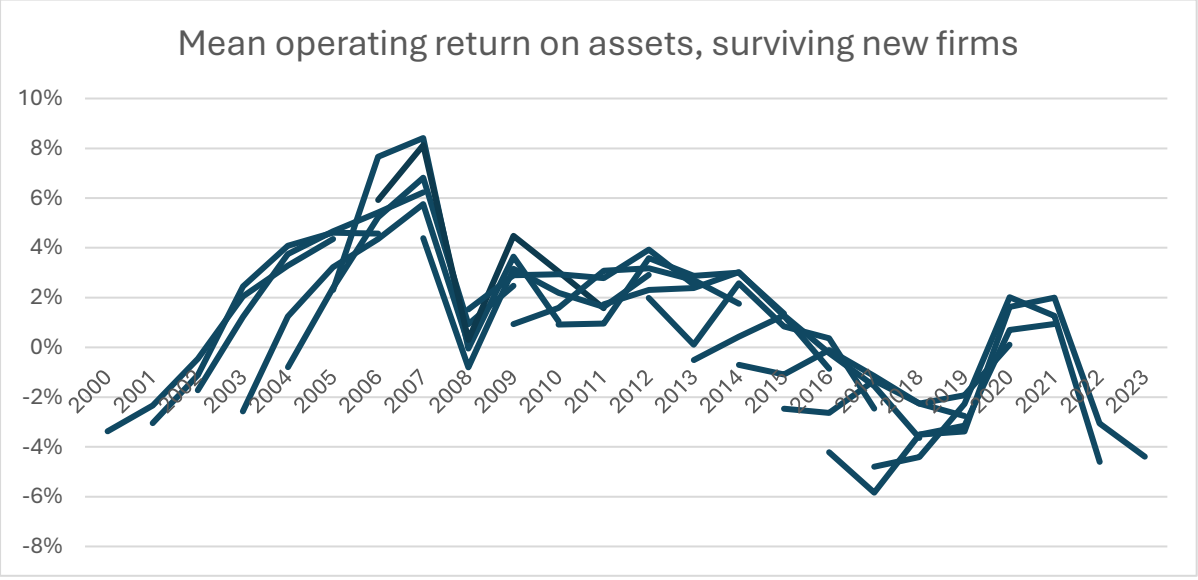






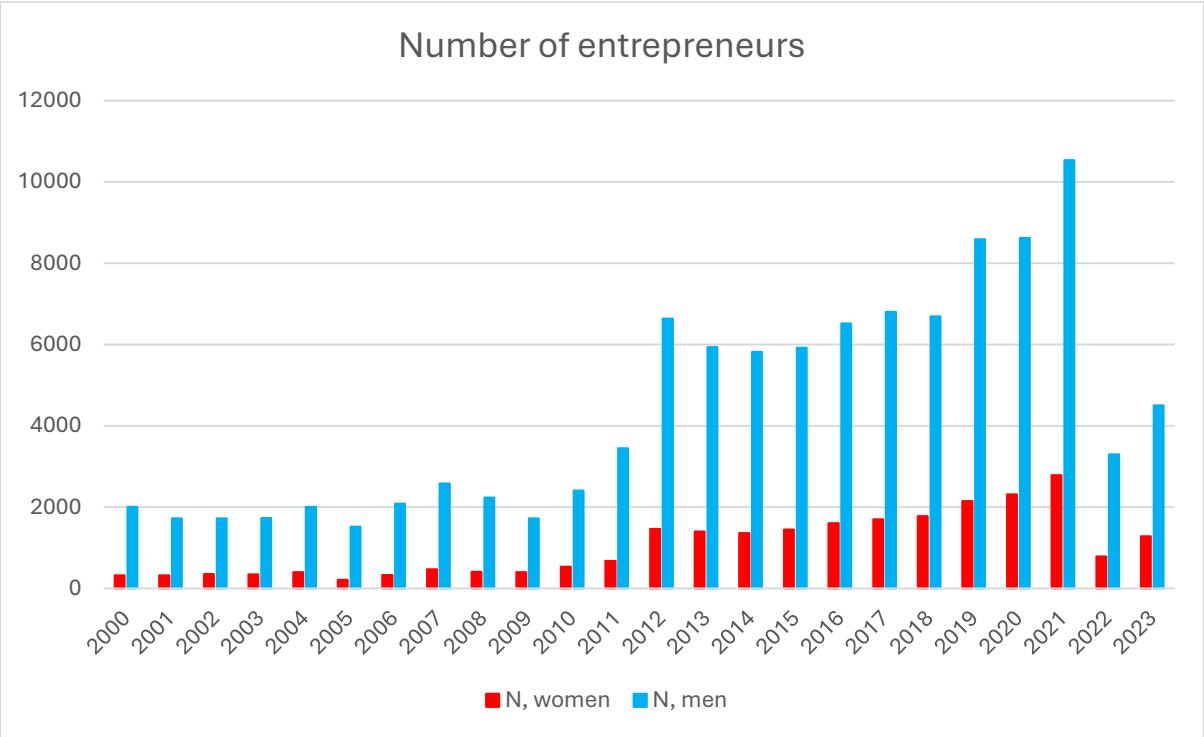
The profitability of new firms is quite variable and it can be strongly affected by economic shocks such as the 2008 financial crisis, the 2015 decrease in oil prices, or the Covid-19 crisis. The graphs below show the profitability measured as the operating return on assets (after-tax operating earnings divided by total assets). The profitability of surviving firms is significantly higher than that of the overall sample.



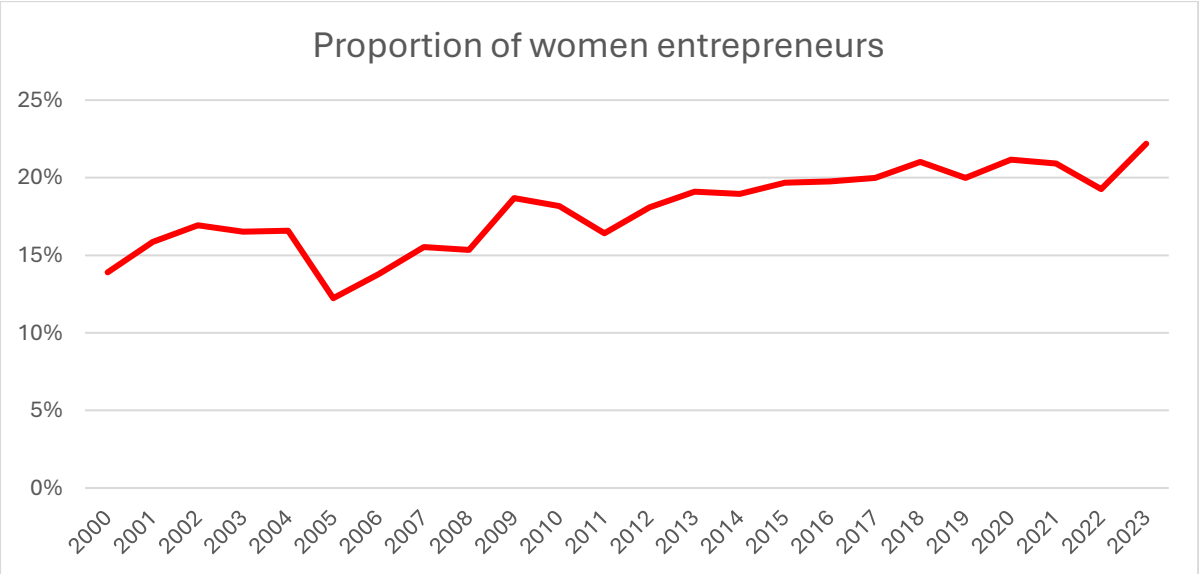


We can also look at the characteristics of entrepreneurs starting new firms. To do that, we restrict our attention to new firms where the CEO holds at least 50% of the shares – and those CEOs constitute our sample of entrepreneurs.

The number of entrepreneurs controlling limited liability companies has increased over time, and that applies to entrepreneurs of both genders.

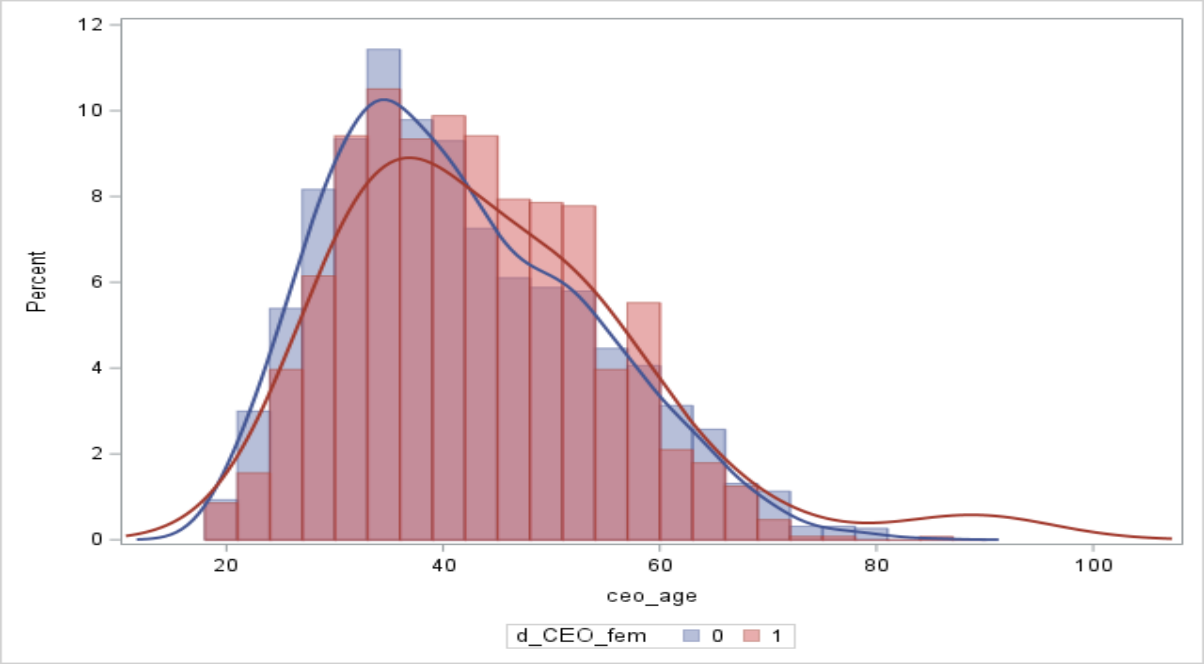


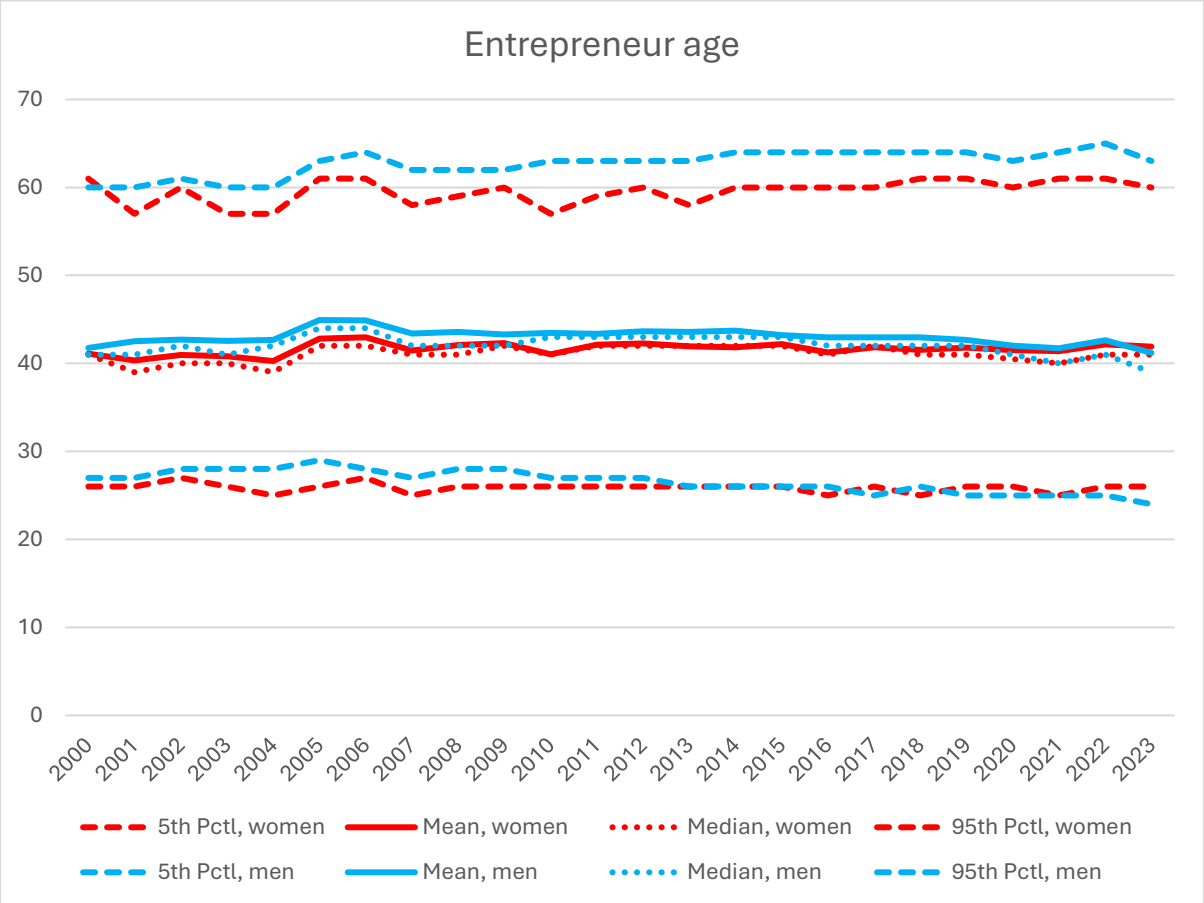
The participation of certain groups such as women, young people or immigrants in entrepreneurship has been an important policy concern in recent years (OECD/European Commission (2023)). The proportion of women entrepreneurs has gradually increased over time, but it is still at 22% in 2023[13].



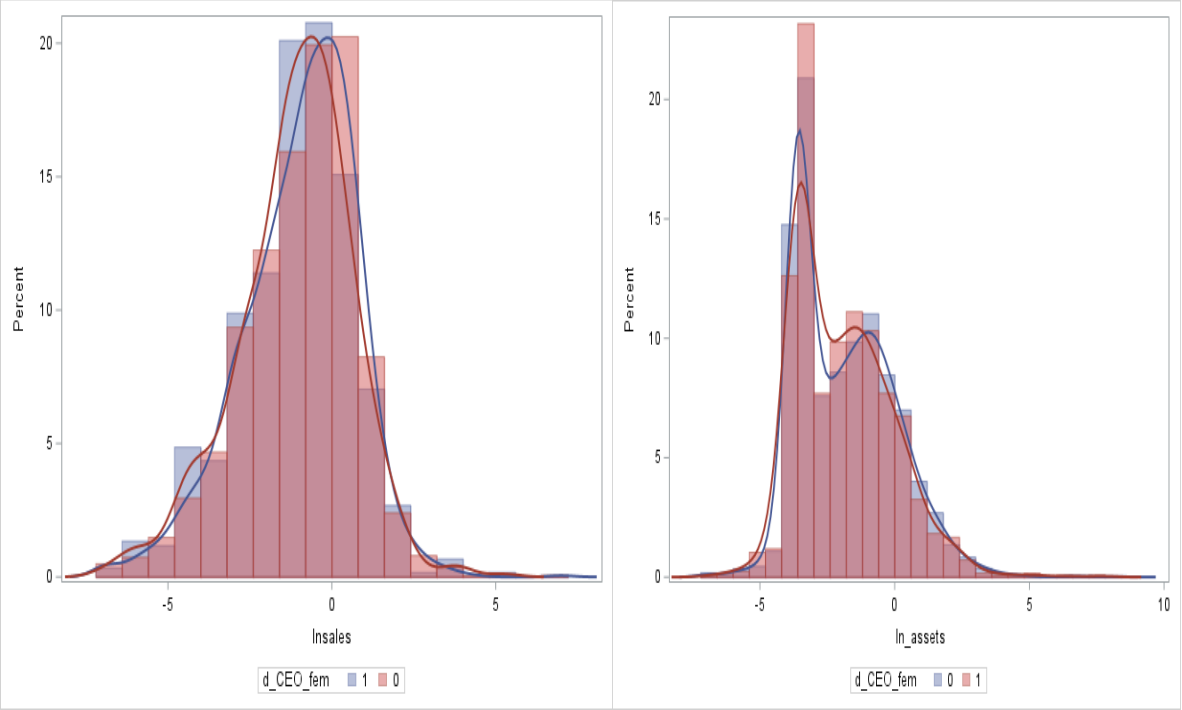
[13] The proportion is similar in neighboring countries. Numbers on the proportion of women entrepreneurs in Denmark, for instance, can be found in the 2022 report from Danmarks Statistisk at https://www.dst.dk/da/Statistik/nyheder-analyser-publ/Publikationer/VisPub?cid=40865. Fjærli, Iancu, and Raknerud (2013) find similar percentages for Norway in the early 2000s using a slightly broader definition of entrepreneurship.

The age distribution of entrepreneurs is quite broad and similar across genders, as shown by the histogram below (red and blue represent female and male entrepreneurs, respectively). Consistent with Berglann et al. (2011), we find that the average age of entrepreneurs is in the early 40s. The age distribution seems to be fairly stable over time.

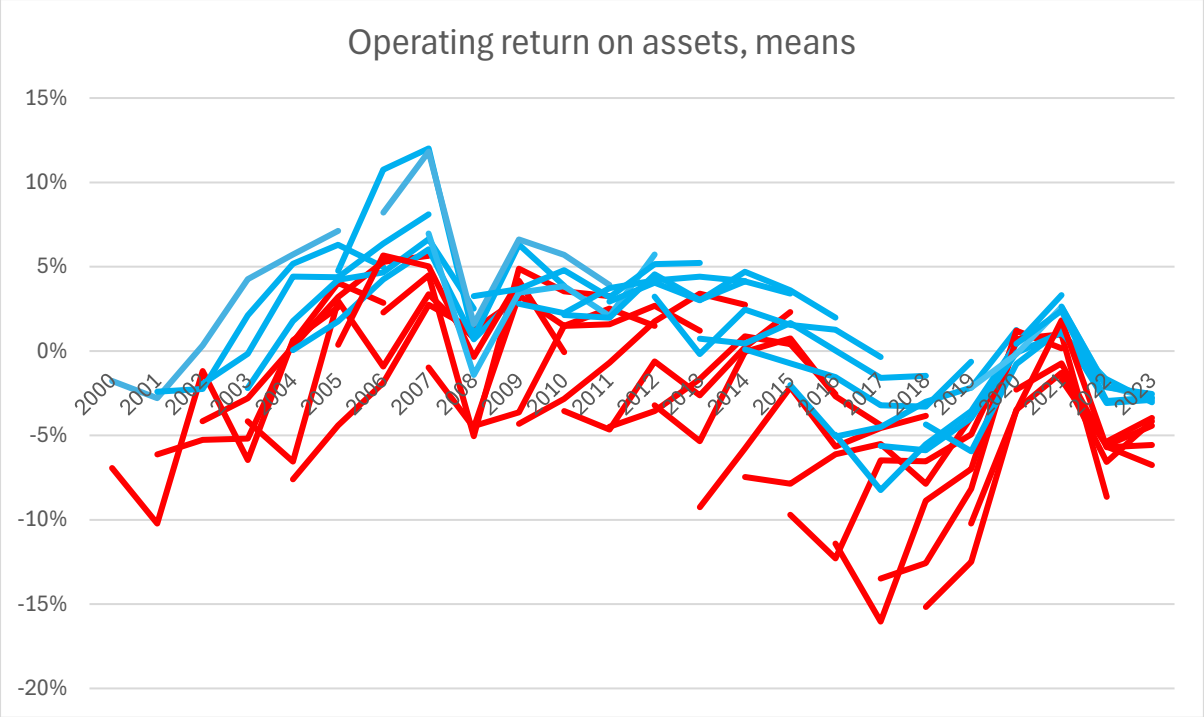




The size distribution in the first year is quite similar for male and female entrepreneurs. The graphs below present the distributions of the logs of revenues and logs of total assets in the first year. The latter shows that the minimum capital requirements are binding for many firms[14].



The profitability of new firms with male entrepreneurs is slightly higher than that of new firms with female entrepreneurs during their early years.



[14] van Praag and Raknerud (2014) find that a higher amount of capital committed by entrepreneurs is associated with higher performance in startups.

7. Family and nonfamily firms

The majority of firms in an economy are controlled by individuals or families. Family ownership is more widespread among nonlisted firms, and that means that easily available information on them tends to be more limited. Most corporate finance and corporate governance research has focused on listed firms, which capture a large part of overall economic activity and provide regular reports to the market.

As we confirm below, however, family firms also represent a significant section of the economy. They stand for around 70% of limited liability firms in Norway. They also represent around 40% of employment in limited liability firms, around 25% of revenues, and 20% of total assets. All these proportions have been fairly stable over time. The Norwegian firms confirm the importance of family ownership that has been documented in international studies (Amit and Villalonga, 2014, Bertrand and Schoar 2006).

Family firms are different from the typical listed firm in several important ways (Bennedsen, Perez-Gonzalez, and Wolfenzon, 2010). Their ownership is more concentrated, the communication between owners and managers is easier, but the relationship with minority owers is an important concern. The families are usually active owners, and are often also involved on the board and in the firm's management (Bøhren et al. 2019). The high level of involvement can be associated with higher performance, especially when the founder is still present in the firm (Perez-Gonzalez 2006, Villalonga and Amit 2006a, Anderson and Reeb 2003). Conversely, the family is usually not well diversified and is exposed to the idiosyncratic risk of the firm (Fagereng et al. 2020). The limited financial resources of the family can make the firm vulnerable in case of large shocks to financial markets (Lins et al. 2013).

The controlling family often has a long-term view and tries to protect the socioemotional wealth incorporated in the family firm (Gómez-Mejía et al. 2007). That can provide the advantages of lower debt financing costs (Anderson et al. 2003) and of more stable relationships with employees (Sraer and Thesmar 2007). It can also raise challenges related to succession issues (Bennedsen et al. 2007, Mehrorta et al. 2013, Berzins and Zaldokas 2023).

There are many definitions of family firms used in various studies (O'Boyle et al. 2012). This variation is often caused by data availability (having data on just listed firms and choosing a low family ownership threshold as a result, having to rely on surnames to identify kinship), but can also be conceptual (defining firms based on ownership, on the involvement of owners in management, distinguishing between classical family firms and entrepreneurial firms).

In what follows, a family firm is defined as a firm where an individual or a group of individuals related by blood or marriage ultimately control at least 50% of the equity. Business groups count as one observation.

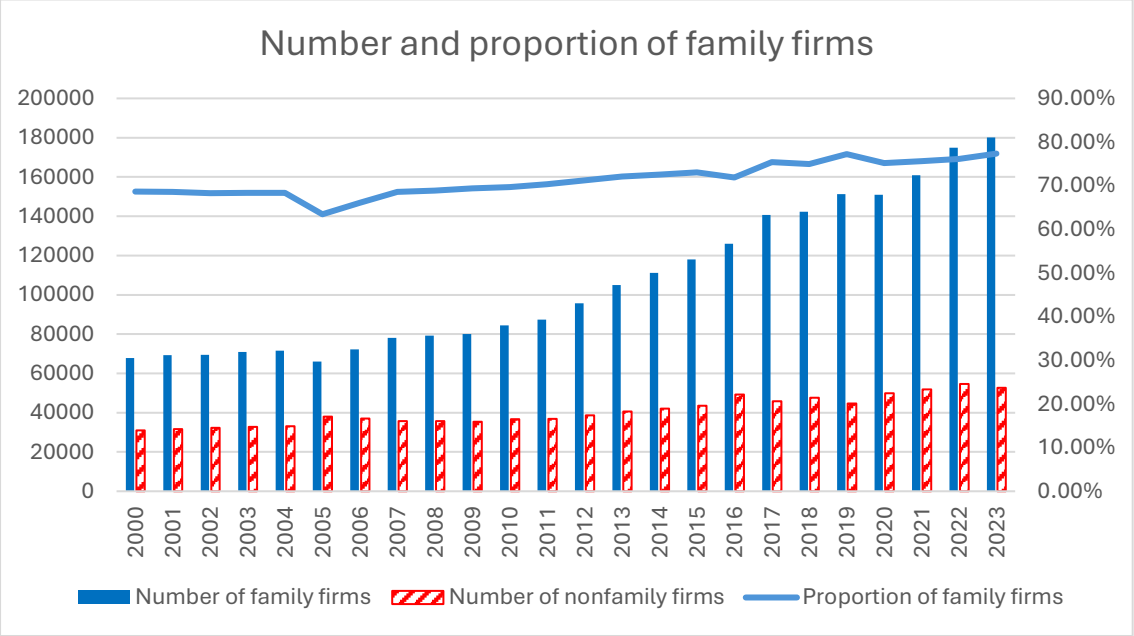
We compare family firms to nonfamily firms – the remaining limited liability firms in the economy, where no individual or group of related individuals has a majority[15]. Most nonfamily firms are owned by multiple Norwegian individuals and families, with no majority for any of them. A smaller share are ultimately controlled by the state, financial institutions, or foreign individuals,

[15] A previous research report looking at Norwegian family firms over the period 2000-2015 can be found at https://www.bi.edu/research/research-centres/centre-for-corporate-governance-research/Publications/ .

companies or financial institutions. We show that family firms are different from nonfamily firms in terms of typical size, industry and geographical distribution, performance, and governance structures.

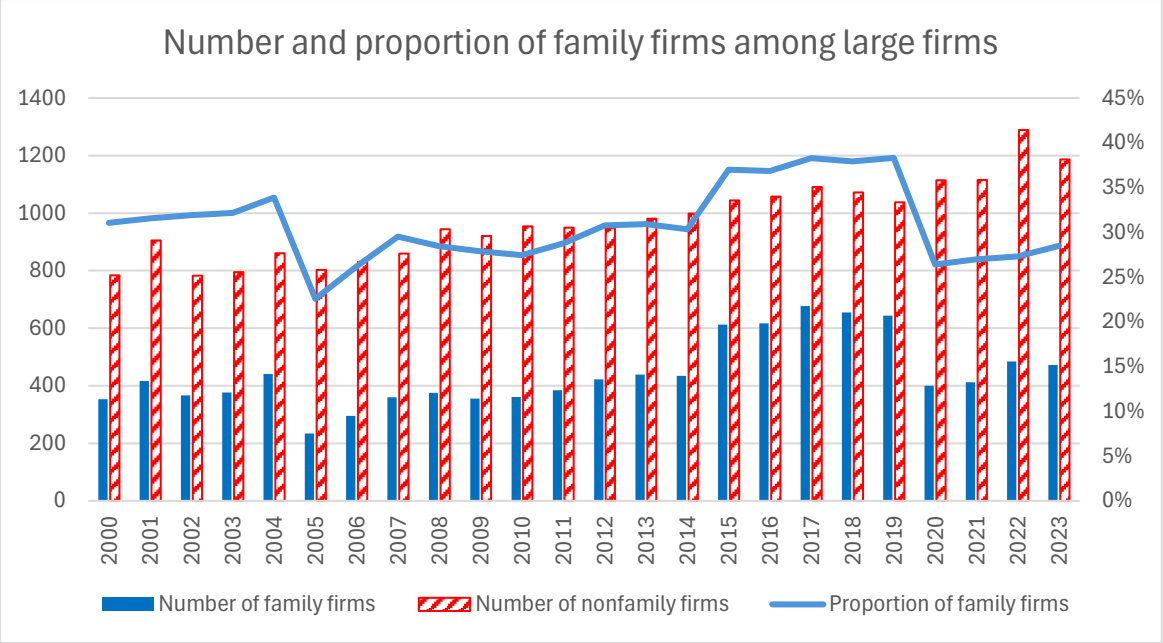
7.1. The frequency of family firms. The share of family firms in employment, revenues and assets

The proportion of family firms among Norwegian limited liability firms is around 70%. It has increased slightly in recent years due to the reduction in minimum capital and auditing requirements, which has resulted in more small firms being started as limited liability firms. The number of family firms has increased at a faster rate than that of nonfamily firms.



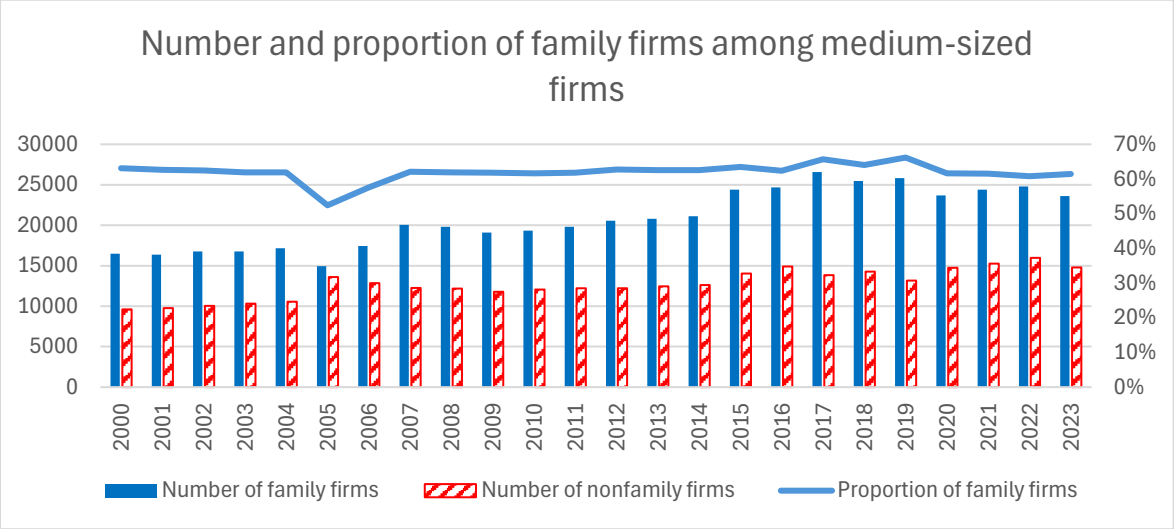
Left scale: the number of firms, right scale: the proportion of family firms among limited liability firms

Family firms represent a smaller, but still significant proportion among large firms, where large firms are defined as firms (or business groups) with at least 100 employees and at least 100 million (2023) kroner in sales.



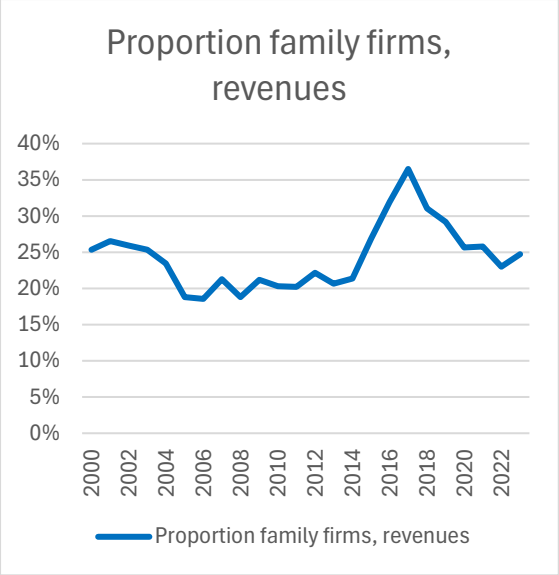
Left scale: the number of firms, right scale: the proportion of family firms among limited liability firms

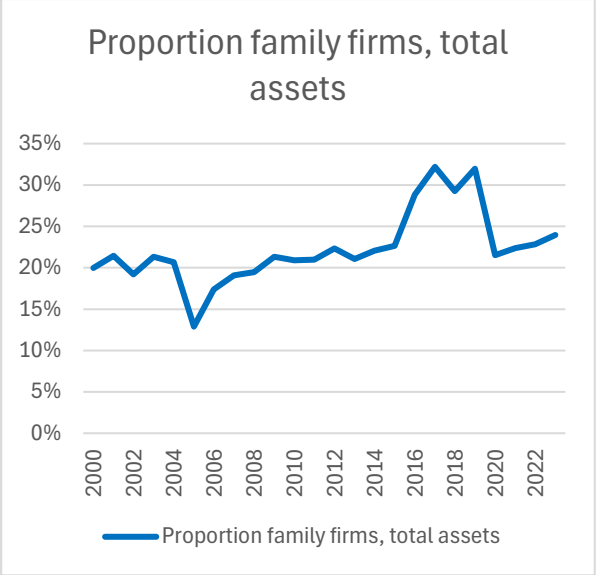
Family firms represent a majority of medium-sized firms, where medium-sized firms are defined as firms with at least 10 employees or 10 million (2023) kroner in sales that are not classified as large.

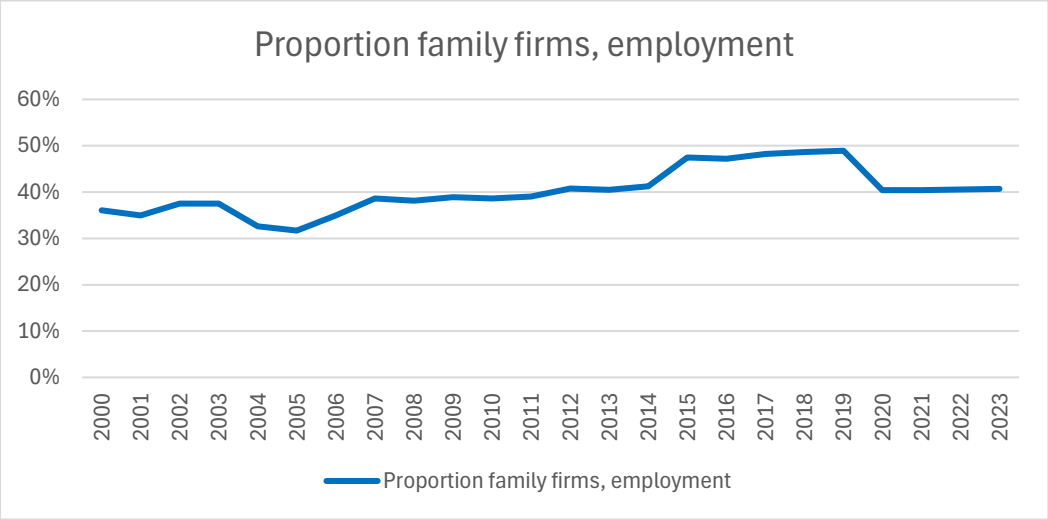


Left scale: the number of firms. Right scale: the proportion of family firms.

Family firms represent around one quarter of the revenues and total assets of limited liability firms, and around 40% of employment.



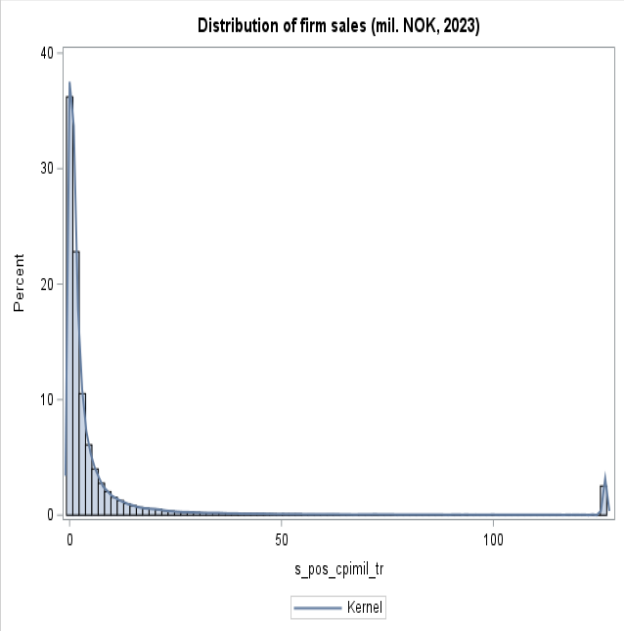


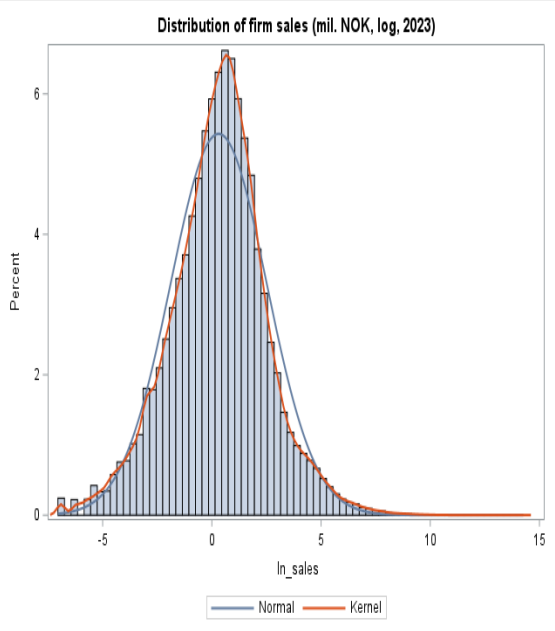


7.2. The size distribution of family and nonfamily Norwegian firms

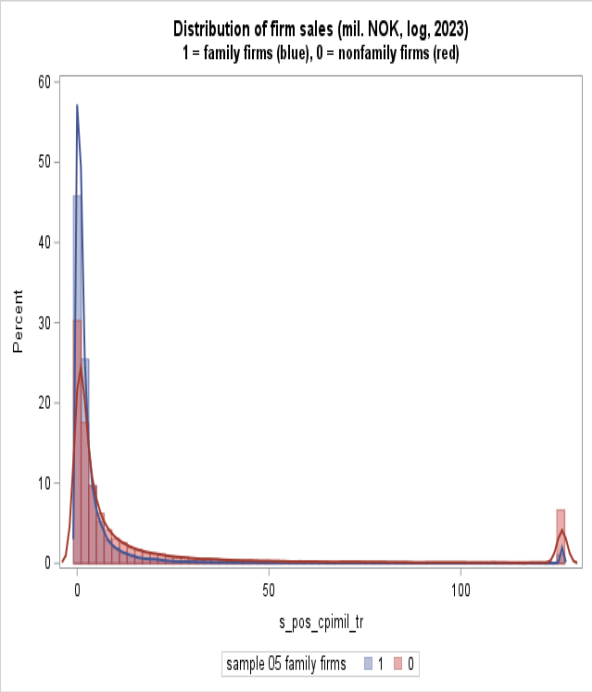
While family firms are smaller on average than nonfamily firms, they are still quite varied in terms of size. This section presents an overview.

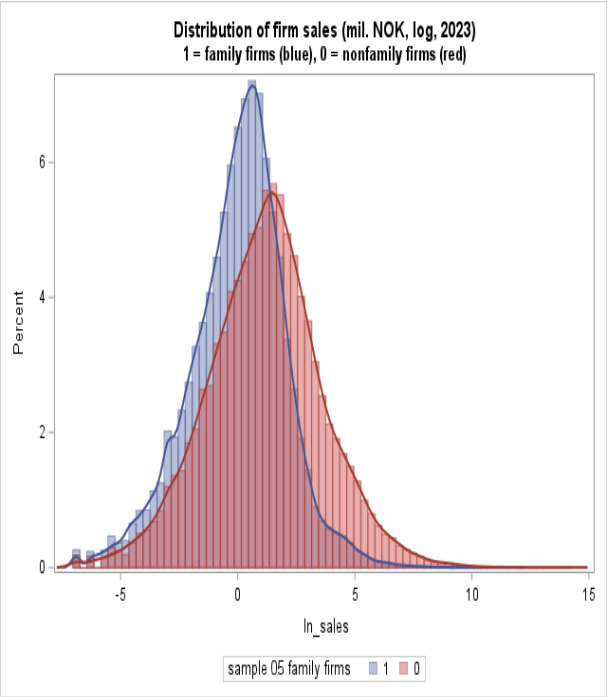
The graphs below present the distribution of all Norwegian limited liability firms by their sales in 2023, and the same for log sales. The distribution is very skewed, with many small firms and a few very large firms.





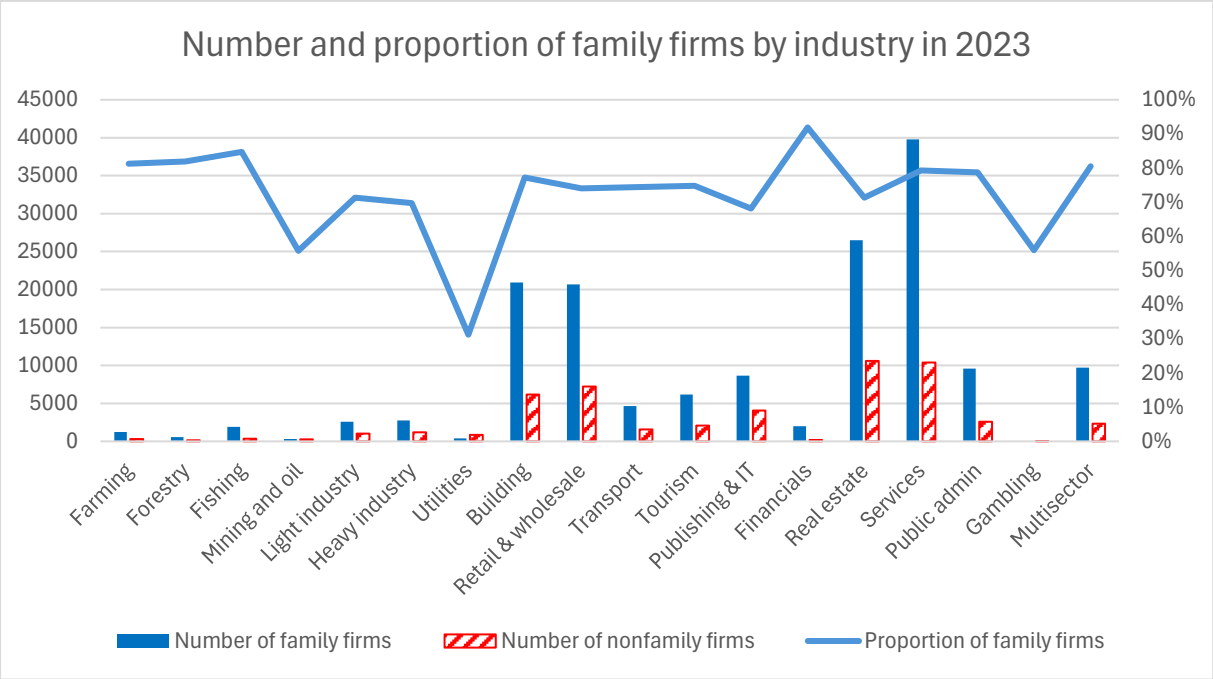
We can also compare the distribution of revenues for family and nonfamily firms. The graph below presents the distribution of sales (in million kroner and logs of million kroner) in 2023 for family firms (blue) and nonfamily firms (red) respectively. The distribution of nonfamily firm revenues is also skewed, but it puts more weight on relatively larger firms.





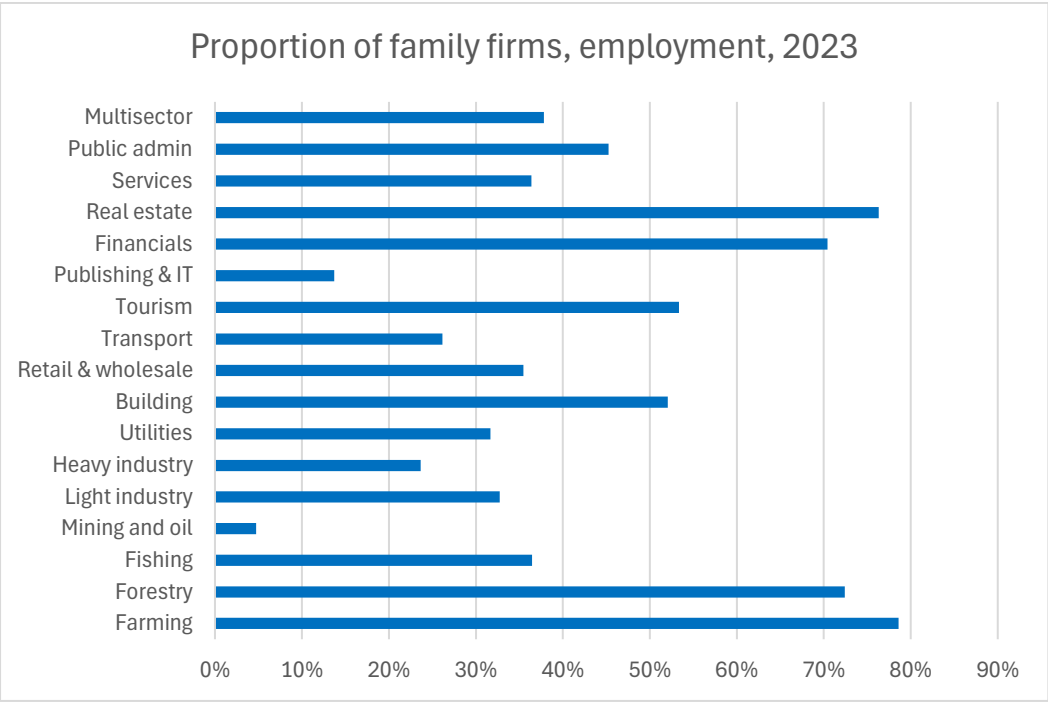
7.3. The industry distribution of family and nonfamily Norwegian firms

Family firms represent the majority of firms in most industries, with relatively low shares only in capital-intensive industries such as mining and oil and utilities.

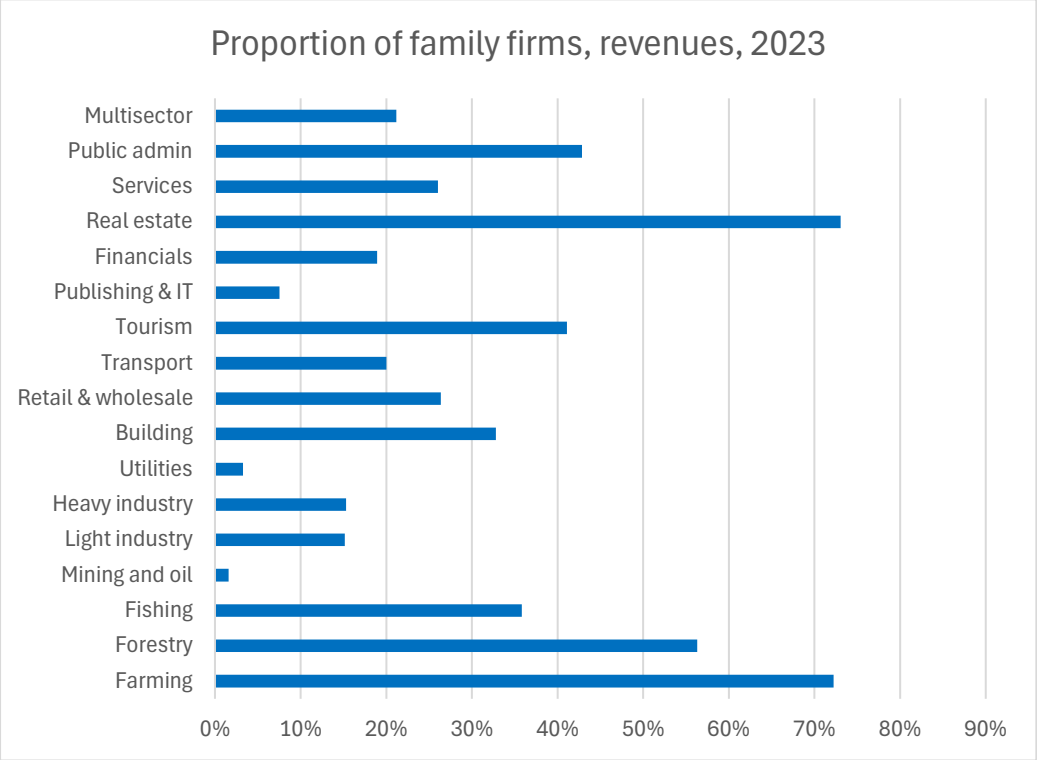


Left scale: the number of firms, right scale: the proportion of family firms among limited liability firms

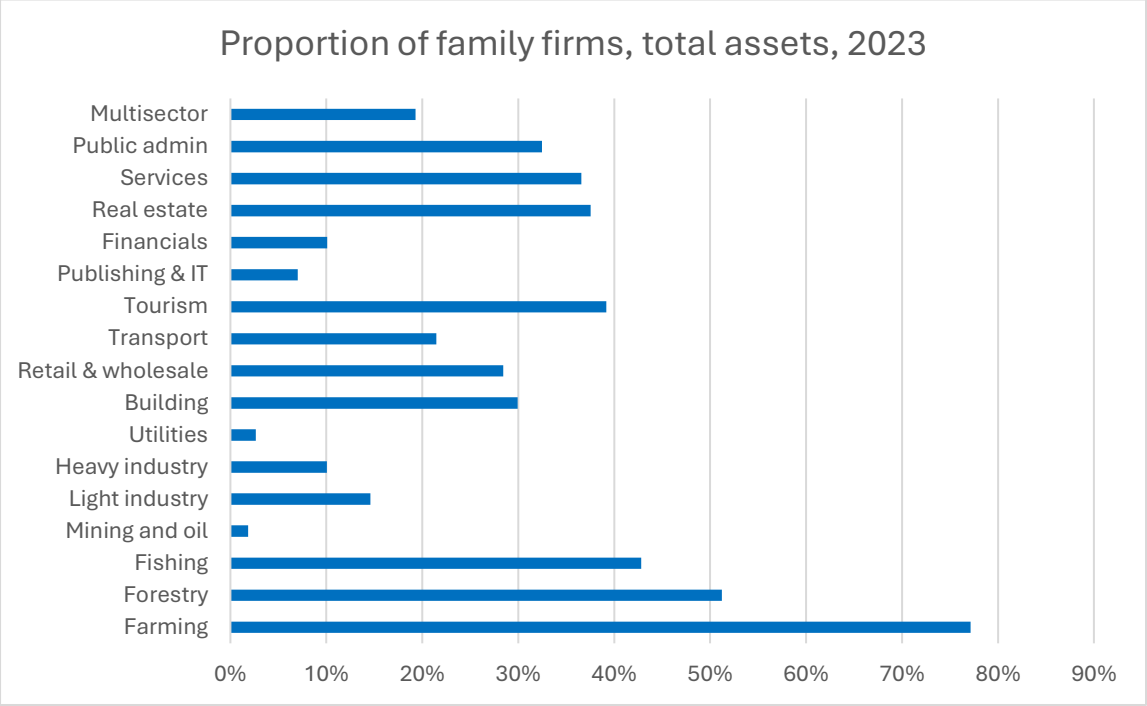
Family firms represent a very large proportion of employment in farming, forestry, real estate, tourism, and construction, and a relatively small proportion in mining and oil and IT:



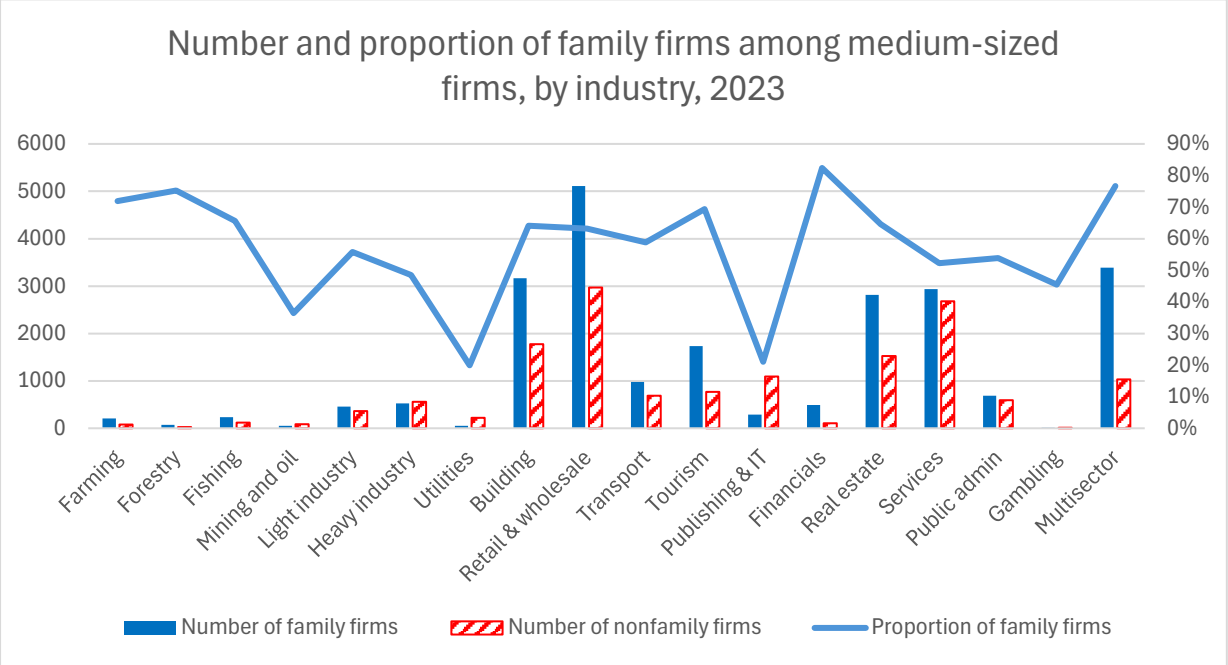
Family firms represent a majority of revenues in real estate, farming, and forestry, a large proportion in tourism, fishing, public administration (e.g. private kindergartens), construction, and a small proportion in IT, utilities, and mining and oil:



In terms of assets, family firms represent a large proportion in farming, forestry, fishing, tourism, real estate, services – and a low proportion once again in IT, utilities, and mining and oil:

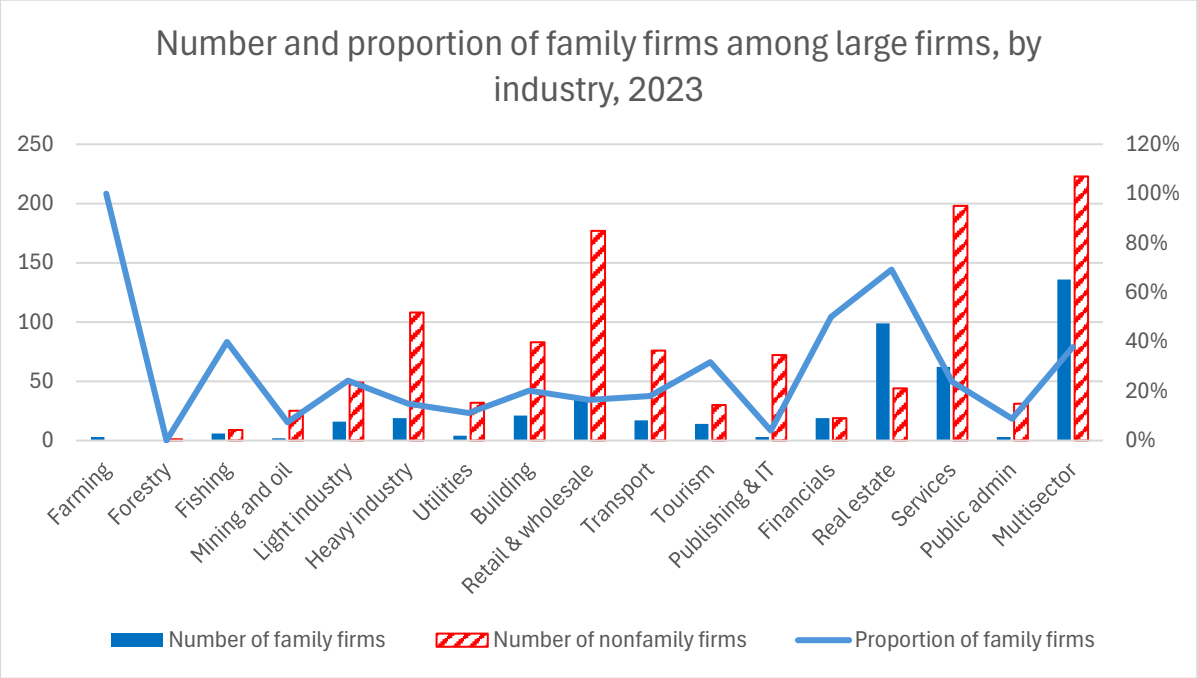


Family firms are dominant among small firms in all industries, They still represent a majority of medium-sized companies in most industries, especially in retail and wholesale and construction. The proportion is relatively low in IT and utilities.



Left scale: the number of firms, right scale: the proportion of family firms among medium-sized limited liability firms

The proportion of family firms is significantly lower among large firms, defined as firms (or business groups) with at least 100 employees and at least 100 million (2023) kroner in sales. Family firms are less common among large mining and oil and IT companies, and better represented among real estate and multisector firms.



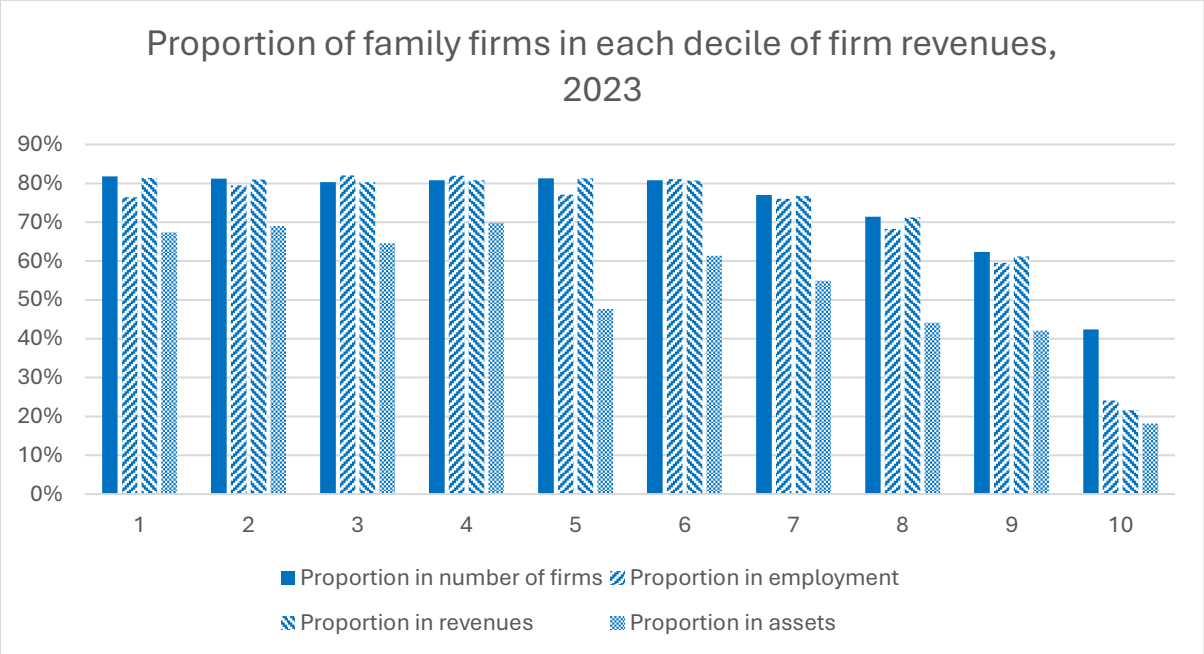
Left scale: the number of firms, right scale: the proportion of family firms among large limited liability firms

8. Financial indicators by firm size, family and nonfamily firms

The summary statistics in the previous section have shown that family firms dominate among small and medium firms, while still representing a significant proportion of the largest firms in the economy. Large family firms are still quite likely to be different from small family firms. In this section, we examine the variation across family and nonfamily firms of different sizes.

We start by sorting active limited liability firms into 10 deciles based on their revenues in 2023 (where 1 represents the smallest and 10 the largest).

We present the proportion of family firms in the total number of firms, employment, revenues, and assets in each decile. Family firms represent the majority of firms, employment, and revenues in all but the largest decile, and a majority of assets in all but the top two deciles:

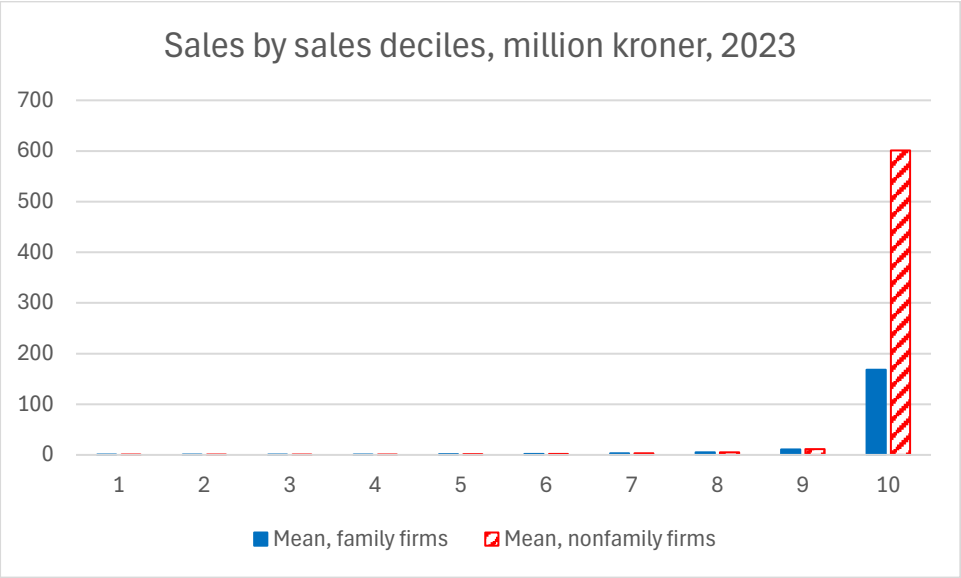


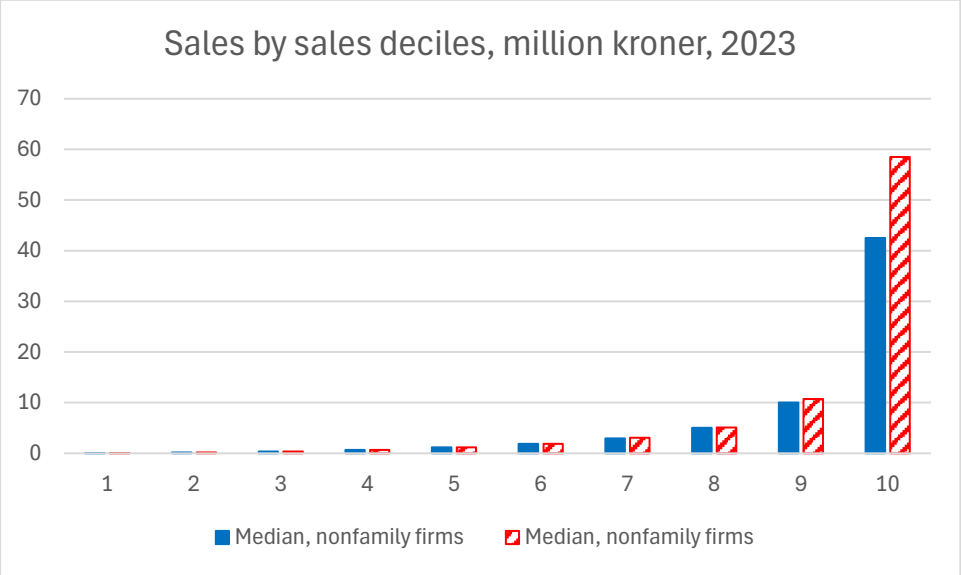
In the next step, we present financial indicators (means and medians) for family firms (in blue) and nonfamily firms (in red) in each size decile.

For indicators which are levels rather than ratios (e.g. sales, total assets, value added) the numbers are in 2023 kroner (i.e. they are inflation adjusted).

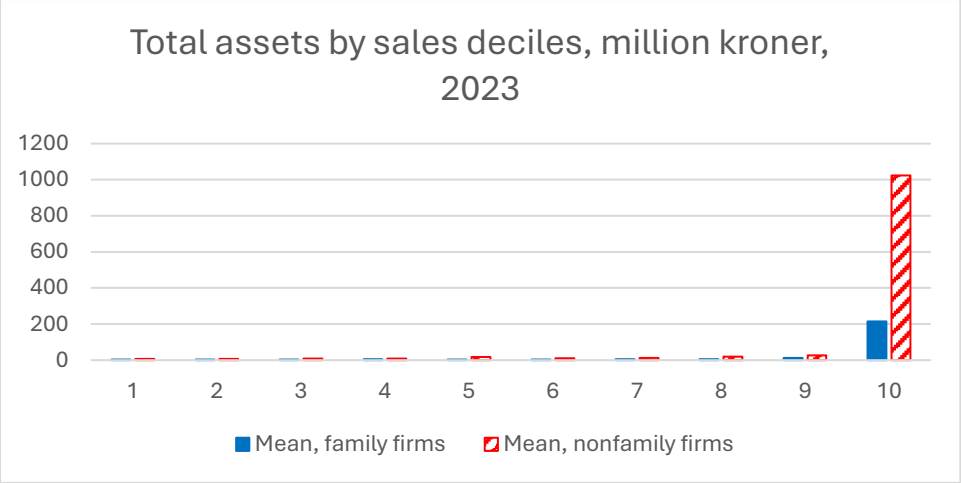
Financial ratios are winsorized at 2.5% and 97.5%.

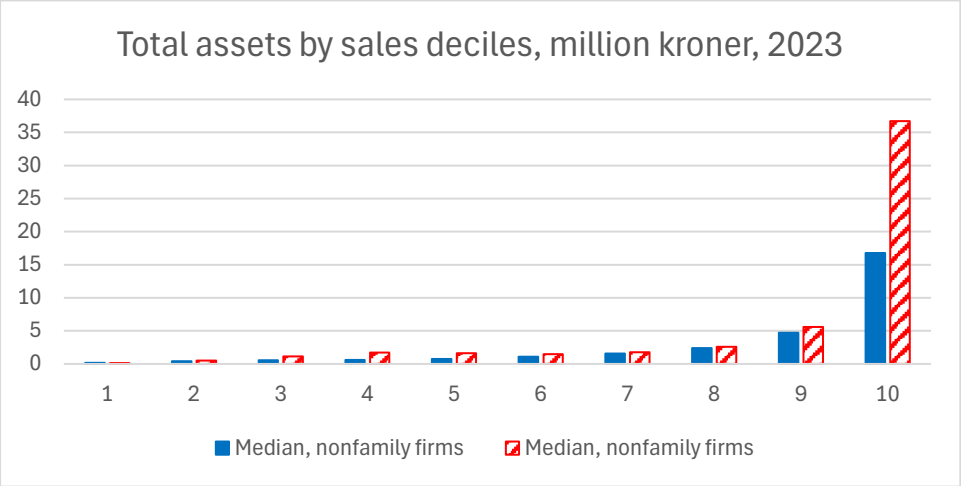
The skewed distribution of sales is confirmed again in this analysis. The mean and median sales are much higher for firms in the top decile. That is also the decile with the largest gap between family and nonfamily firms.



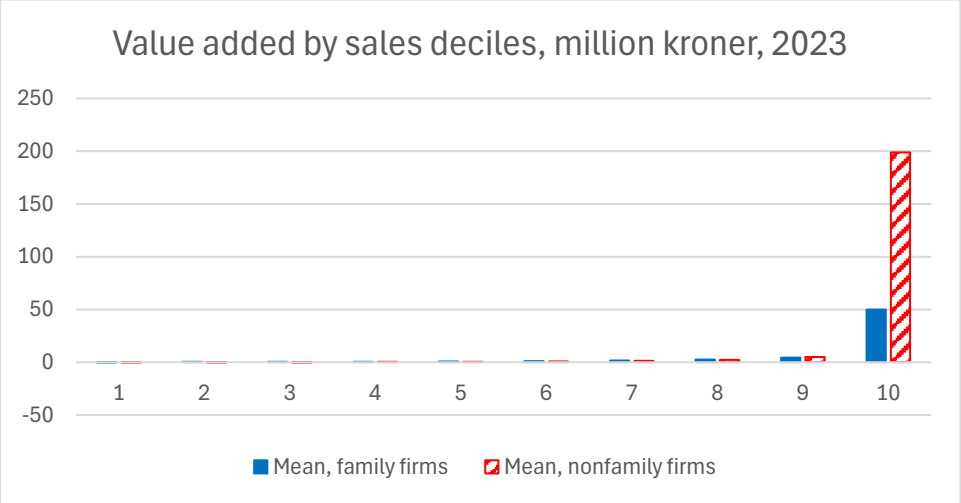


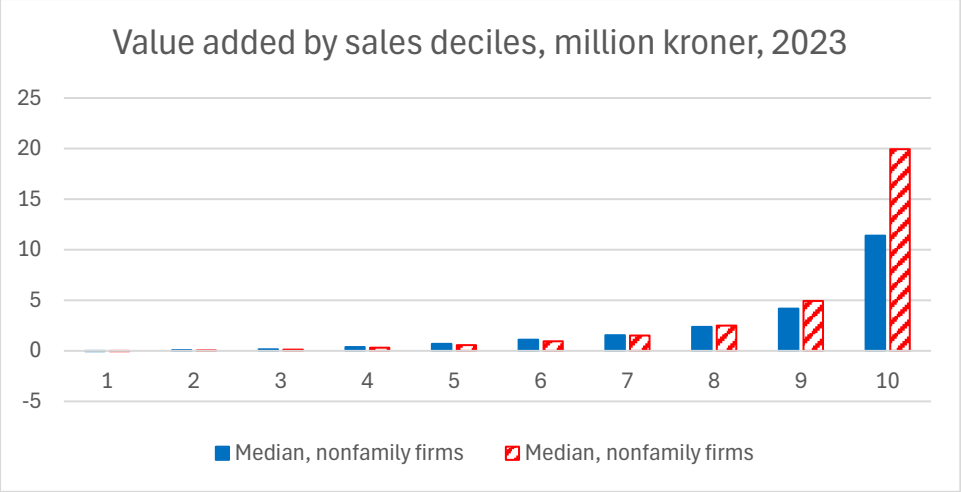
The total assets for each sales decile confirm the same skewed distribution, as well as the larger size of nonfamily firms in the top decile.



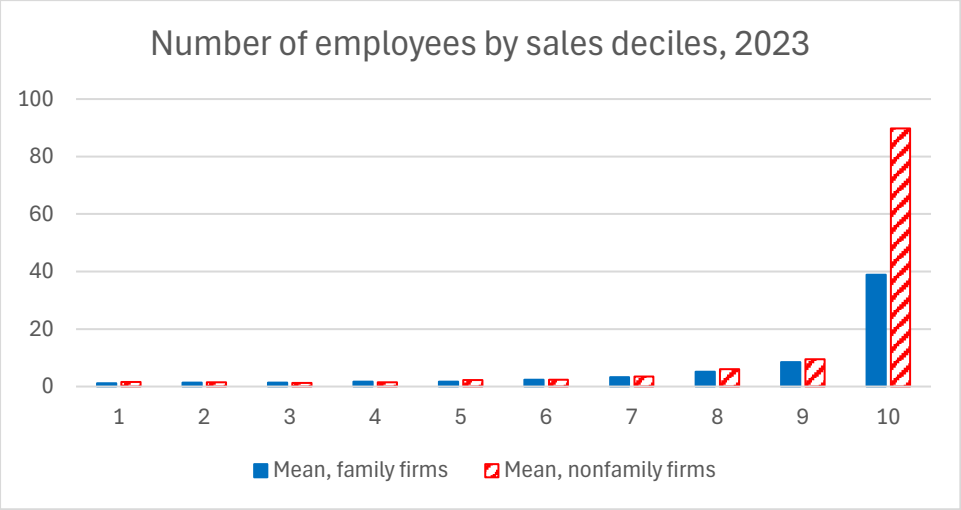


The skewed distribution is also confirmed if we look at the value added (the sum of salaries and earnings generated by the firm).

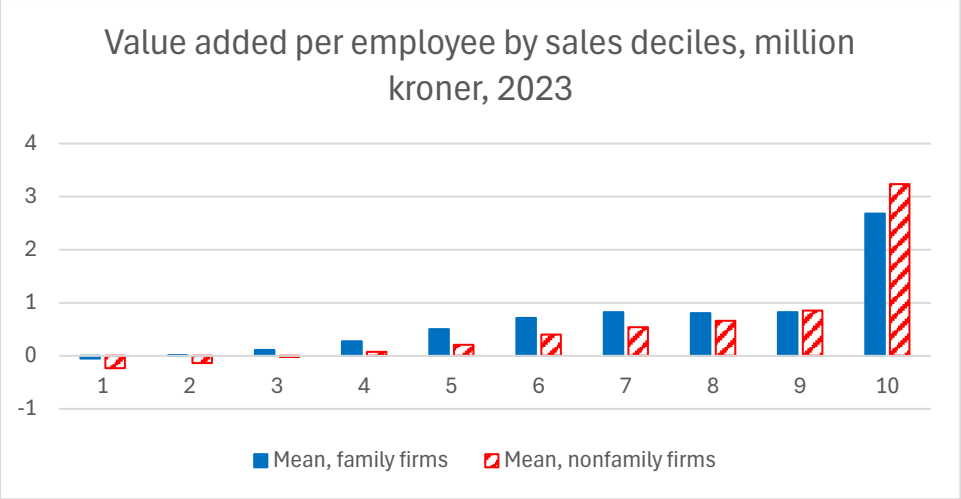


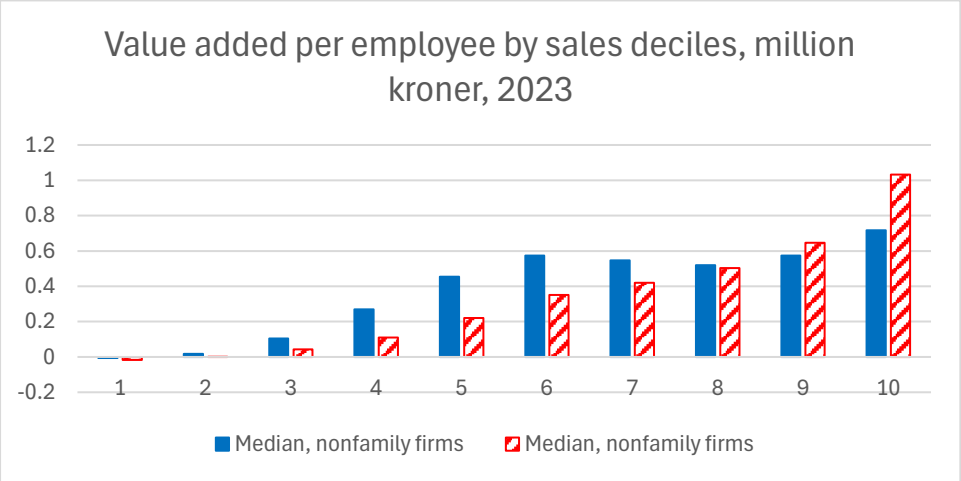


The number of employees is also significantly higher in the top sales decile. The mean and median number of employees are below 10 for all the other deciles.

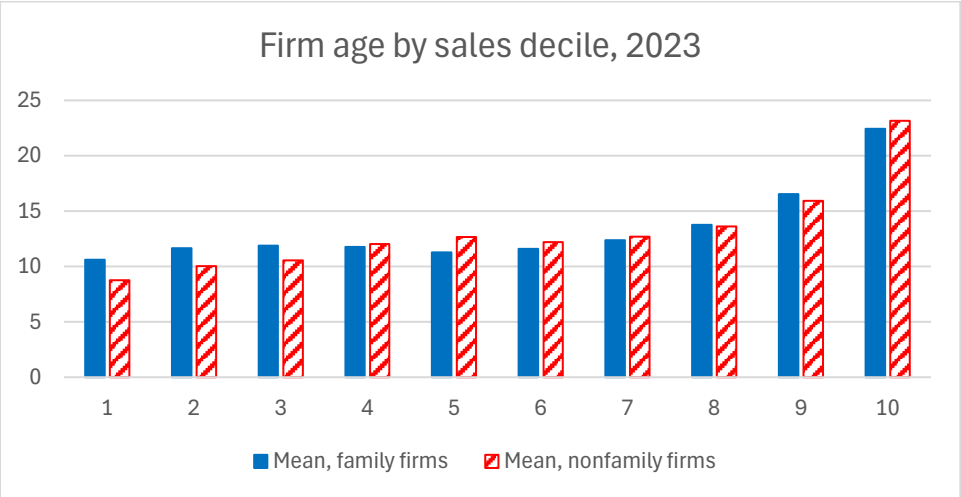


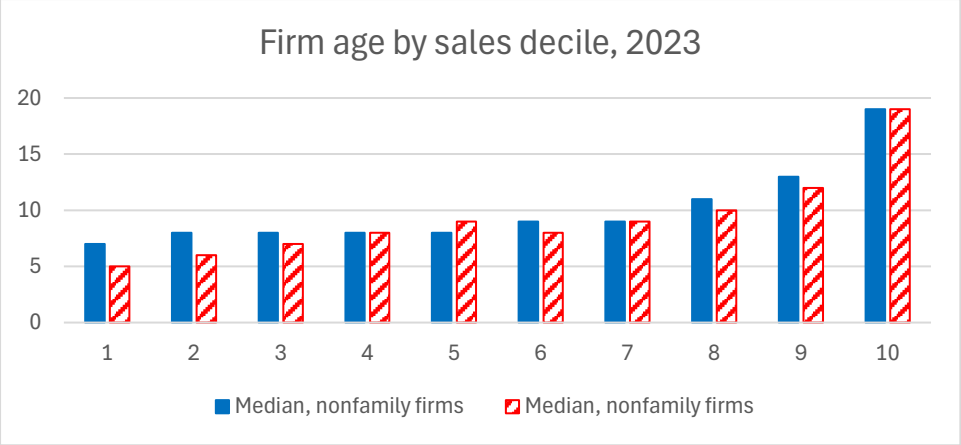
The value added (sum of earnings and salaries) per employee is increasing in firm size, and it is higher for family firms in the middle deciles.



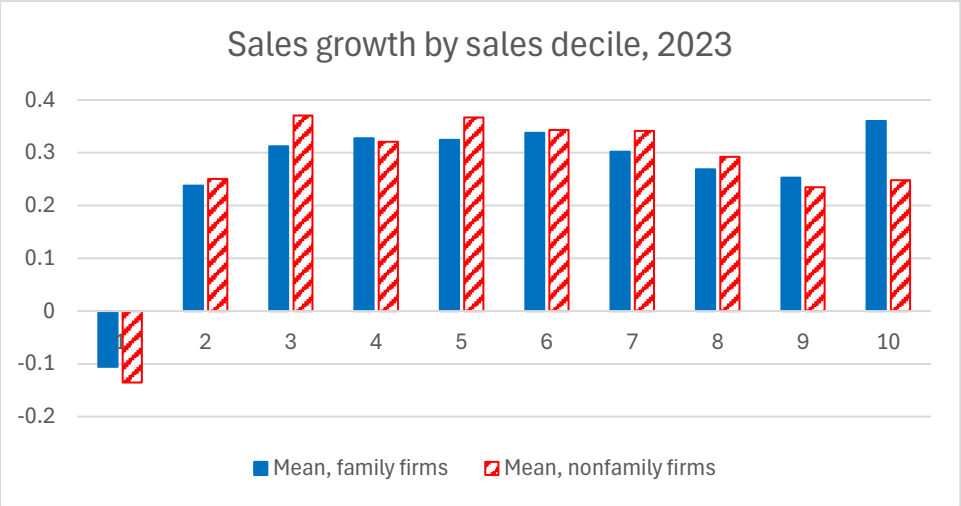


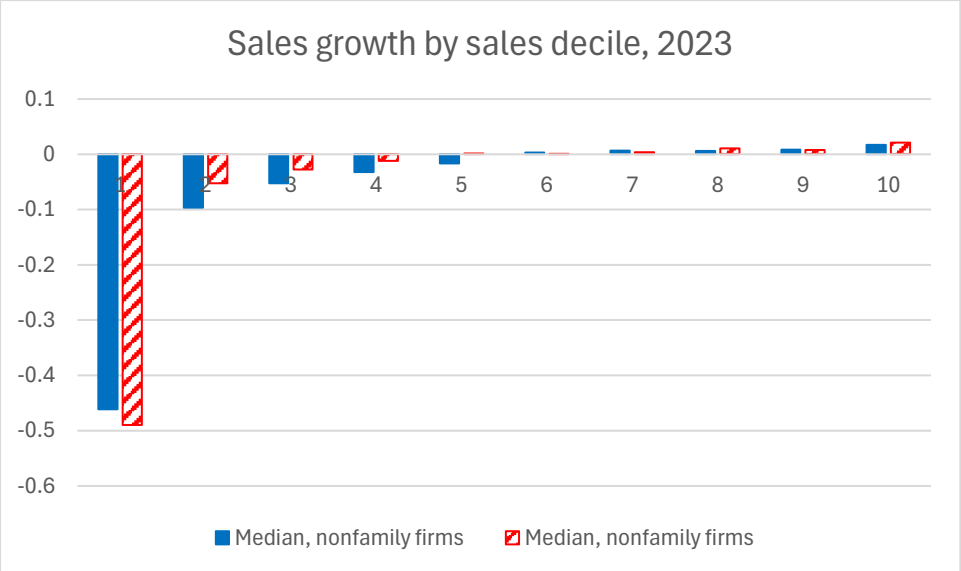
Larger firms are also older on average. The relationship between size and age is closer for nonfamily than for family firms.



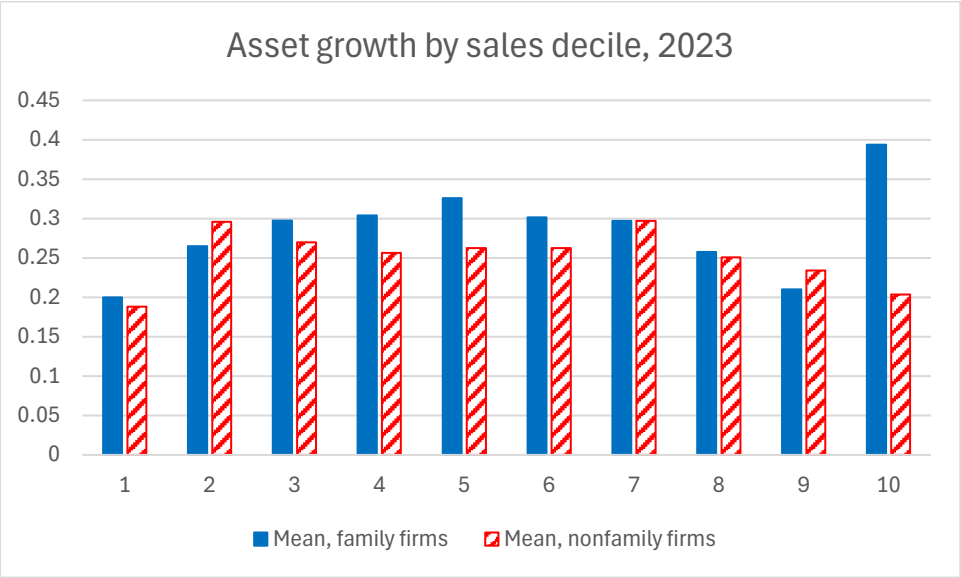


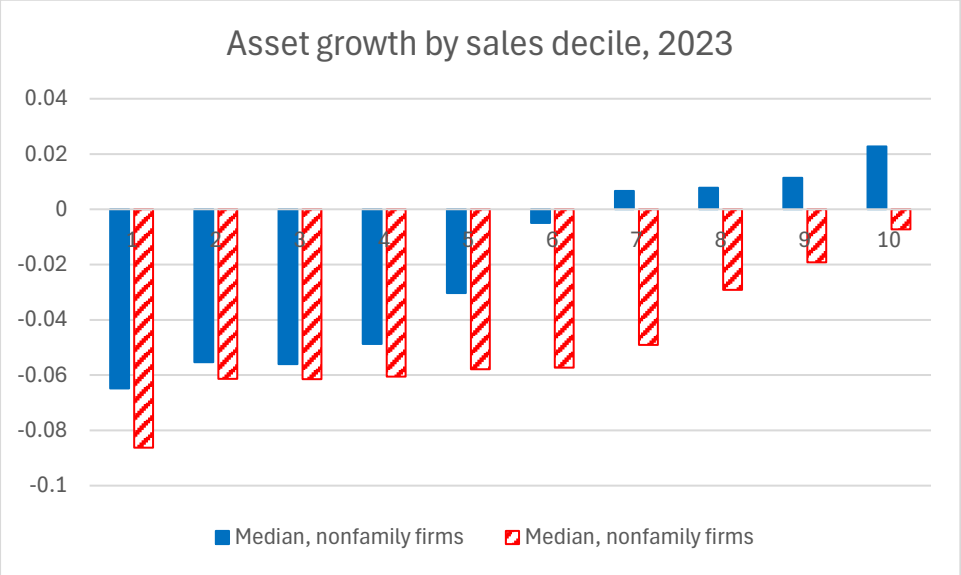
Sales growth is negative in the smallest decile: the firms with the lowest sales in 2023 had lower sales compared to the previous year. The median growth rates increase across the size deciles, but the relationship between size and mean growth rates is more complex. Family firms usually have slightly lower growth rates, with the notable exception of mean growth rates in the top size decile.



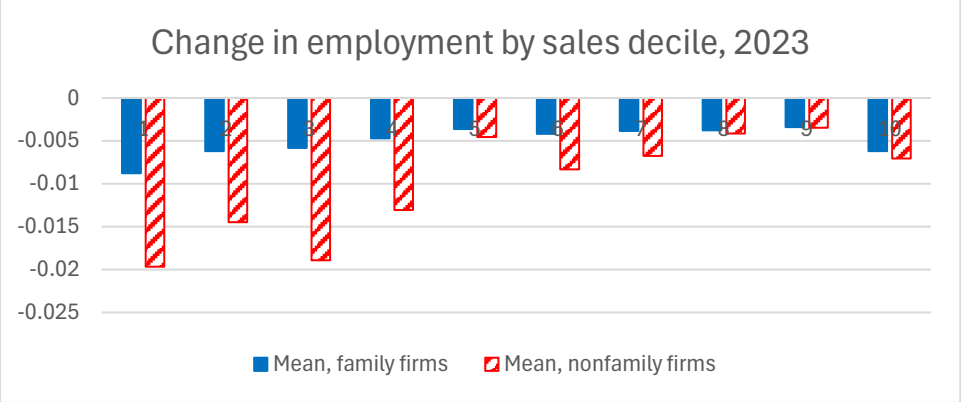


The pattern of asset growth is similar. Median asset growth rates are higher for larger firms. There is evidence of higher growth for large family firms. The distribution of growth rates is also positively skewed, with mean growth rates much higher than median growth rates.

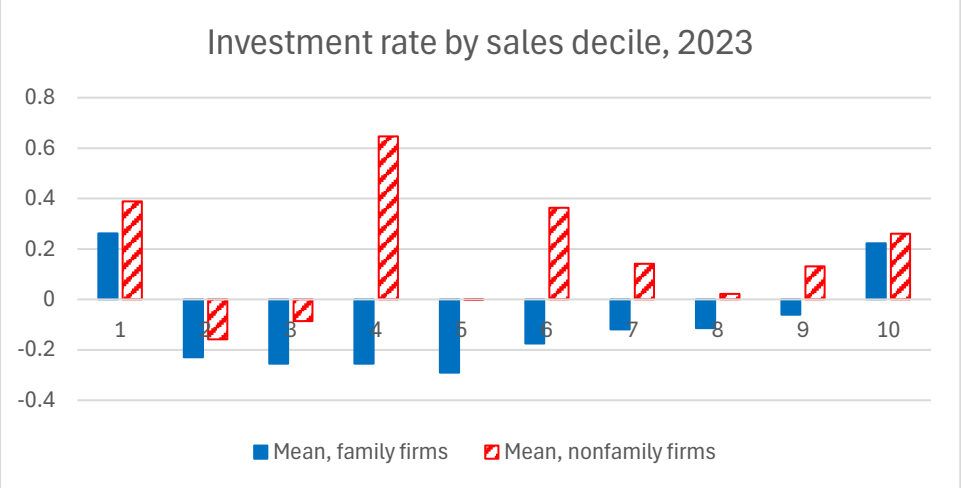


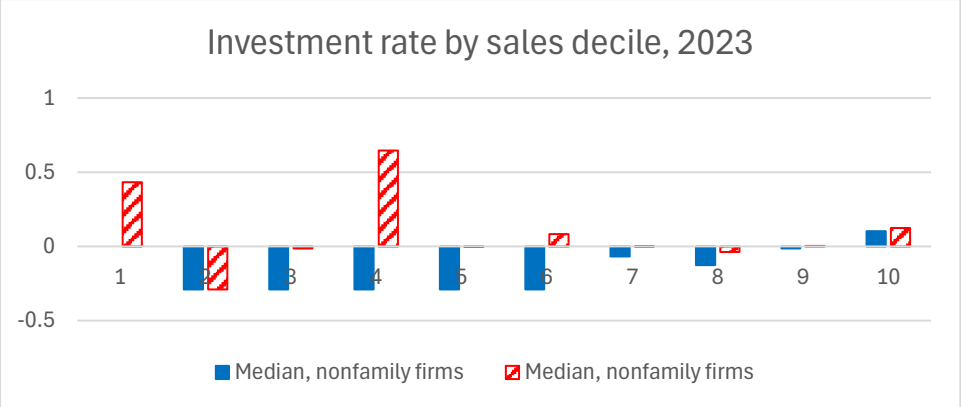


The mean employment growth rates were negative in 2023, especially for small firms. The relationship with firm size is more pronounced for nonfamily firms.

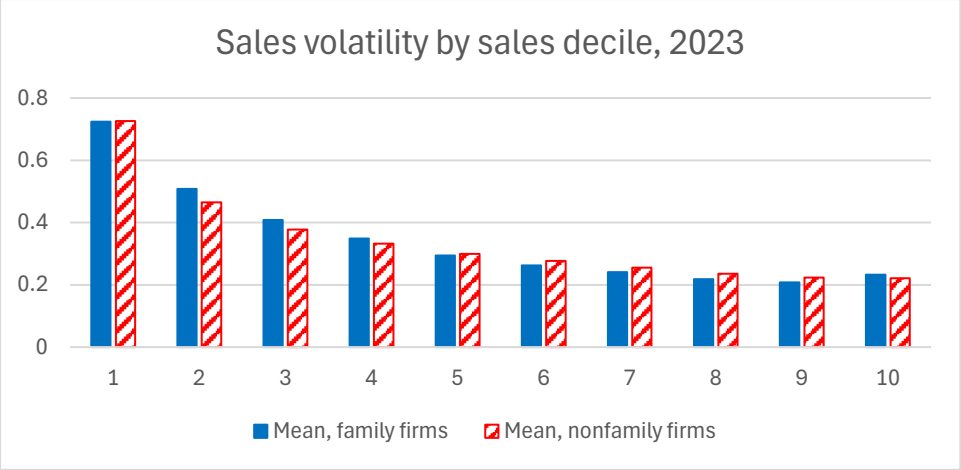


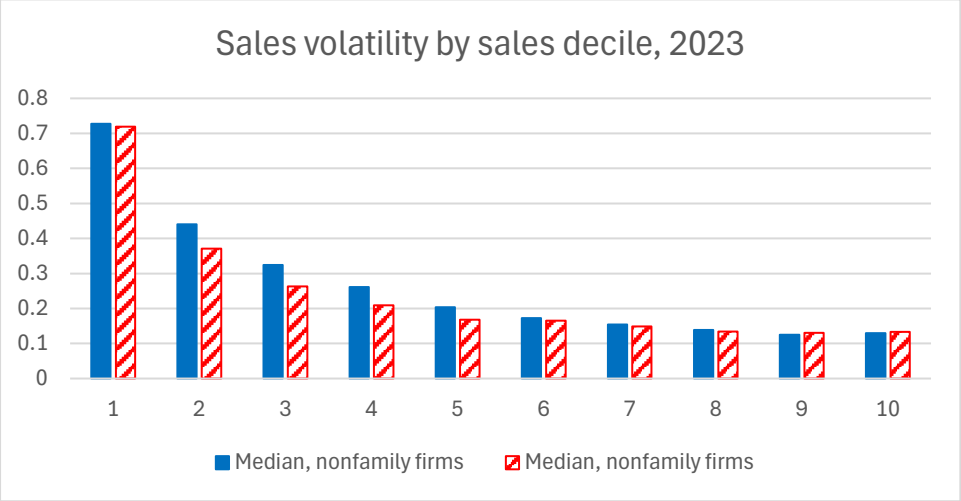
Investment rates (measured as the increase in fixed assets adjusted for depreciation and writedowns) are unrelated to firm size. They are highest among he largest and the smallest firms.



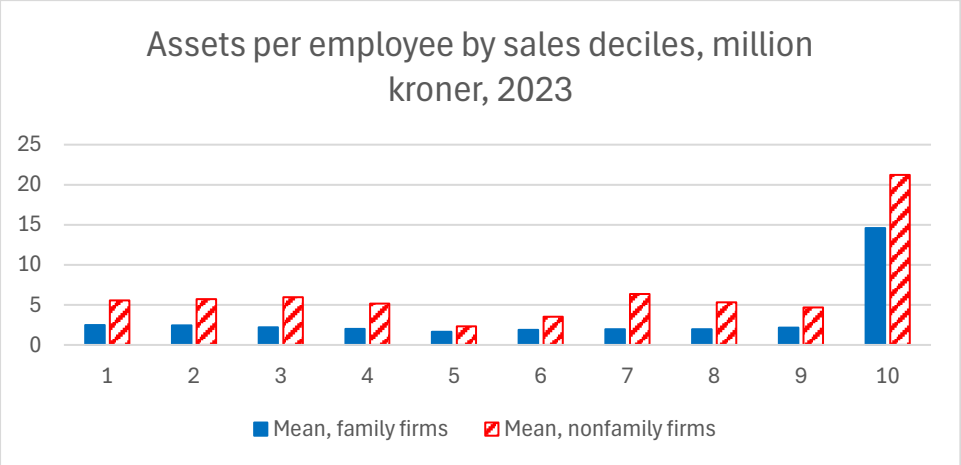


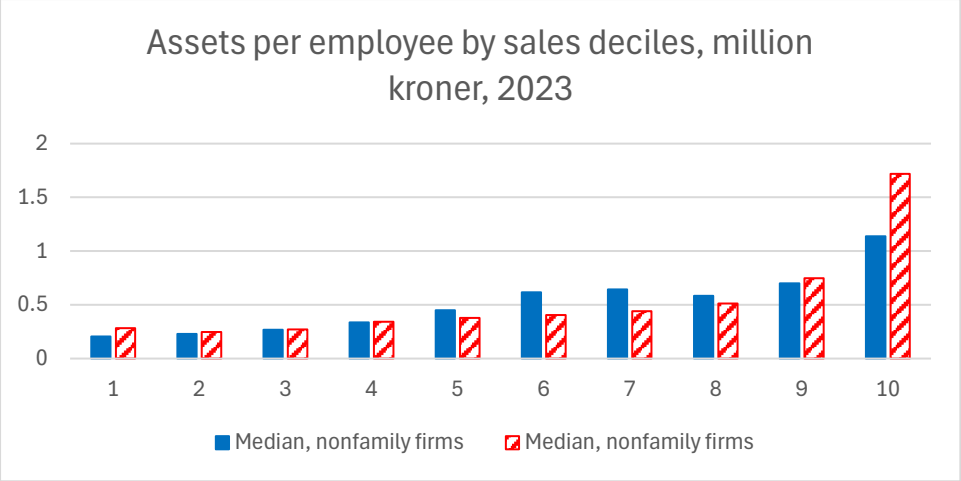
The volatility of sales, measured as their coefficient of variation over the previous three years, is decreasing with firm size for both family and nonfamily firms.



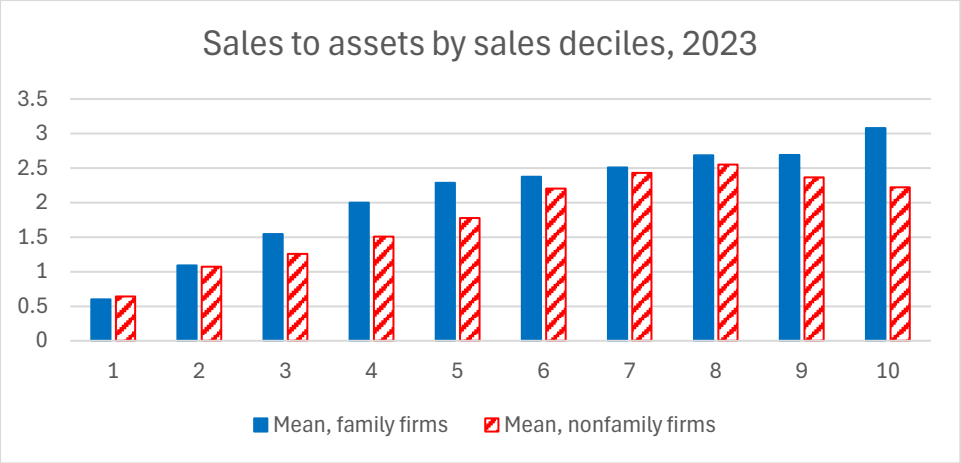


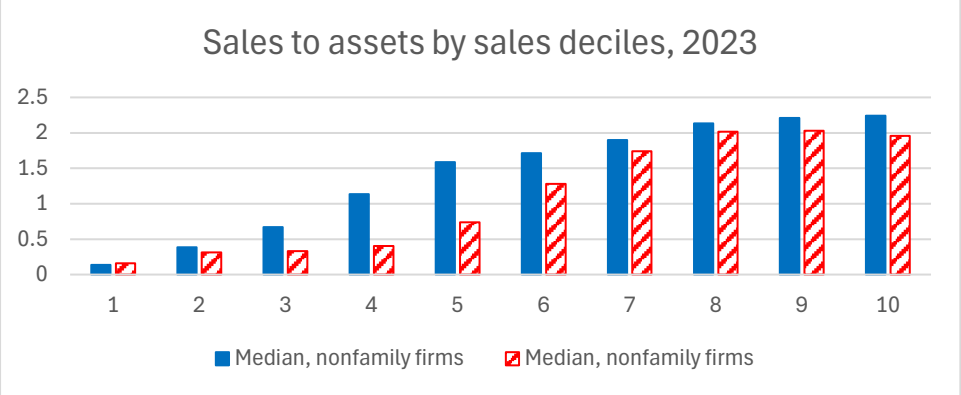
Larger firms are more capital intensive compared to small firms, and nonfamily firms also tend to be more capital intensive than family firms. Those patterns are illustrated by the ratio of firm assets to employees.



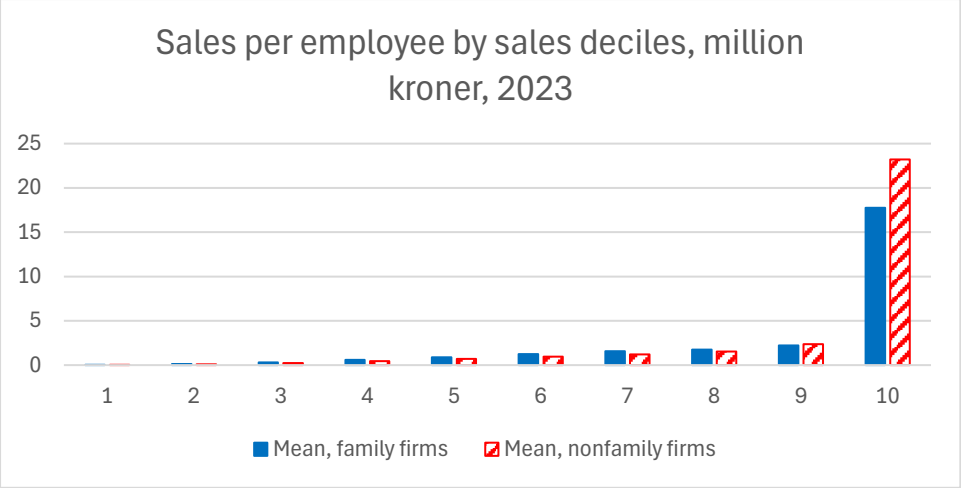


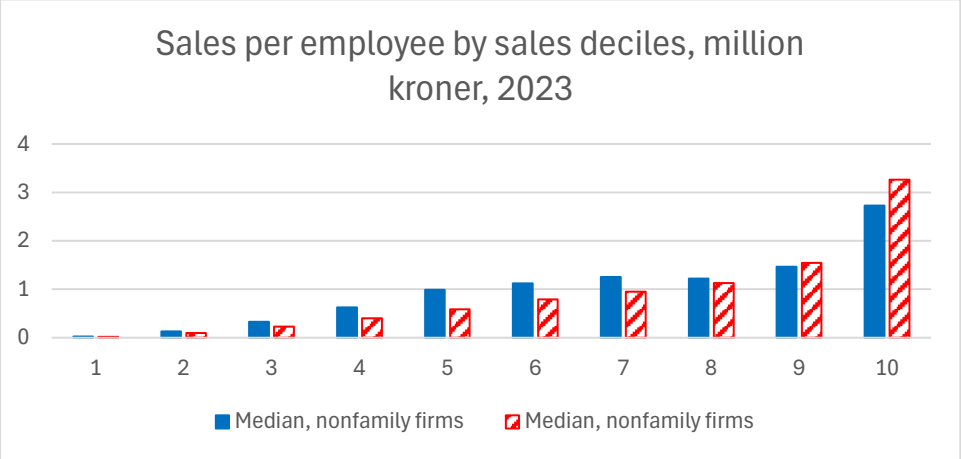
The sales generated per unit of assets are increasing in firm size, and usually higher for family firms.



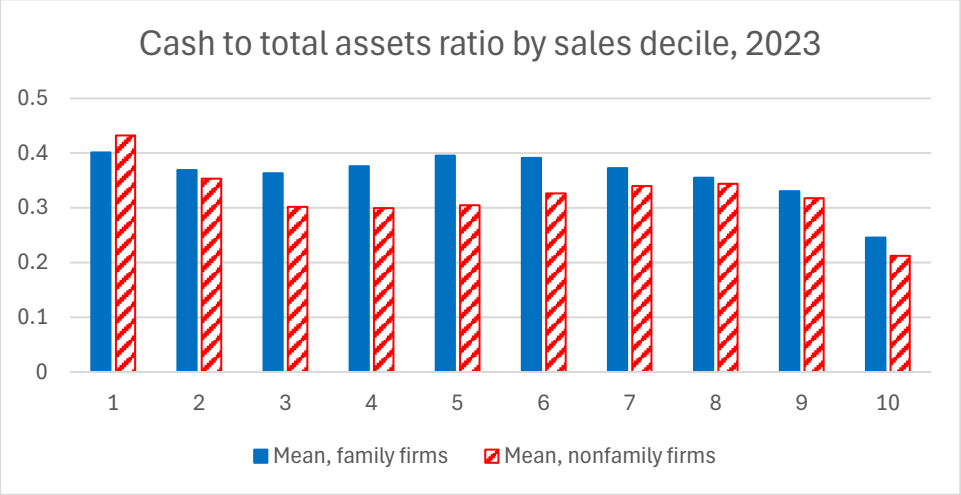


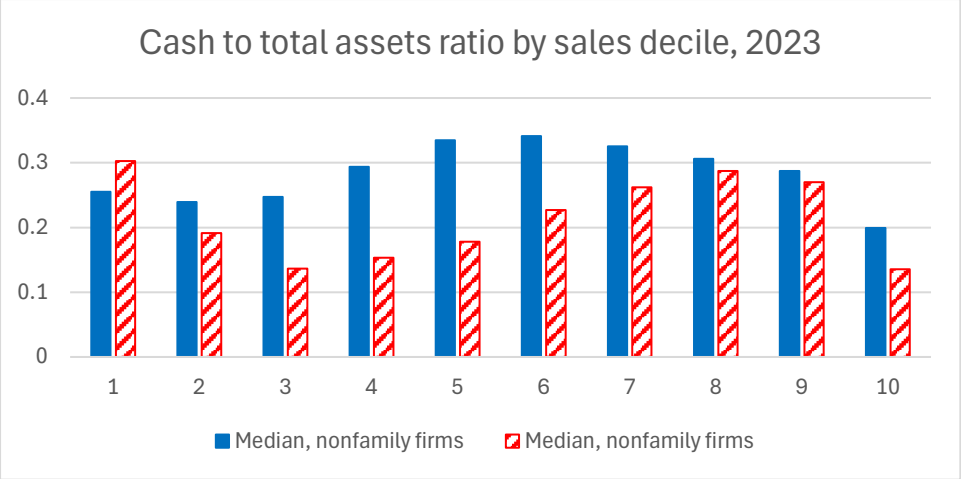
The sales generated per employee increase in firm size:



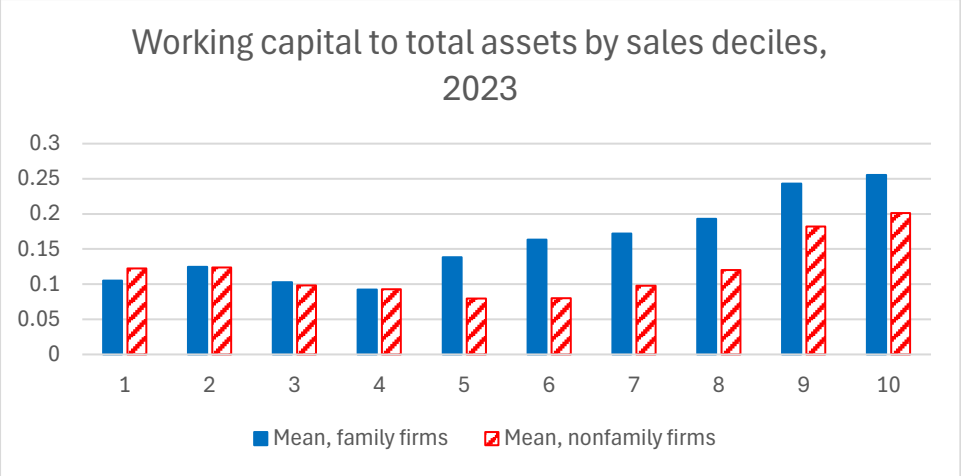


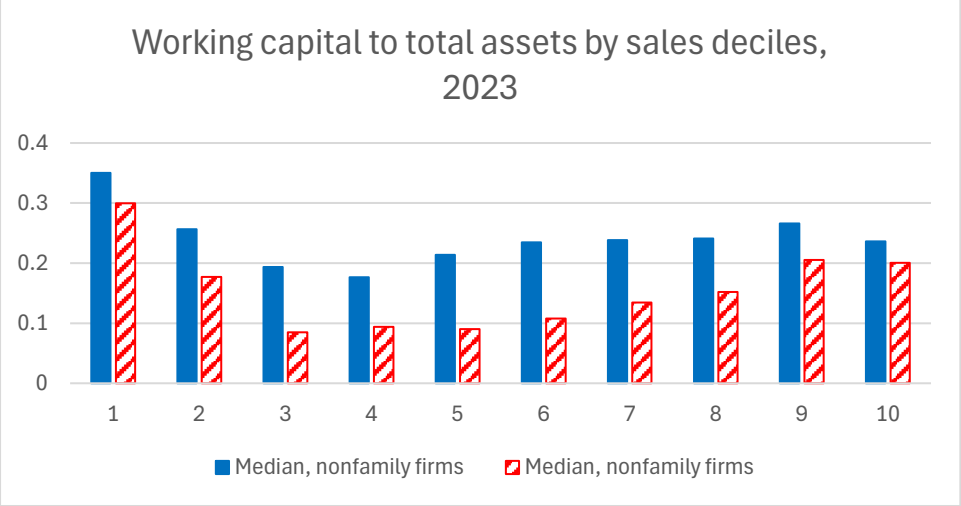
Small and medium firms have a higher proportion of cash on their balance sheets. The proportion is also higher for family than for nonfamily firms.



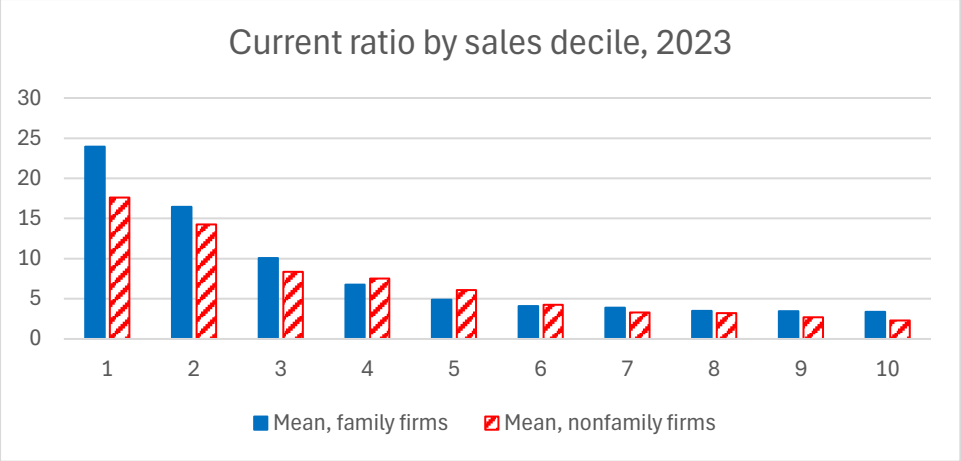


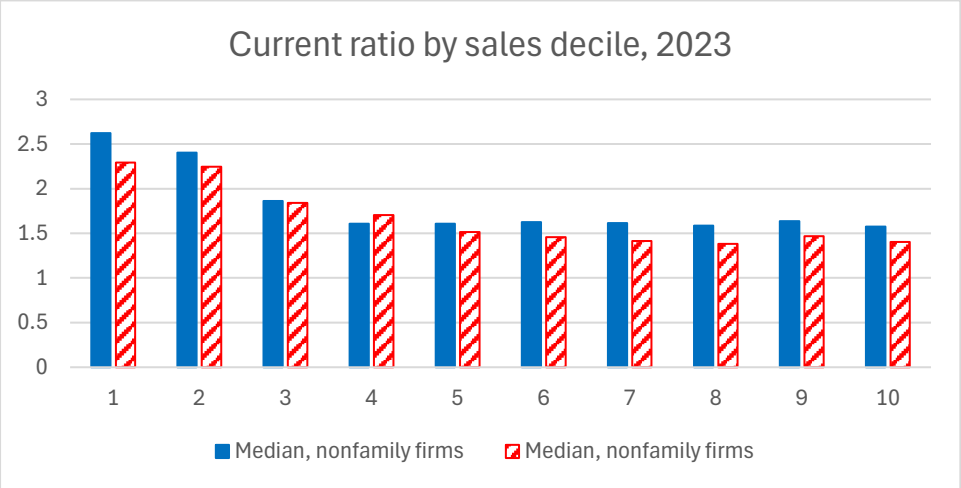
The mean proportion of working capital is increasing in firm size, but the medians do not confirm that monotonicity. The ratio is usually larger for family than nonfamily firms.



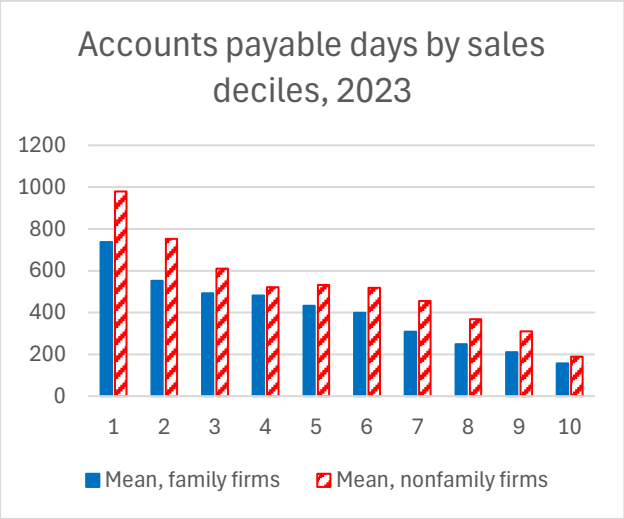


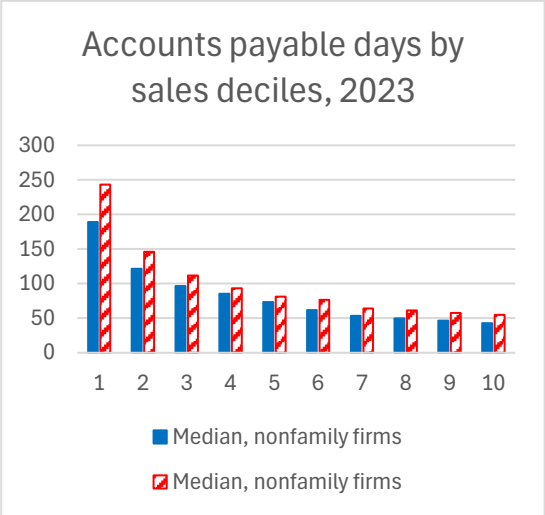
The current ratio is larger for small firms, and usually slightly higher for family firms.

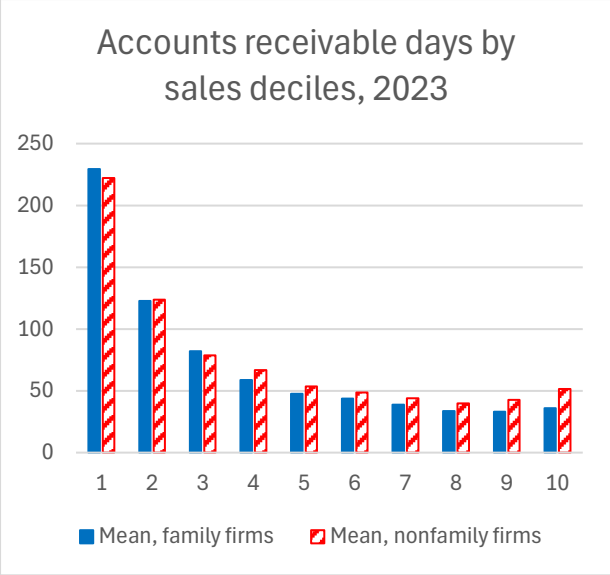


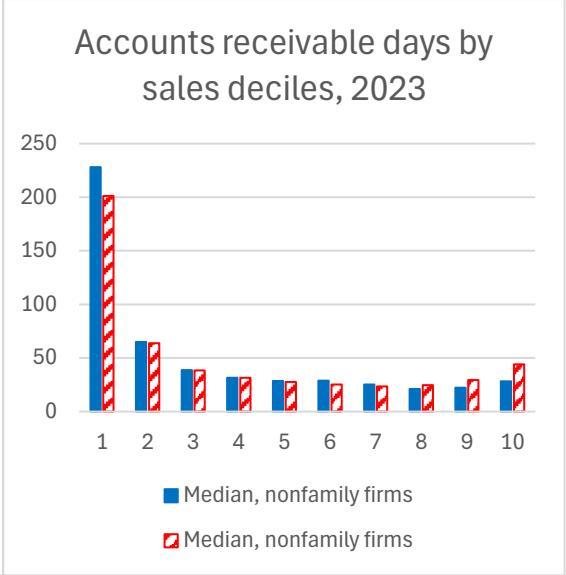


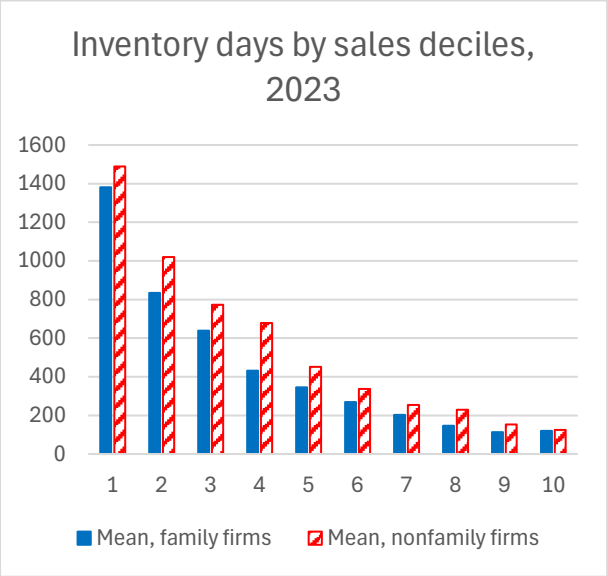
The accounts receivable, inventory and accounts payable days are all decreasing in firm size:

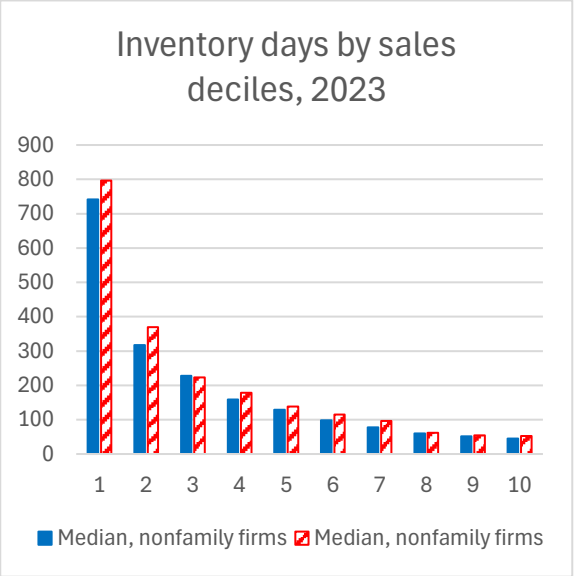




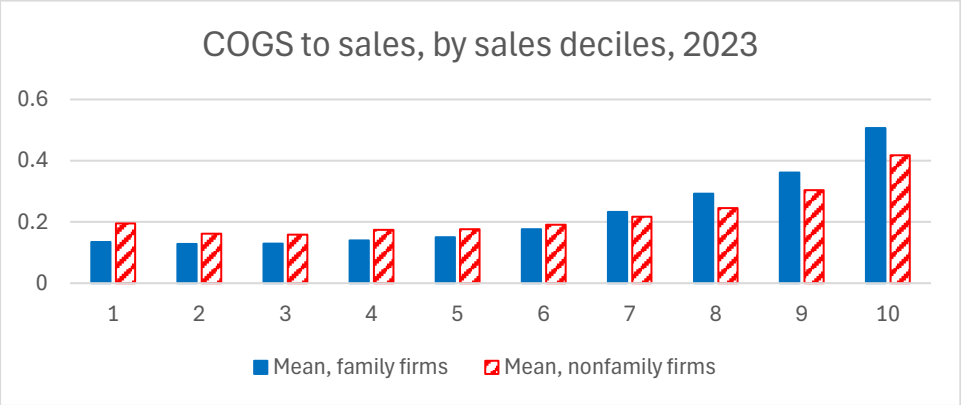


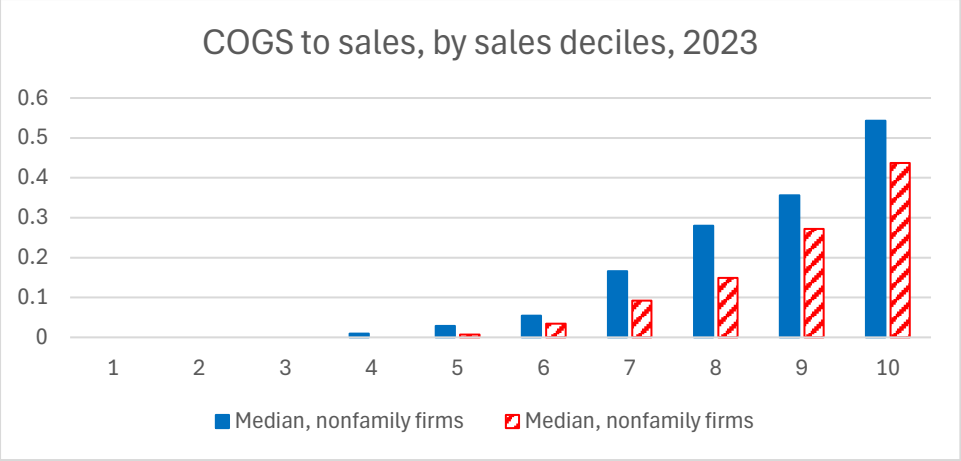




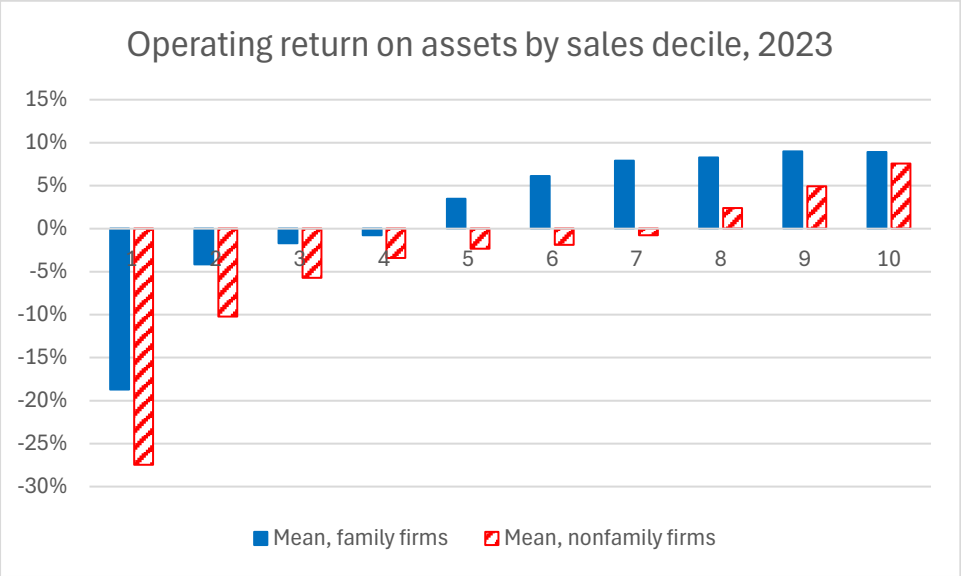


The ratio of direct costs (costs of goods sold, COGS) to sales is higher in larger firms, especially family firms:

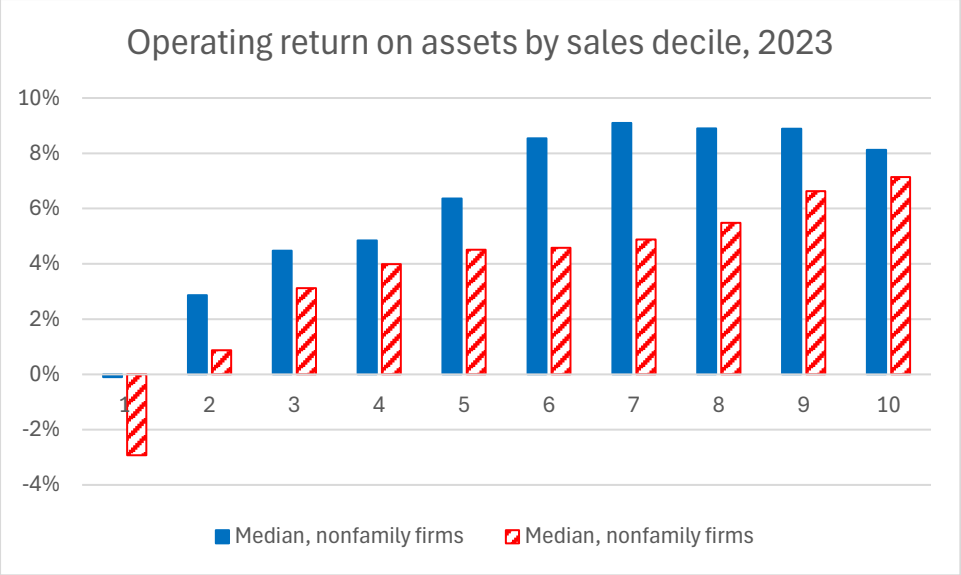




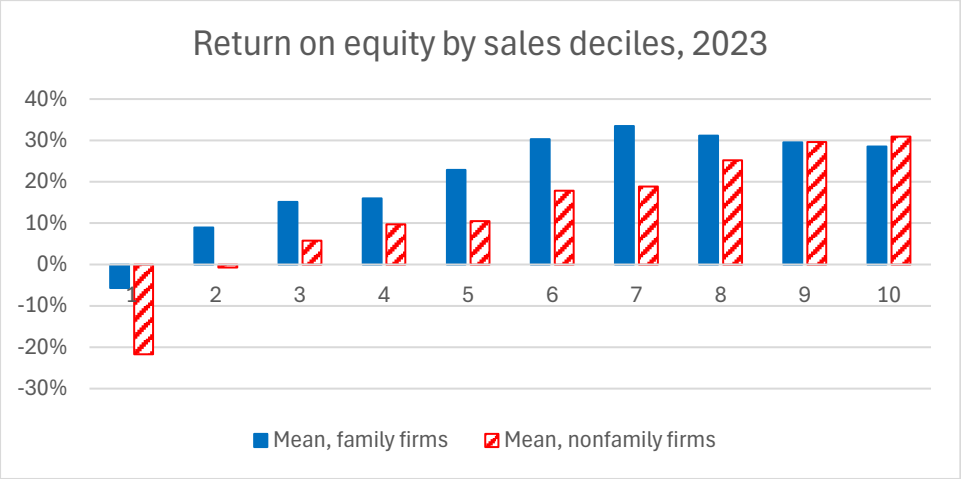
Profitability measured as the operating return on assets (operating earnings after tax divided by total assets) increases in firm size, except for the top deciles, and is usually higher for family than nonfamily firms[16].

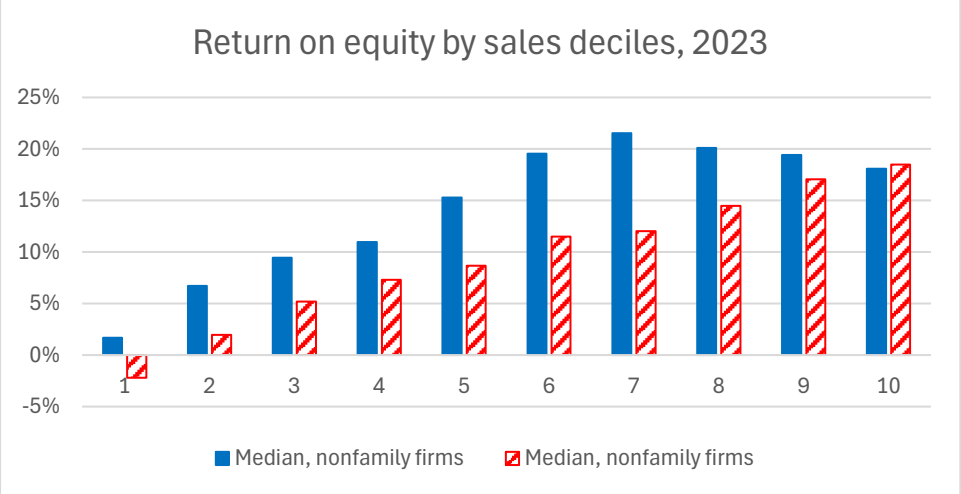


[16] The higher profitability of family firms has been documented by multiple studies using listed firms. Similar to us, Andersson et al. (2017) find using Swedish data that family firms are more profitable than nonfamily firms when looking at all limited liability firms.

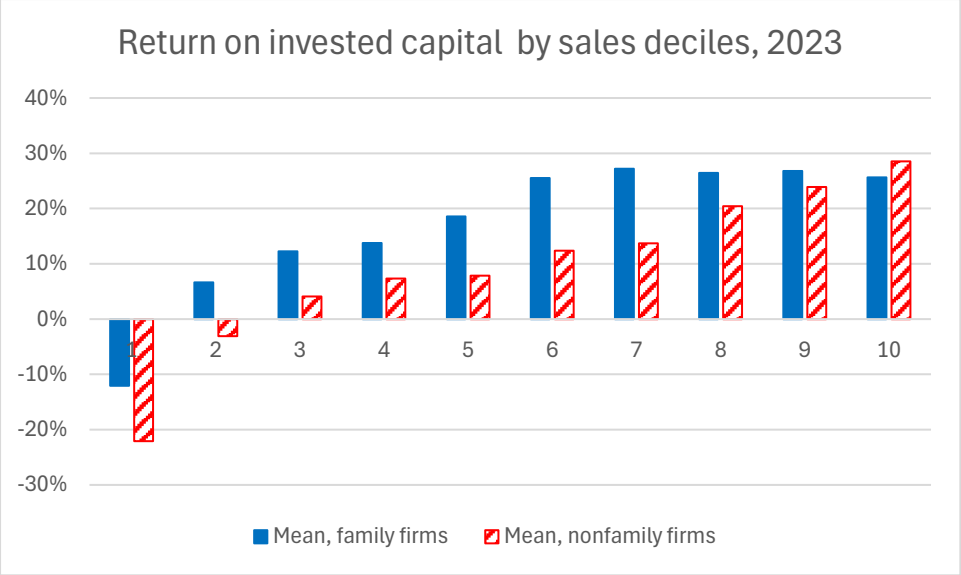


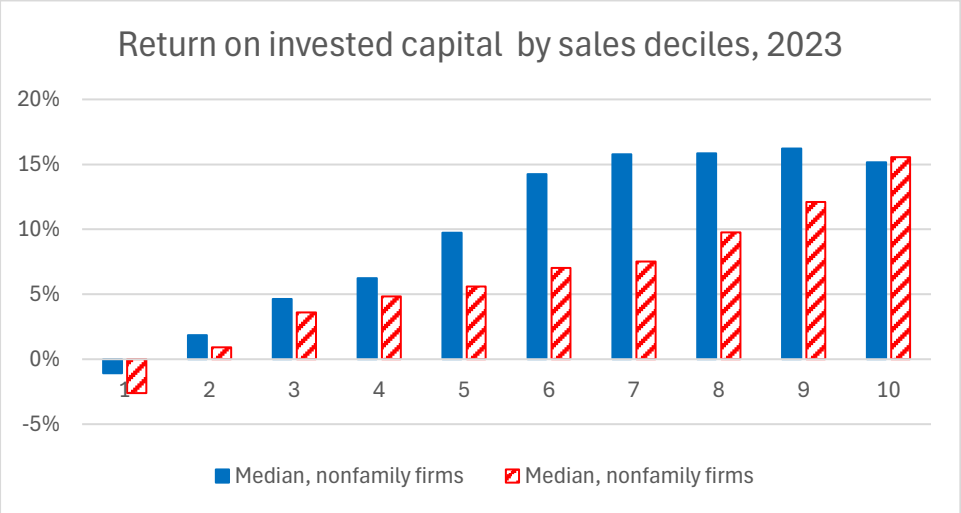
The return on equity (net income divided by book equity) is also increasing with firm size, except for the top three deciles. It is also usually higher for family than for nonfamily firms.



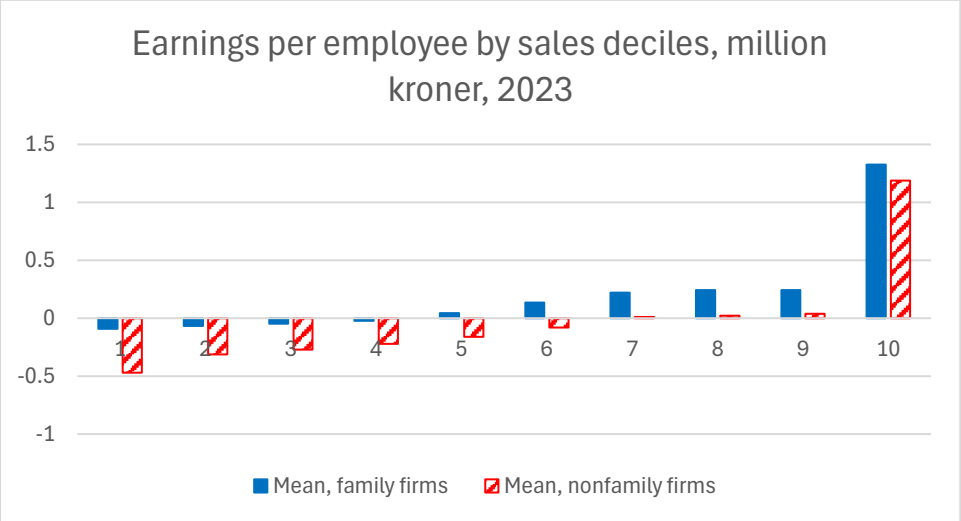


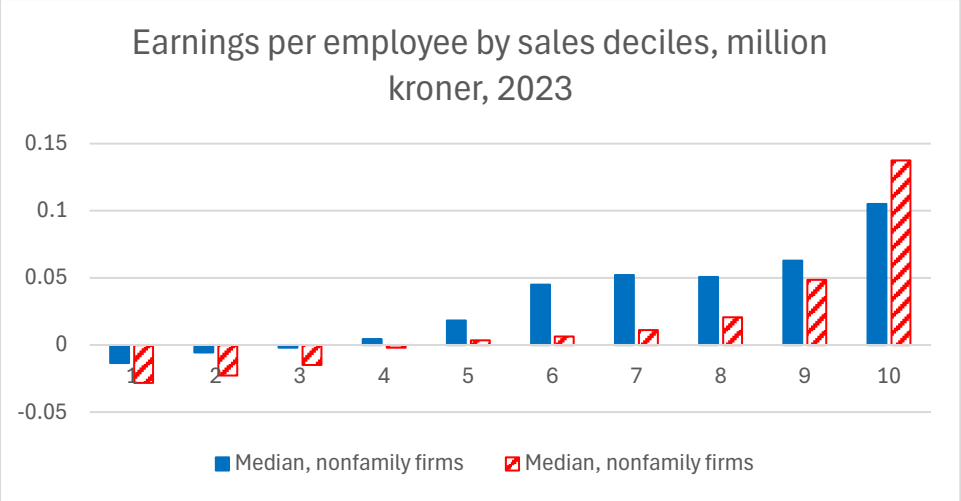
The return on invested capital is also increasing in firm size, especially in the first deciles, and higher for family firms.



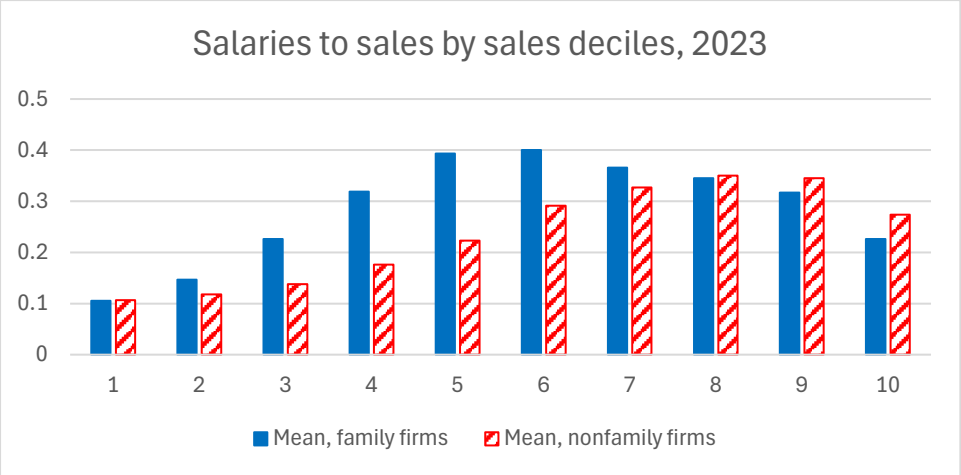


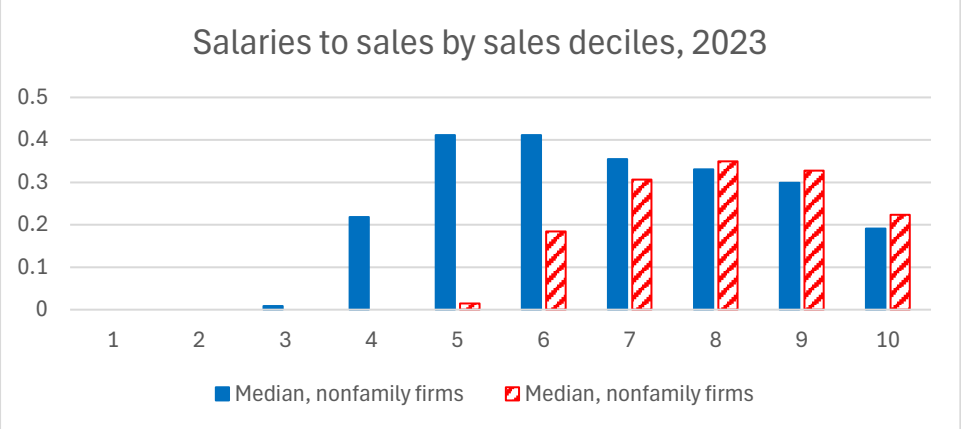
The earnings generated by firms per employee are also generally increasing in firm size.



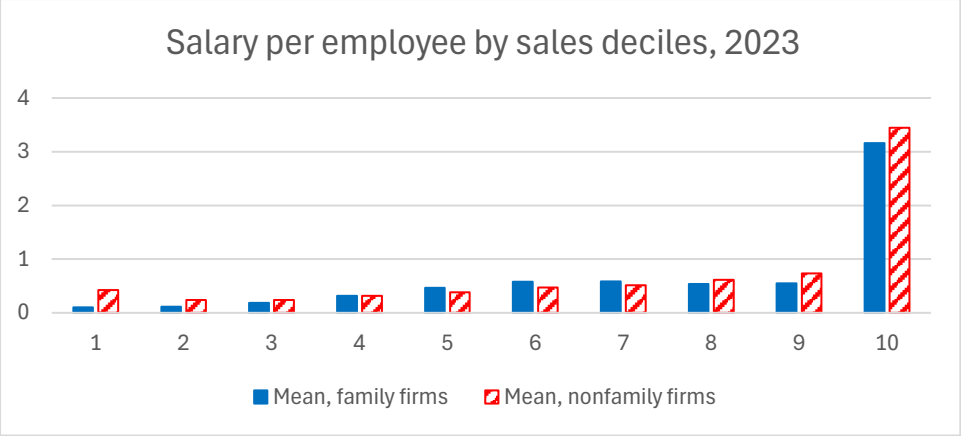


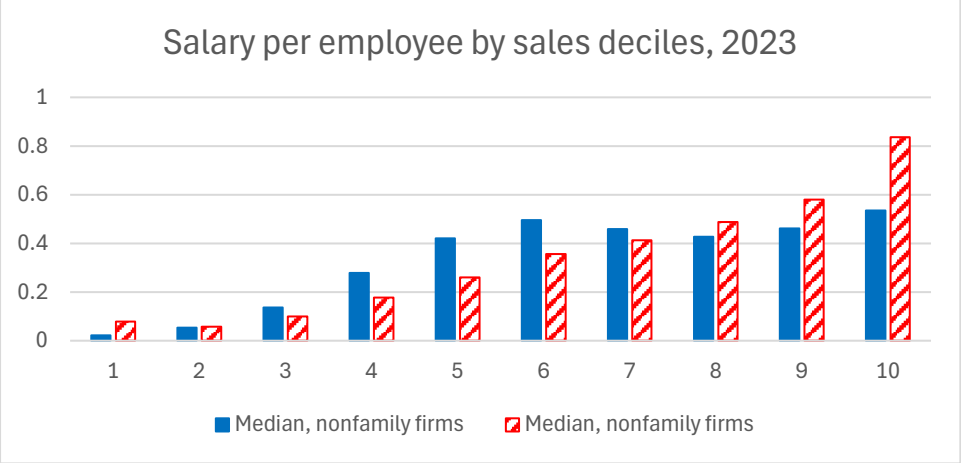
The importance of labor costs, measured as the ratio of total salaries to sales, is highest for mid-size firms, especially family firms:



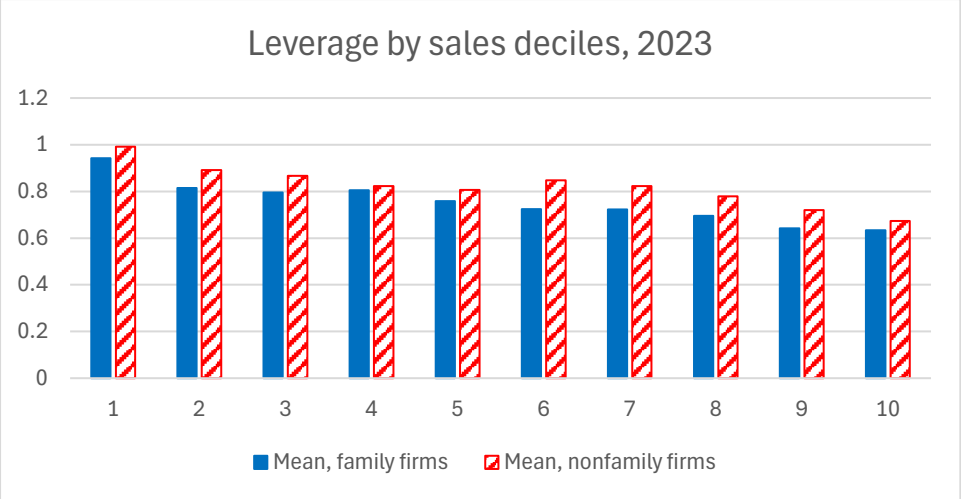


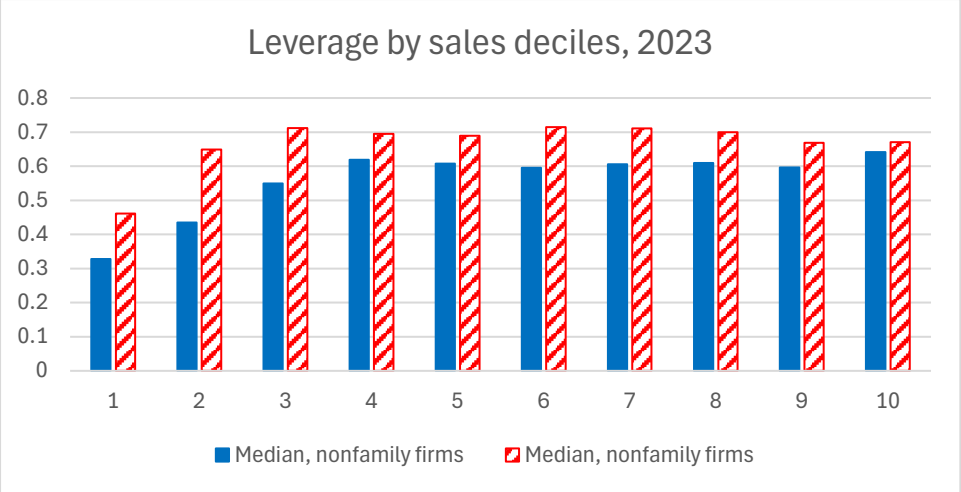
The average salary per employee is increasing in firm size, especially for family firms:



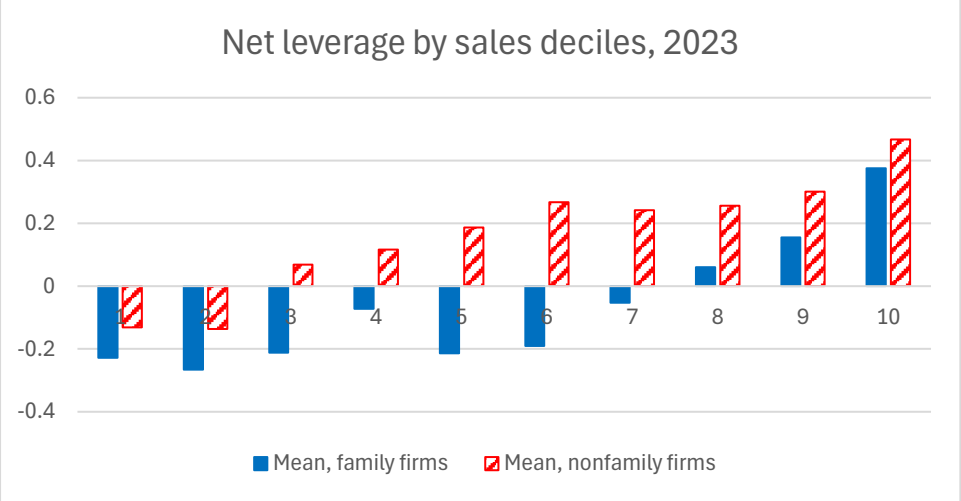


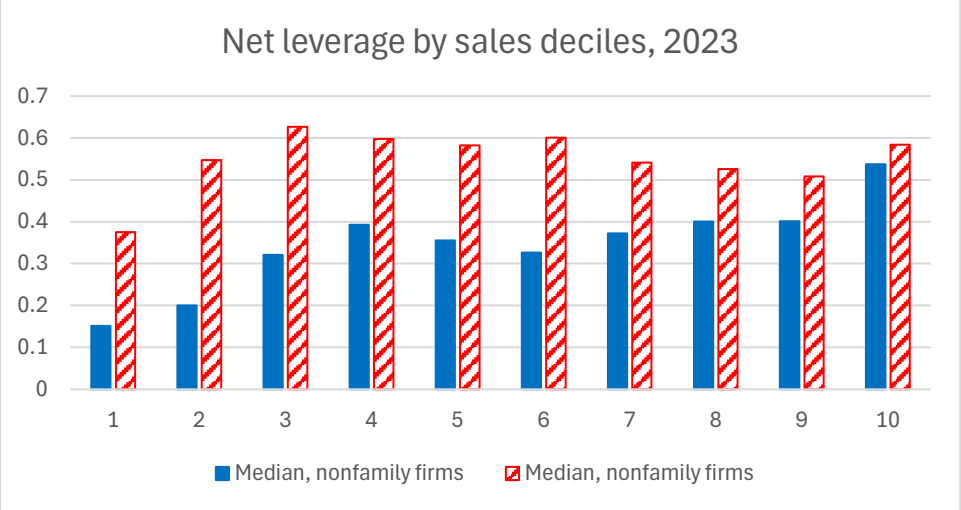
The mean leverage ratio is gradually decreasing with firm size, while medians are more stable. The distribution of leverage ratios is positively skewed for the smallest firms. Family firms tend to have lower leverage ratios regardless of firm size.



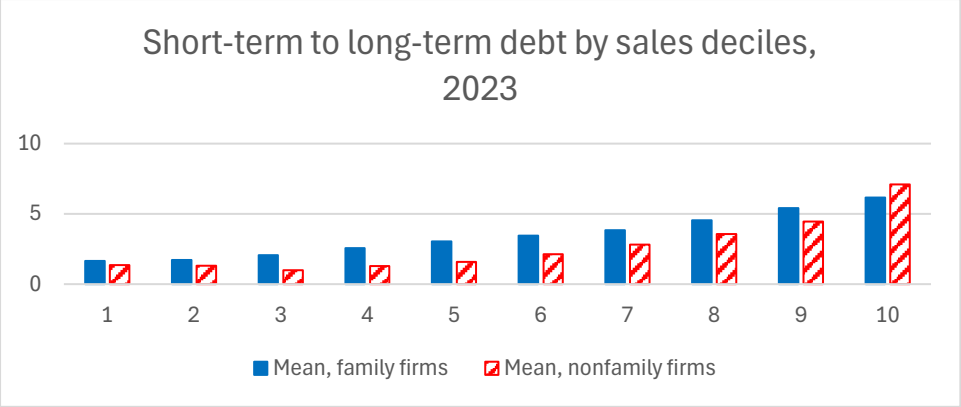


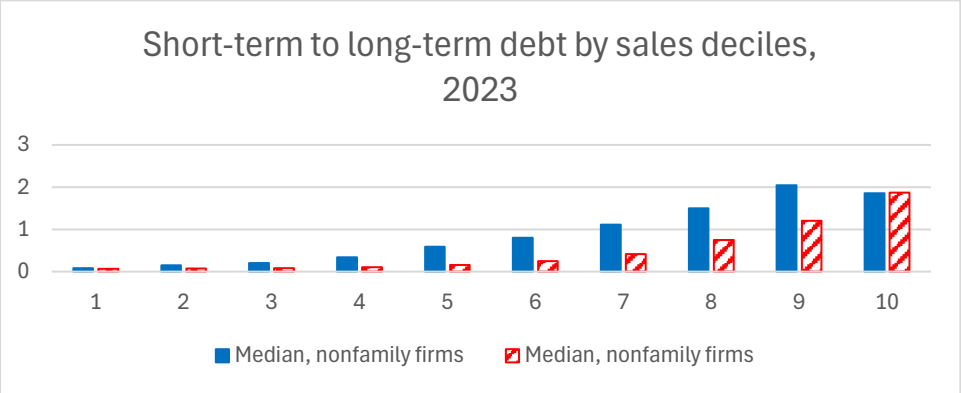
Small firms have relatively more cash on their balance sheets, and that complicates the relationship between net leverage (liabilities minus cash divided by total assets minus cash) and firm size. Family firms have lower net leverage than nonfamily firms.



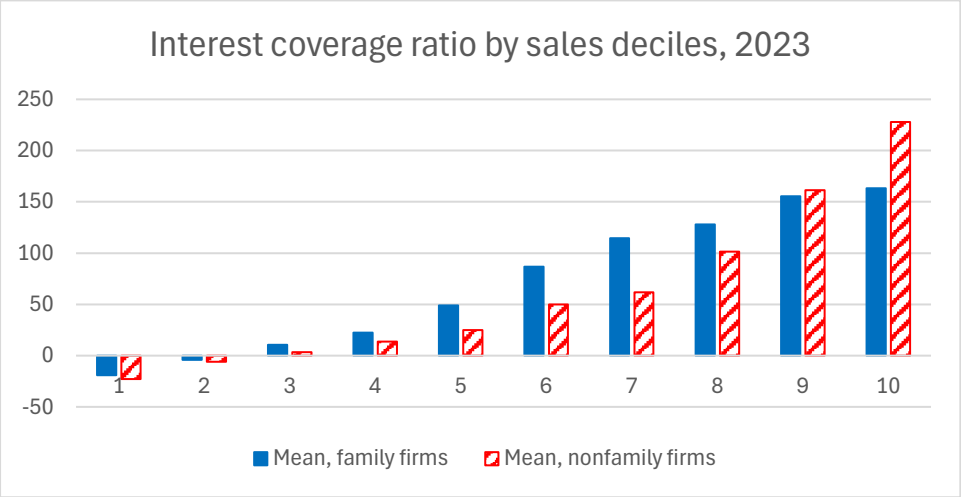


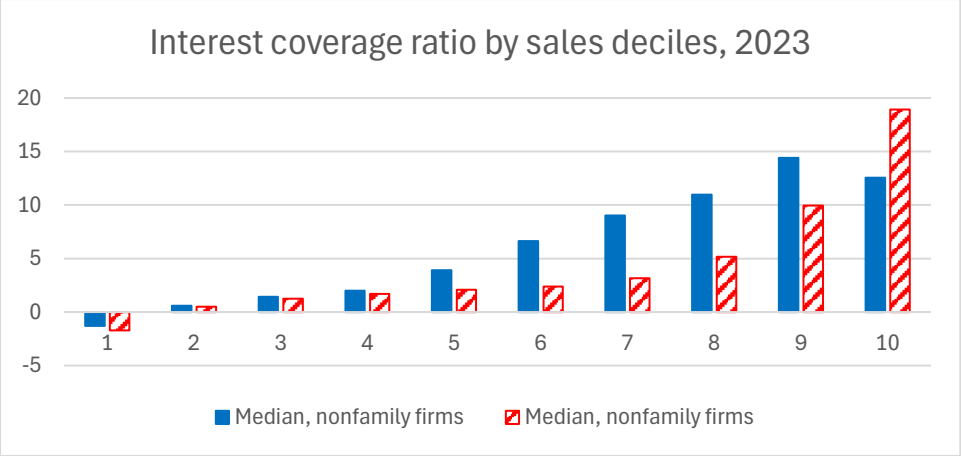
In terms of the structure of financial debt, larger firms have a higher proportion of short-term to long-term debt.



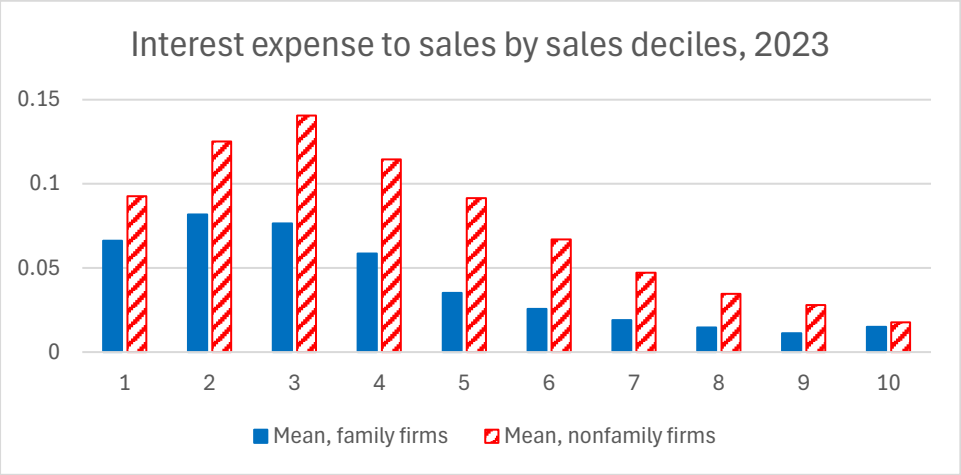


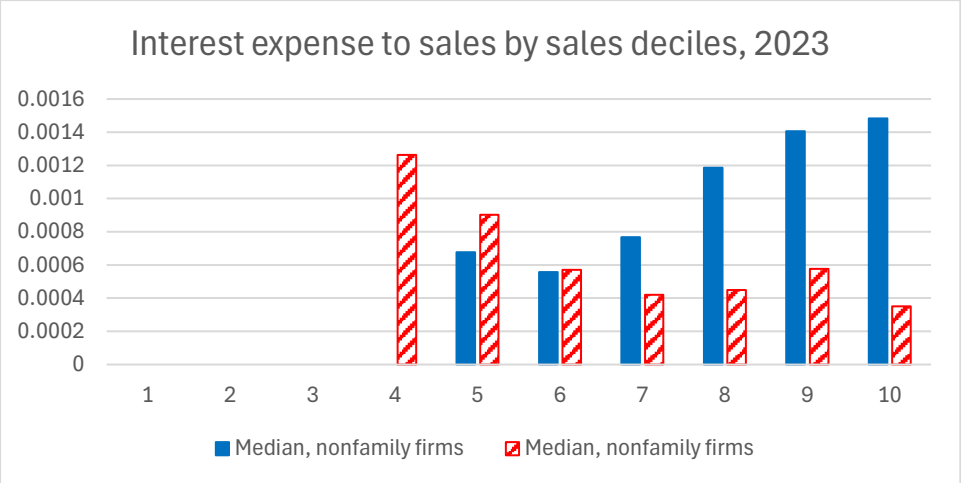
The interest coverage ratio is increasing in firm size, consistent with decreasing leverage ratios, and is usually higher for family than for nonfamily firms.



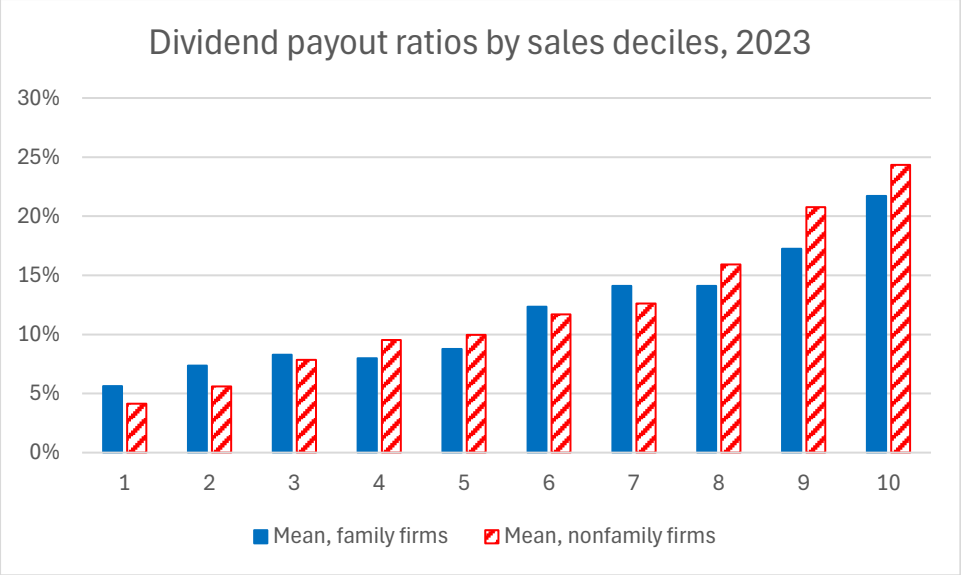


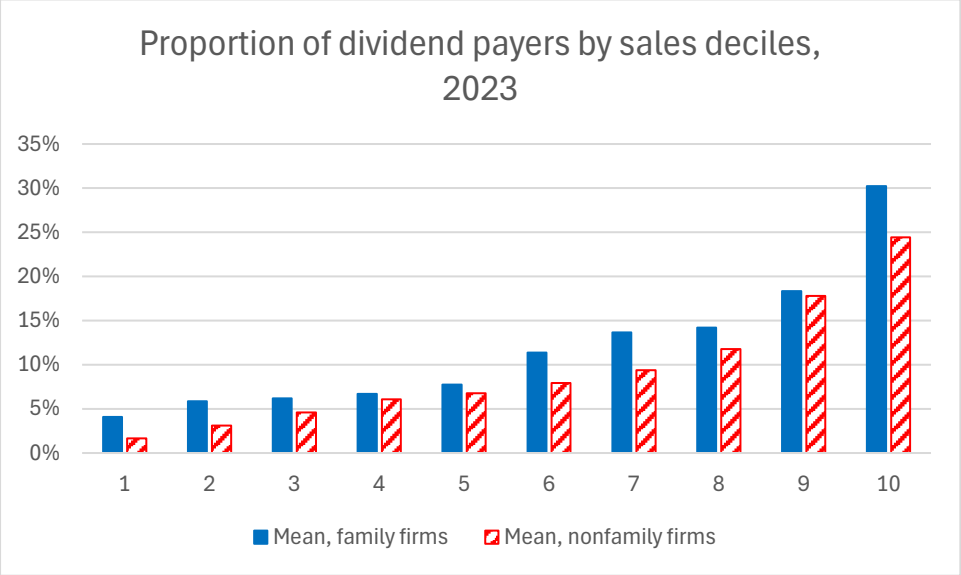
Interest expenses are relatively small compared to sales. Among the small firms, many of them have zero financial leverage and zero interest expenses, while some have very high leverage and significant interest expenses relative to their revenues.





Looking at the payments made to shareholders, the dividend payout ratio and the proportion of firms paying dividends is increasing in firm size.

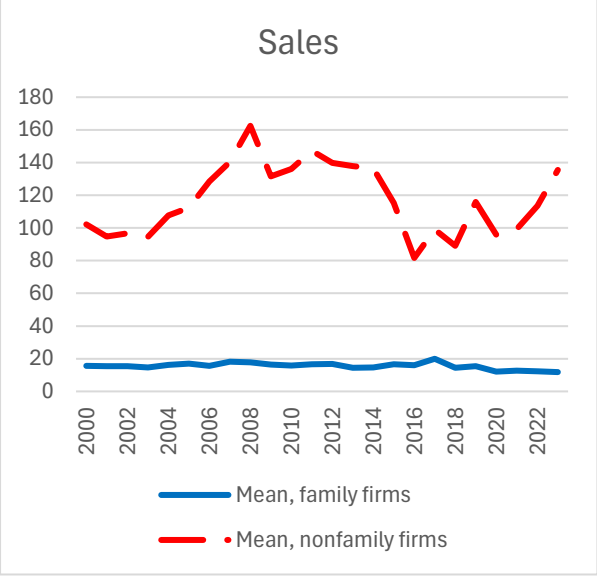

Dividend payout ratios by sales deciles, 2023
30%
25%
20%
15%
10%
5%
0%
1
2
3
4
5
6
7
8
9
10
Mean, family firms
Mean, nonfamily firms

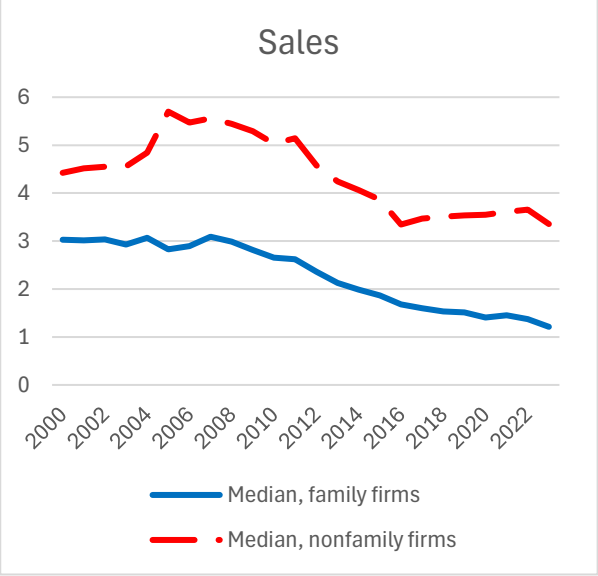

Proportion of dividend payers by sales deciles, 2023
35%
30%
25%
20%
15%
10%
5%
0%
1
2
3
4
5
6
7
8
9
10
Mean, family firms
Mean, nonfamily firms

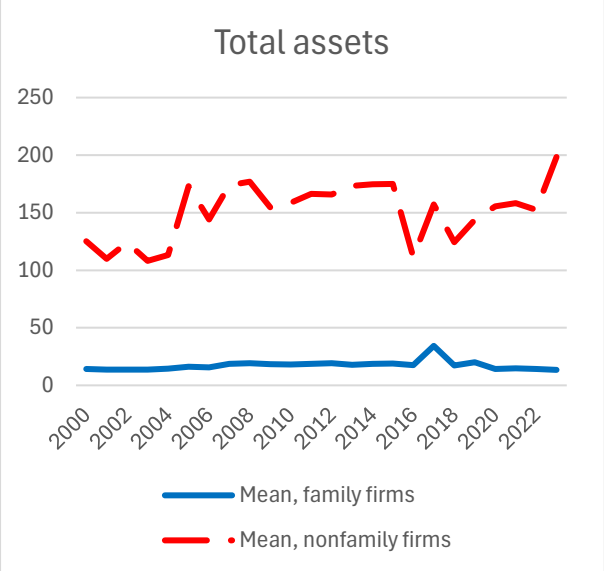
9. Financial indicators over time, family and nonfamily firms

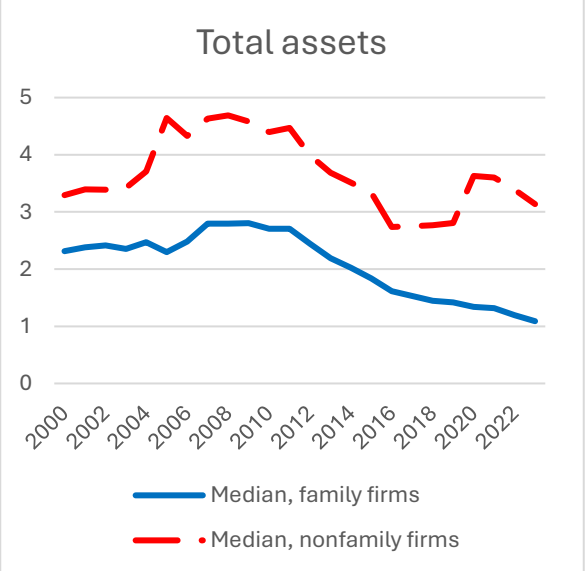
The financing, growth, liquidity and profitability of firms can change along the business cycle. The graphs below present financial indicators (means and medians) for every year between 2000 and 2023 for all Norwegian limited liability family firms (in blue) and nonfamily firms (in red).

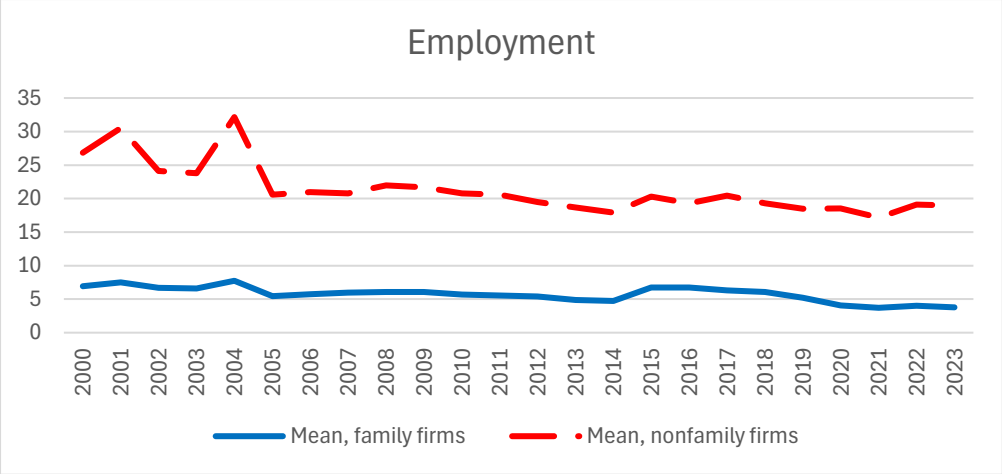
The sales, total assets, and employment of nonfamily firms are consistently larger than those of family firms through the business cycle. The difference is larger for means than for medians, due to the existence of some very large nonfamily firms. The impact of the 2015 oil shock is visible in sales and assets.



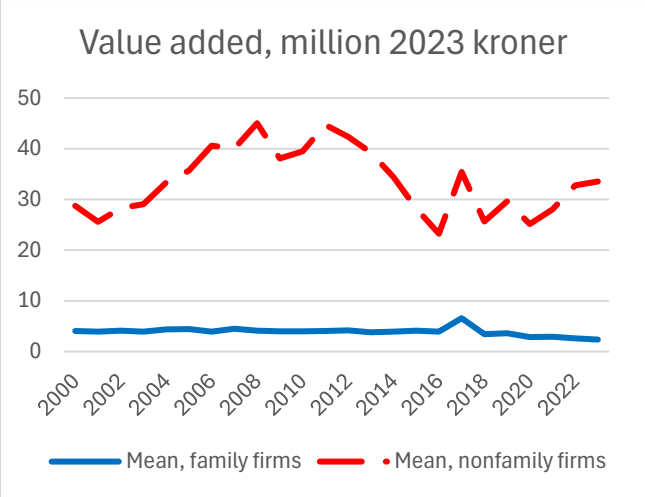


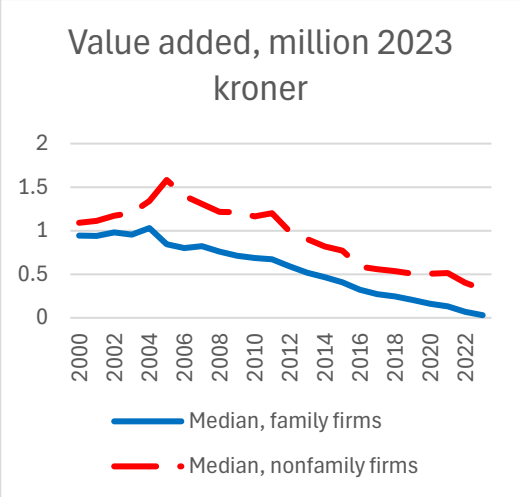




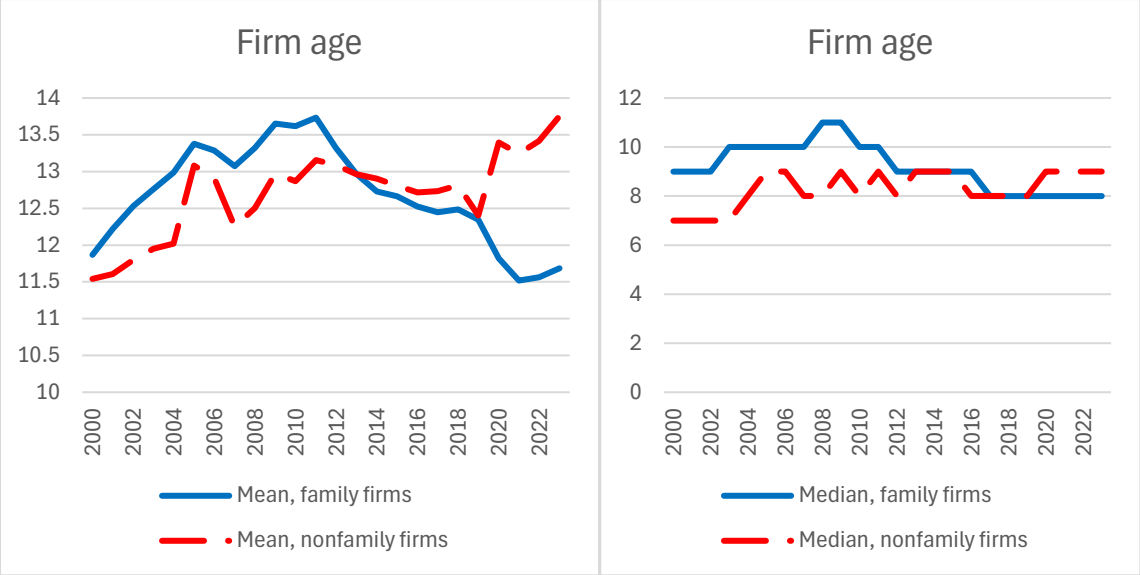


The mean value added is higher in the larger nonfamily firms, and the difference is stable over time. The median value added is declining over time for both family and nonfamily firms.

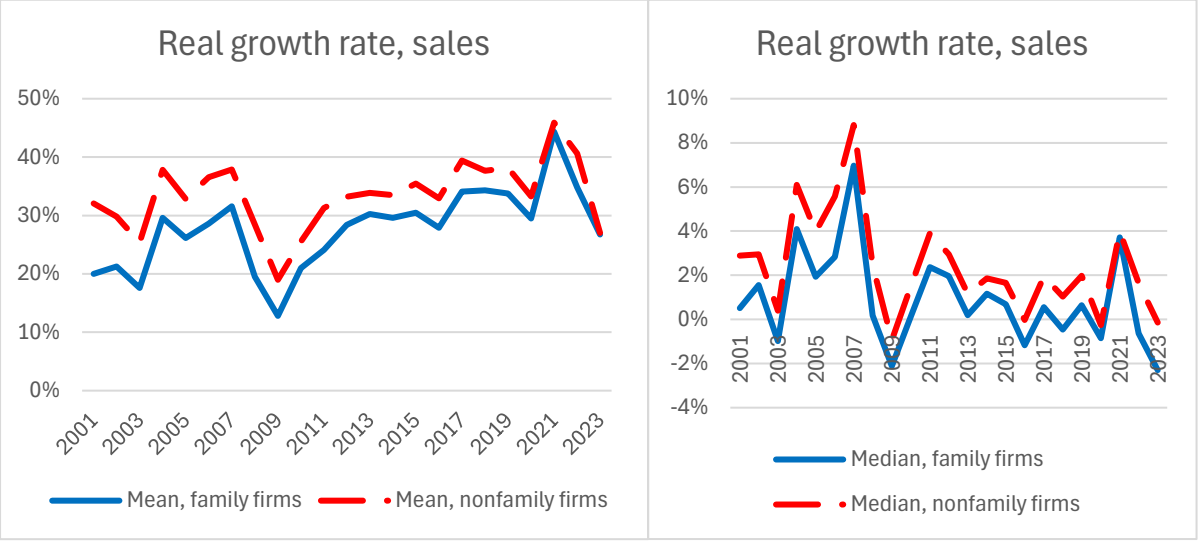


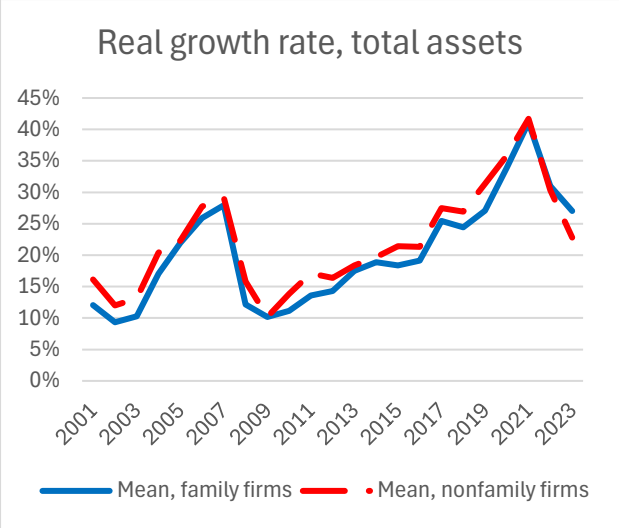


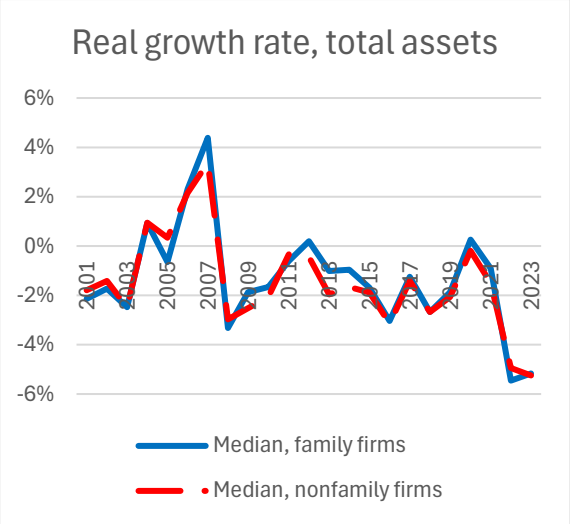
The median firm age is quite stable over time for both family and nonfamily firms. Family firms typically have a higher average age, but the mean is lowered after 2012 by the new small firms appearing as a result of the 2012 regulatory changes, some of them previous sole proprietorships.

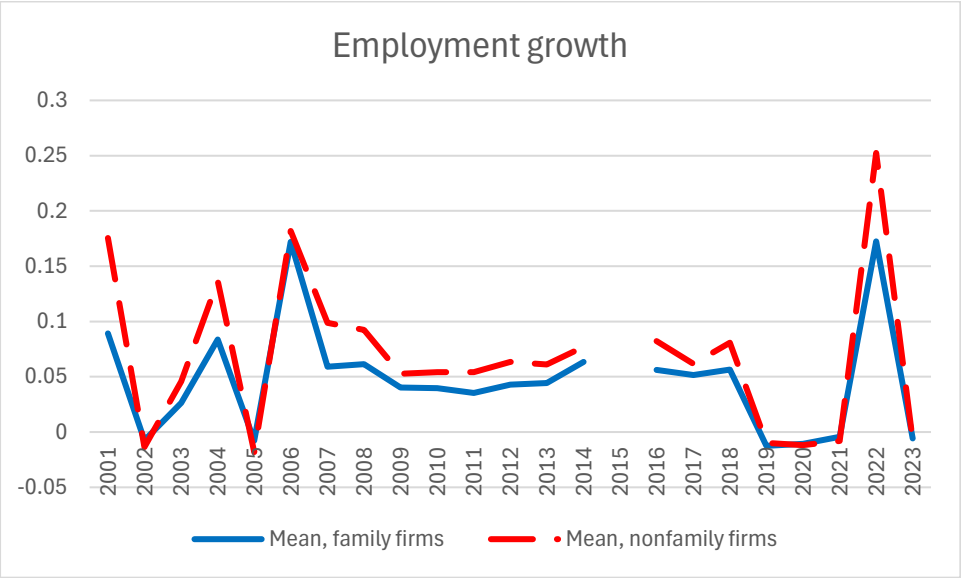


Growth rates follow the business cycle, with a decrease in revenues for instance during the financial crisis of 2008. In general, the means are much higher than the medians, due to the influence of a minority of firms with very large growth rates. The growth rates of nonfamily firms are consistently slightly higher than the growth rates of family firms. (The growth rates for employment between 2014 and 2015 are not representative given the change in the reporting rules.)

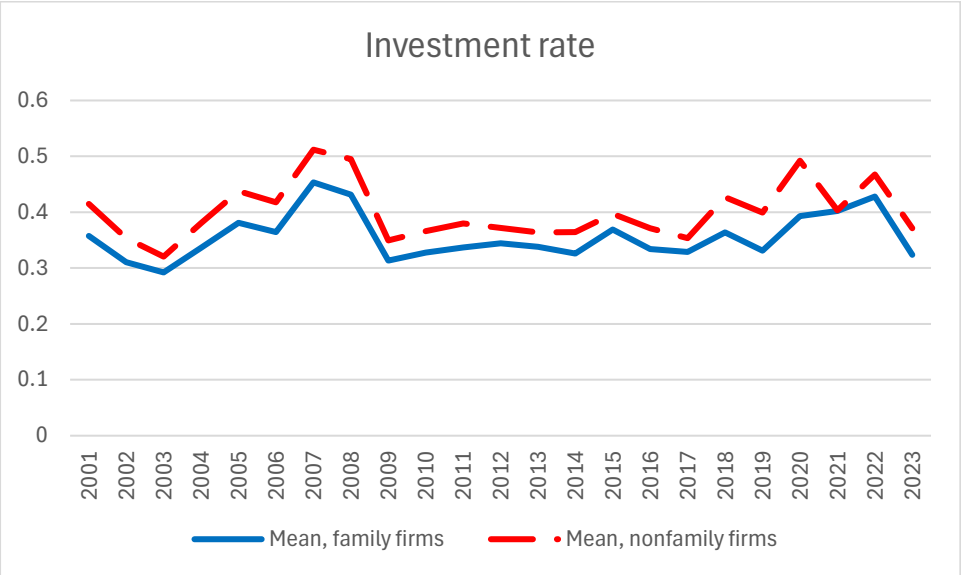




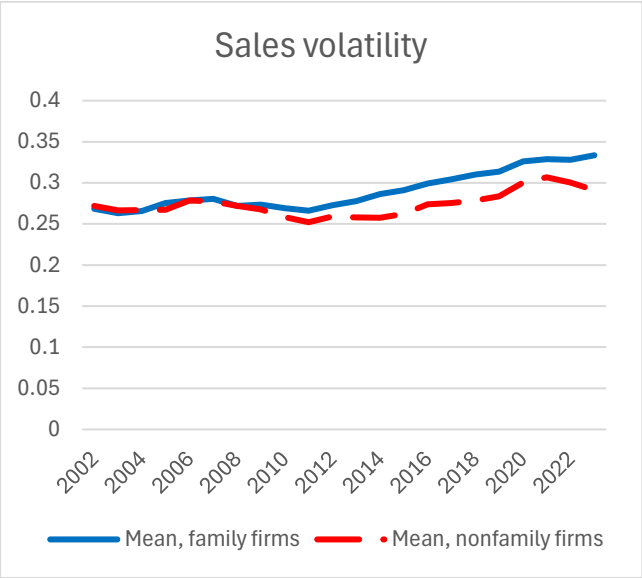


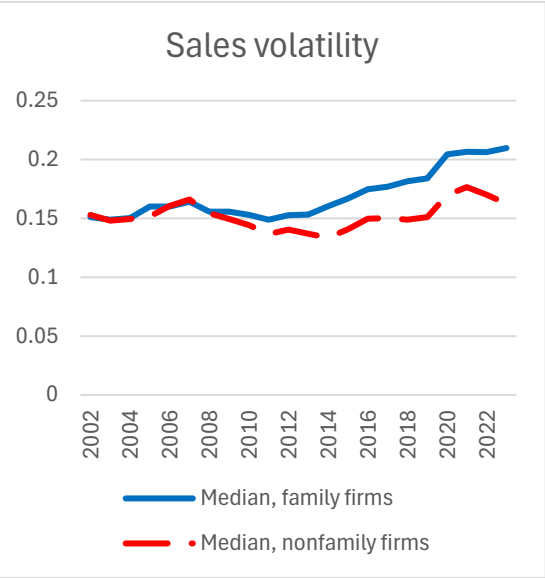


The higher growth rates for nonfamily firms are associated with higher investment rates throughout the business cycle.

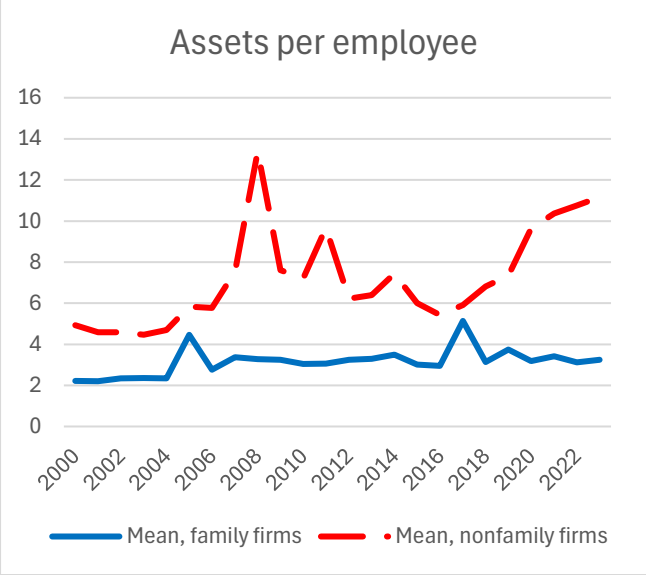


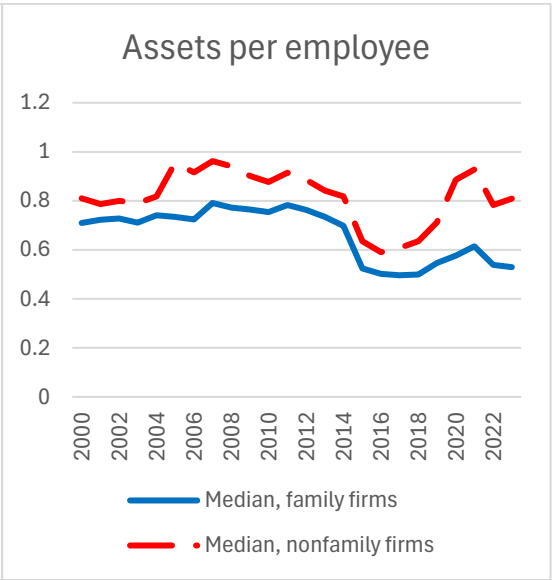
The volatility of revenues is slightly higher for family firms, and the gap has increased in recent years with the increase in the number of small family-controlled limited liability businesses:

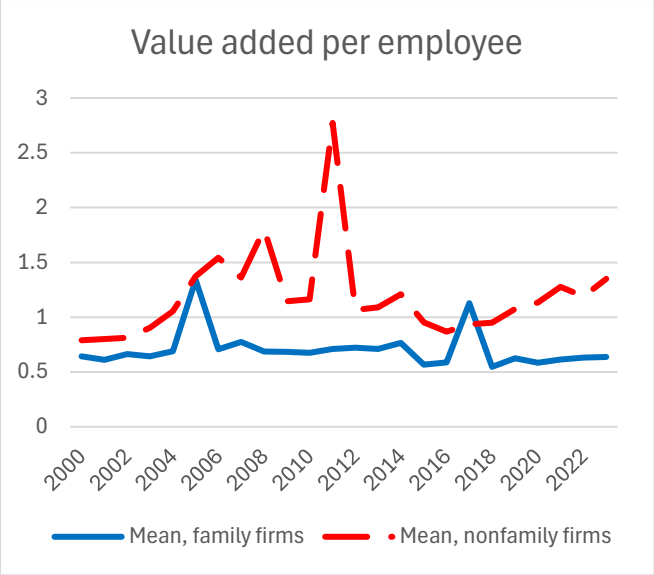


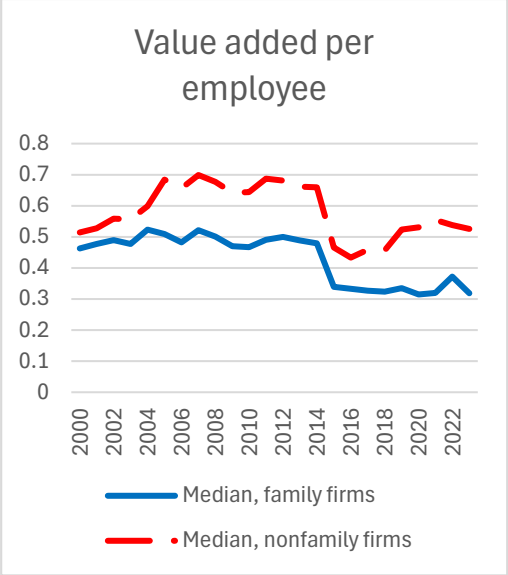


Nonfamily firms are more capital intensive, as illustrated by the higher asset to employee ratio in all years. They also have a higher average value added per employee.

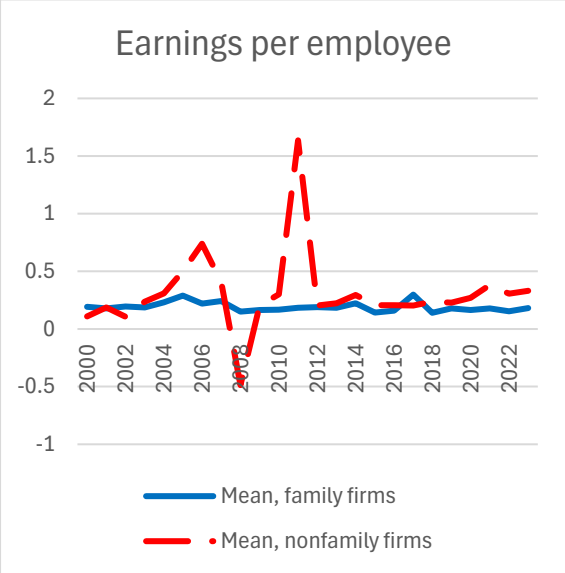


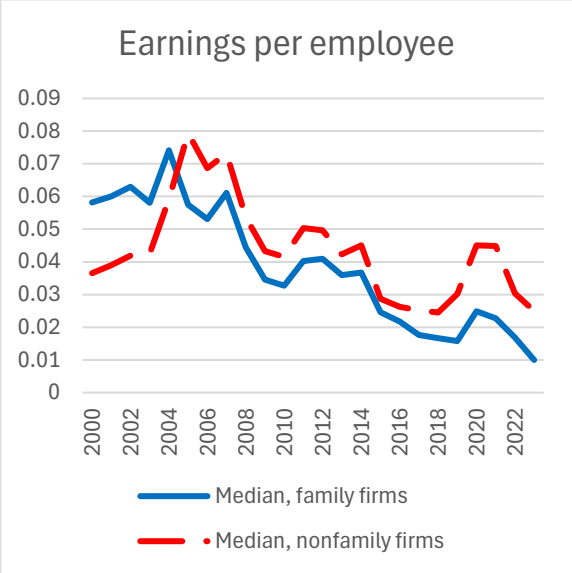




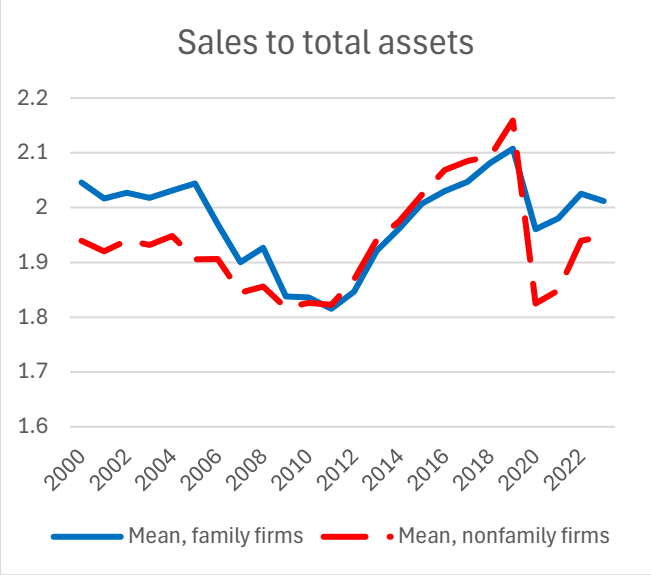


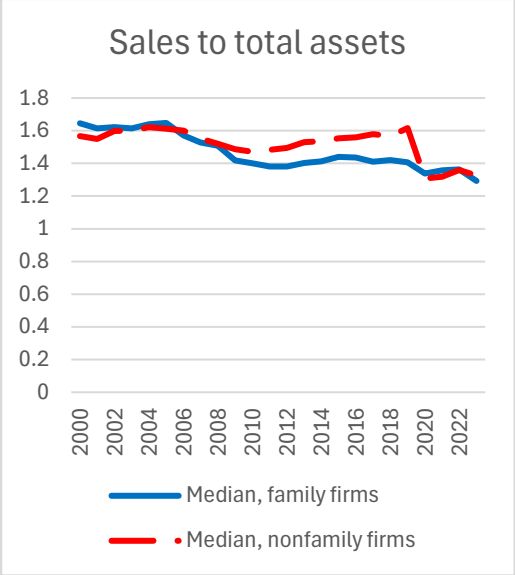
The earnings per employee are quite volatile over time.



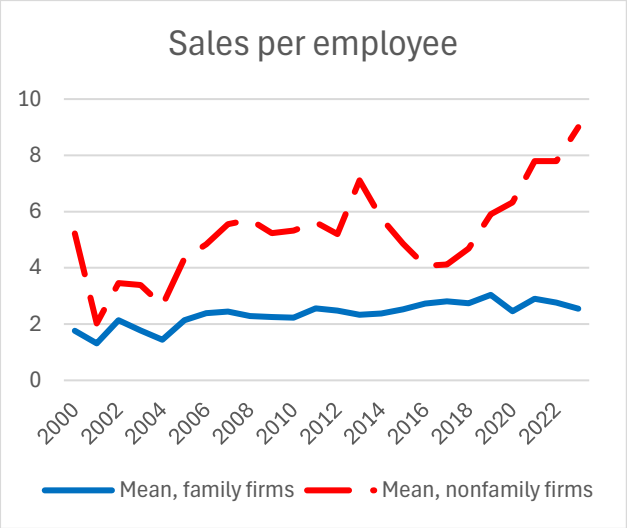


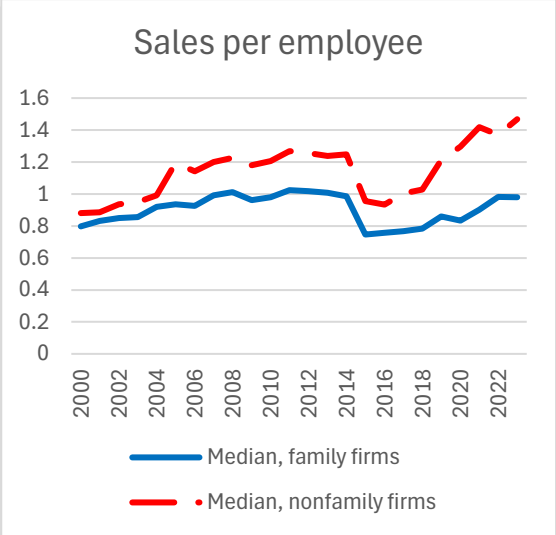
The ratio of sales to assets was strongly affected by the 2008 financial crisis and the 2020 Covid-19 crisis for both family and nonfamily firms.



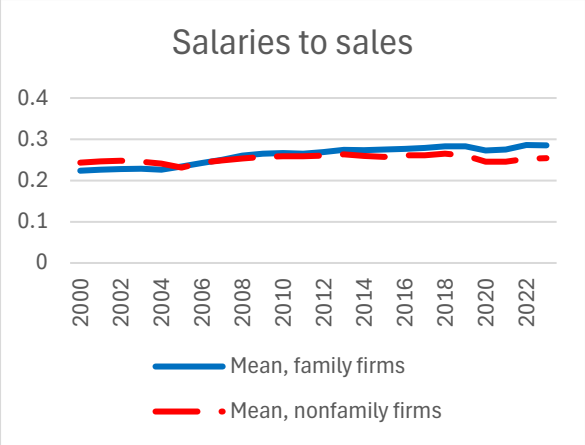


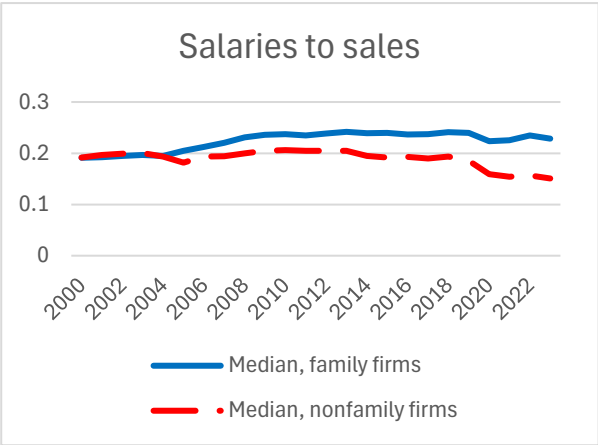
Nonfamily firms have higher average sales per employee throughout the business cycle, where the difference is mostly driven by the largest nonfamily firms.



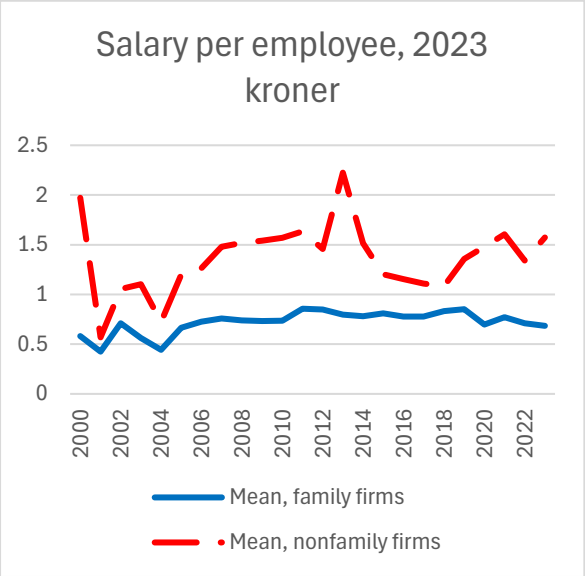


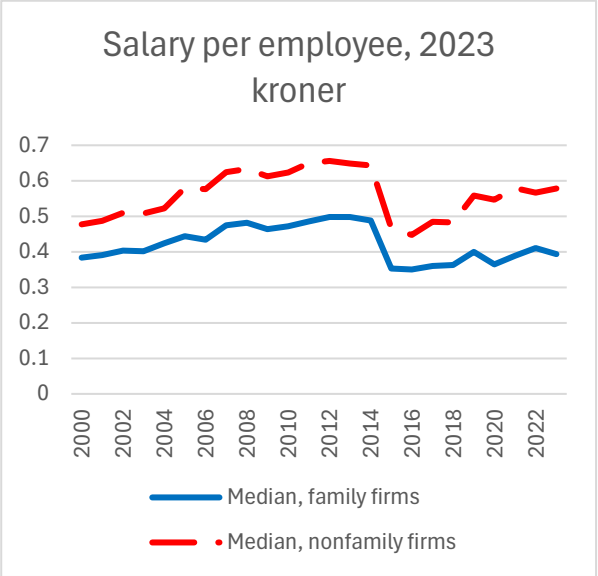
Since family firms are more labor intensive than nonfamily firms, they have a higher ratio of salaries to sales.



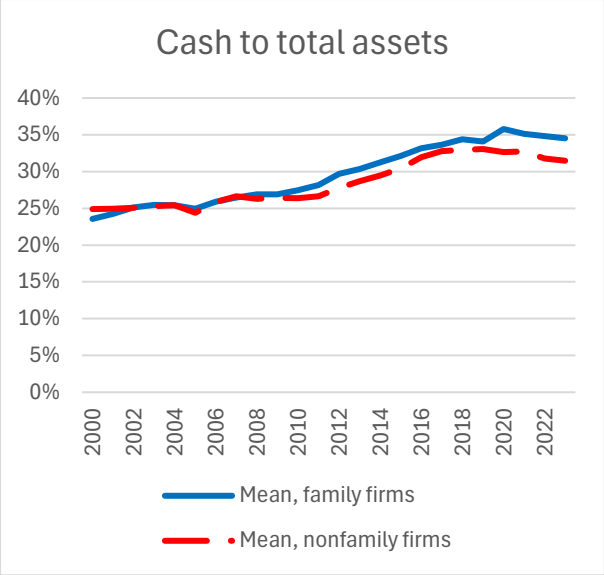


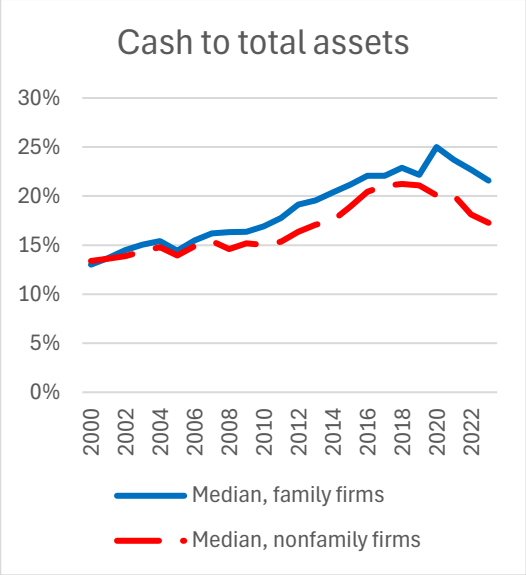
The average salary per employee was higher in nonfamily than in family firms in all years. The caveat is that the difference is driven by large firms, where the missing number of foreign employees may be an issue.

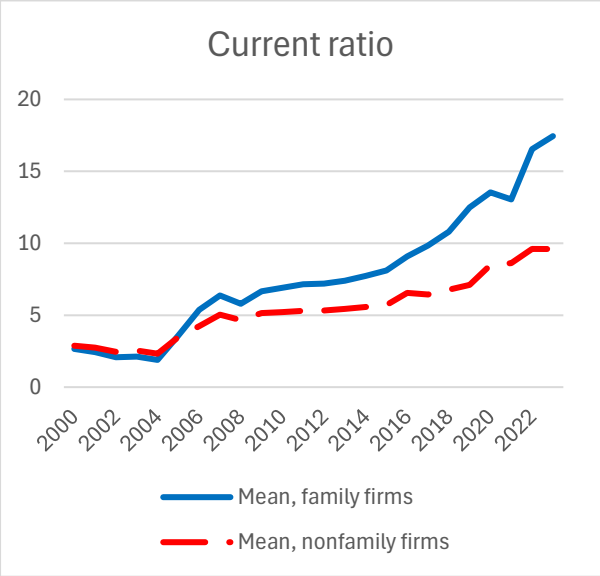


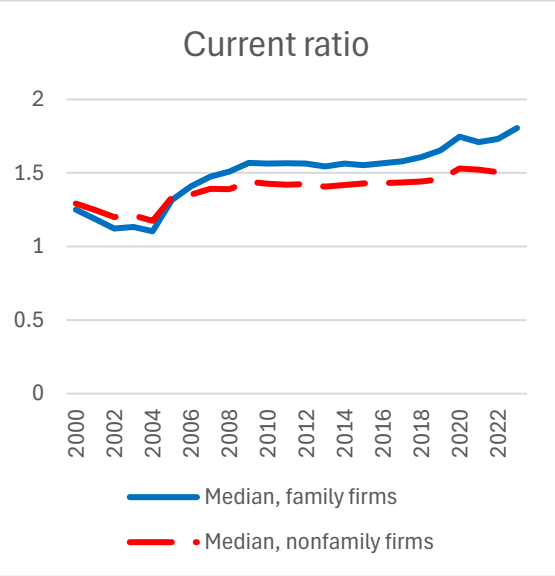


Family firms have higher average liquidity compared to nonfamily firms, as shown by the cash to assets and the current ratio. The increase in the cash to assets ratio after 2005 is partly explained by the higher taxation of dividends, which has increased the cost of payouts to shareholders.

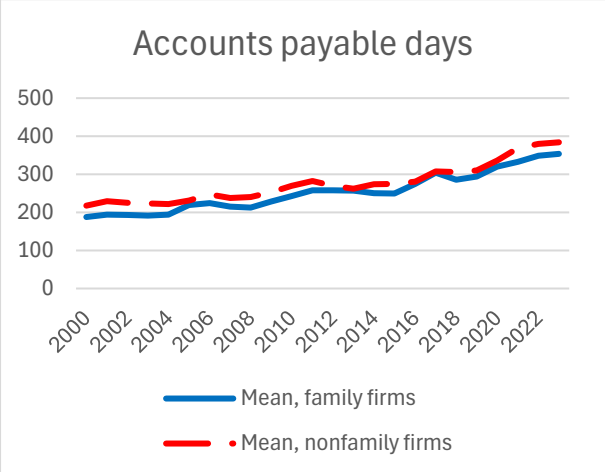


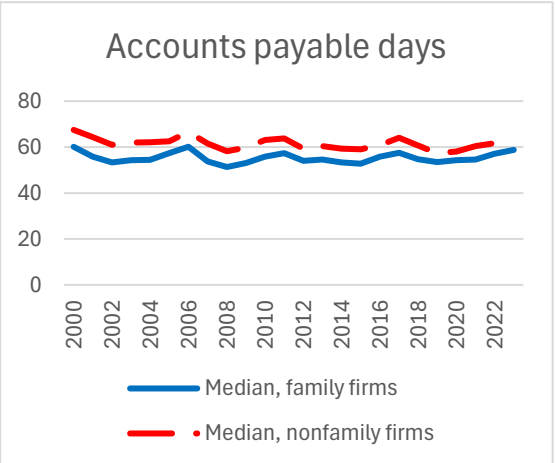


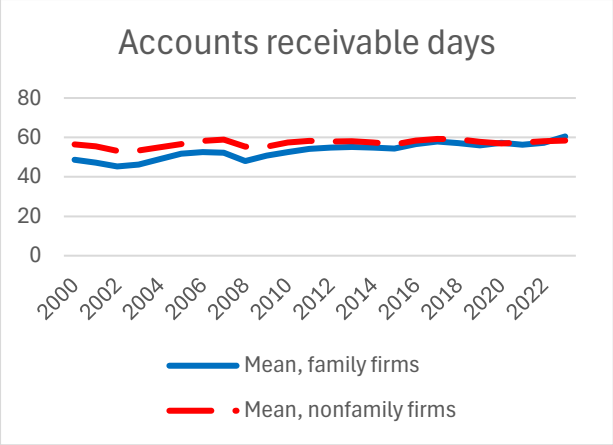


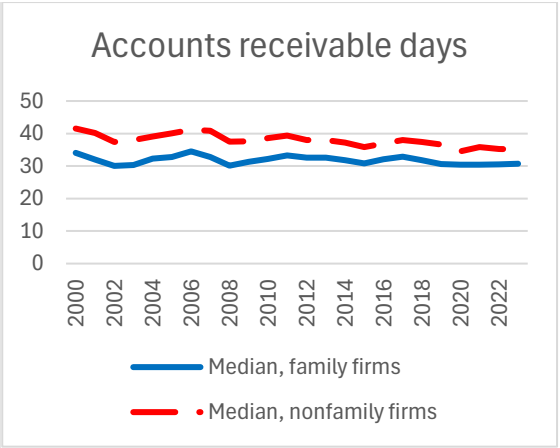


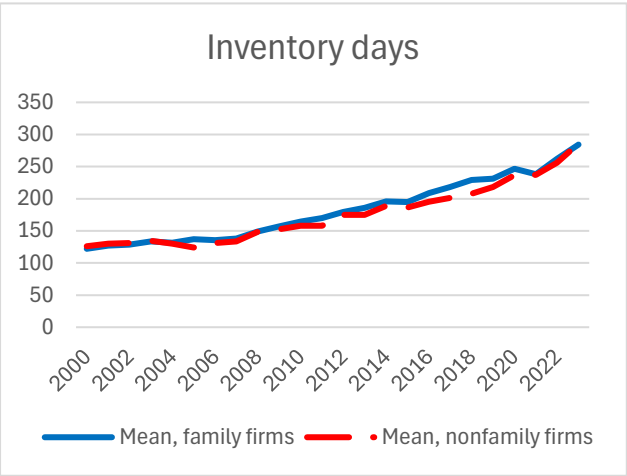
The accounts payable, accounts receivable, and inventory days are fairly stable through the whole period. The first two are higher for nonfamily firms, and the last one slightly higher for family firms.

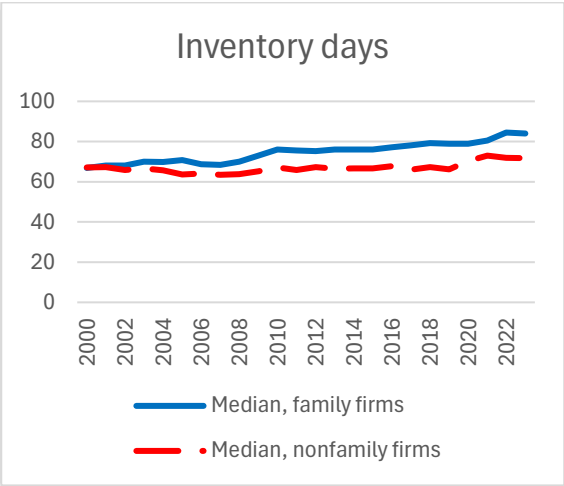




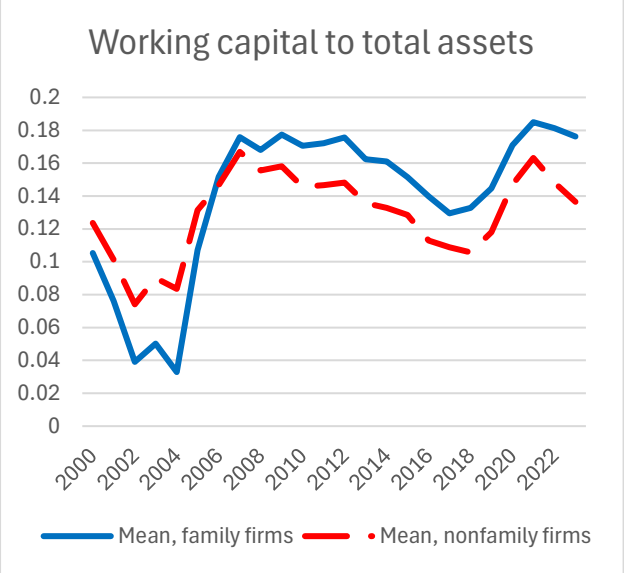


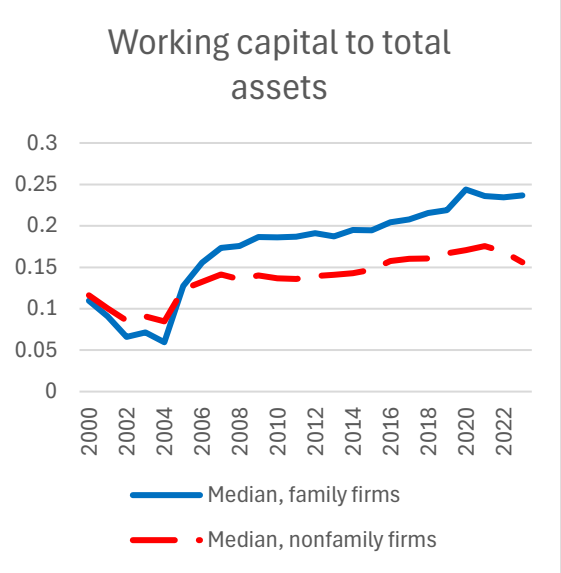




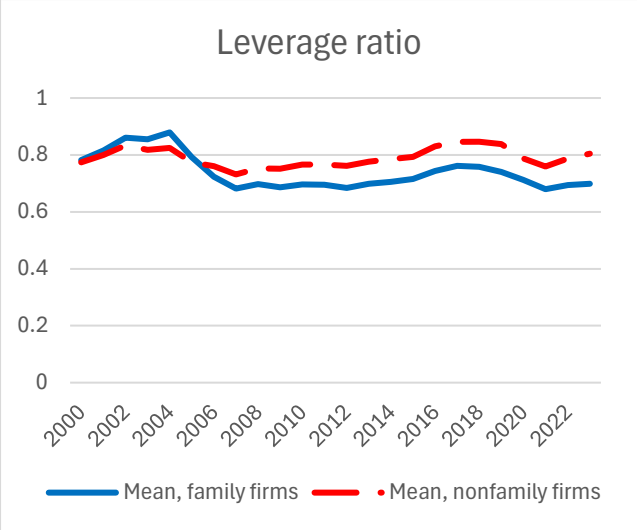


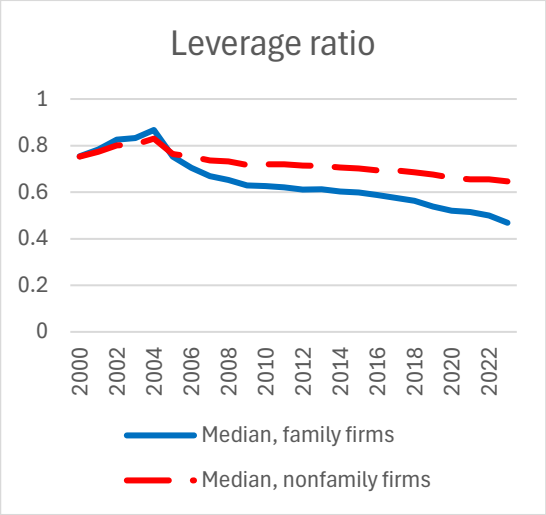
Related to the liquidity position, family firms have had a higher ratio of working capital to total assets following the 2006 tax reform.

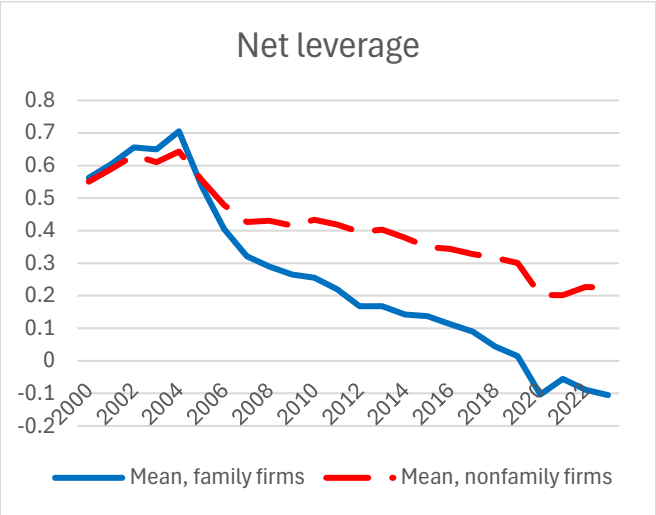


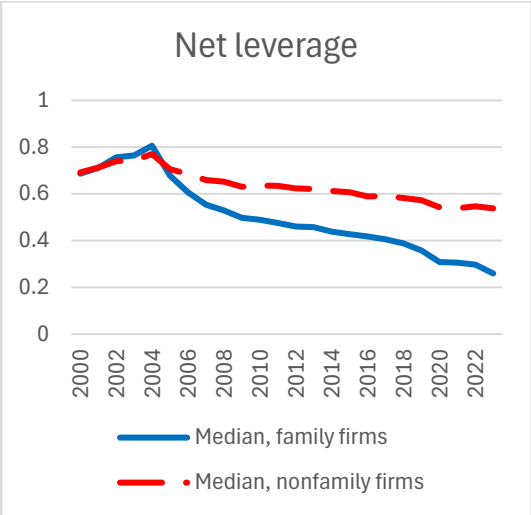


The leverage ratio of family firms is lower than that of nonfamily firms. It has been declining slightly in recent years. Given the increase in cash holdings following the 2006 tax reform, there is a steep decline in net leverage.

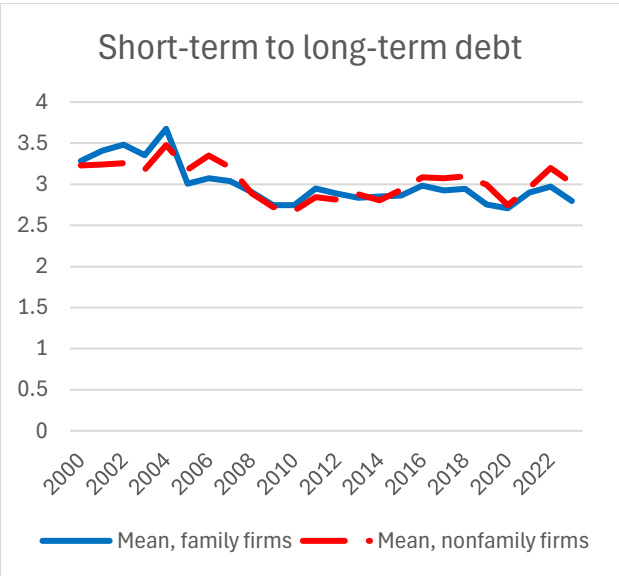


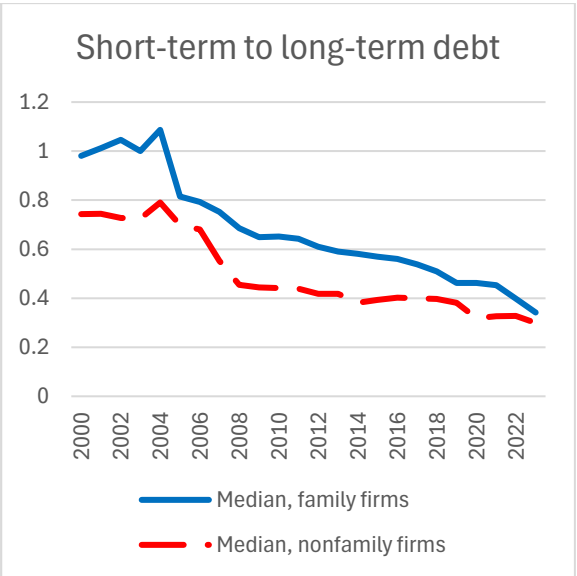




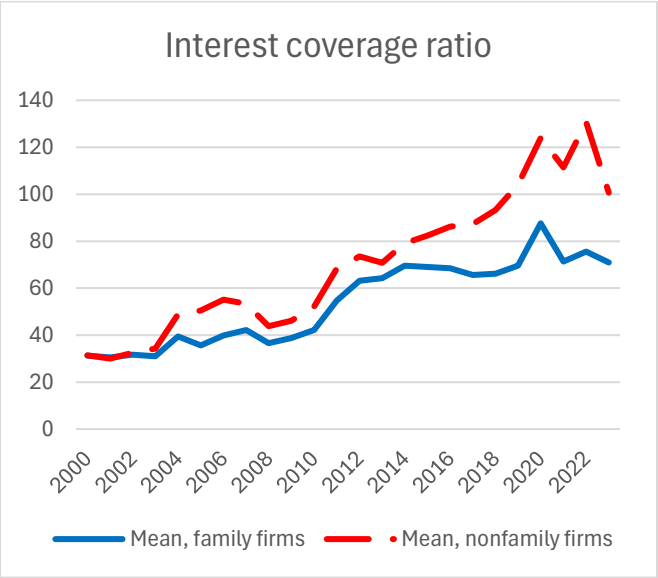


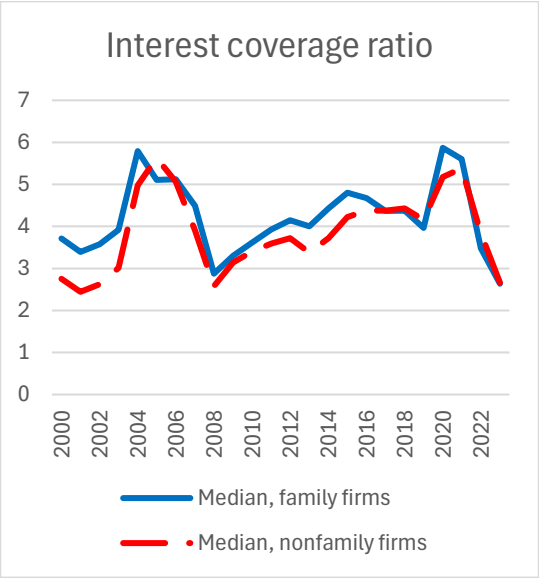
The mean proportion of short- to long-term debt has been stable and quite similar for family and nonfamily firms. The median has been declining, while being higher for family than for nonfamily firms.

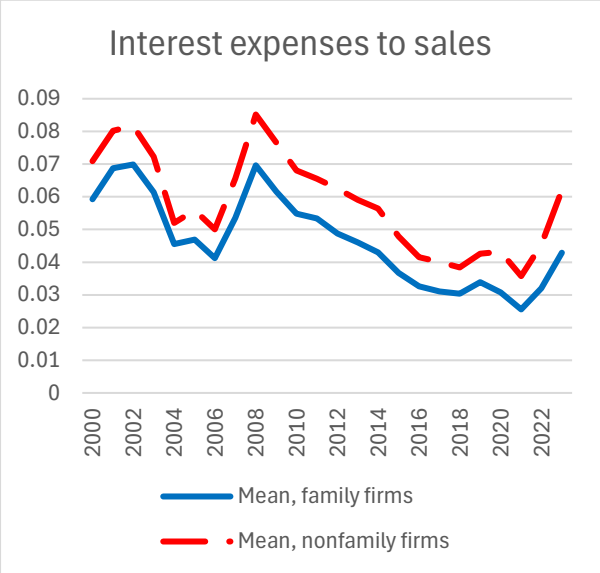


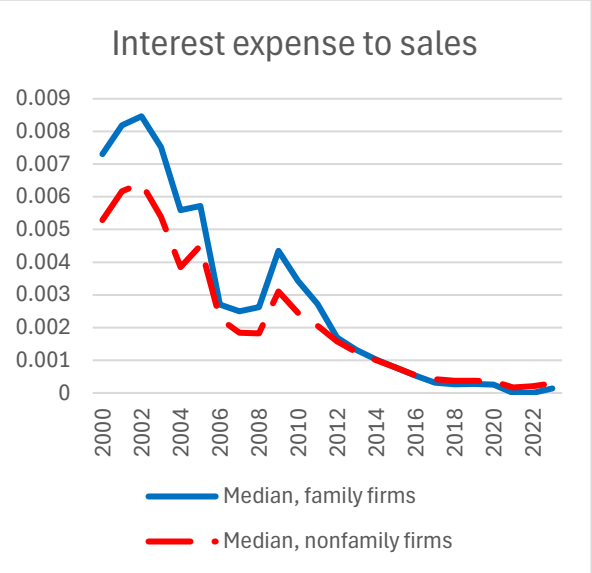


The average interest coverage ratio is fairly high for both family and nonfamily firms. The coverage ratio has been increasing over time, while leverage and the ratio of interest to sales have been declining.

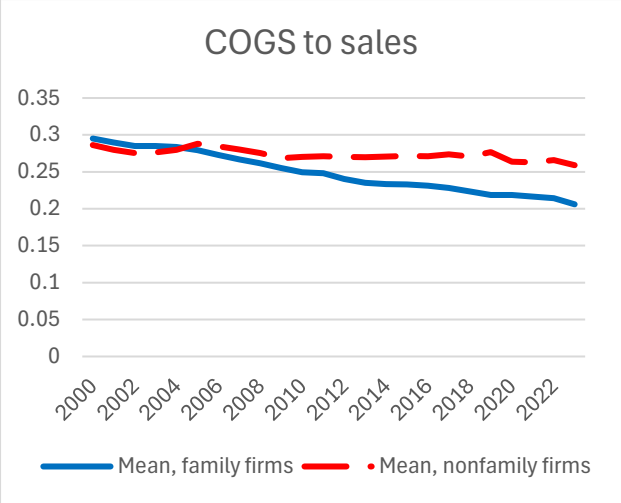


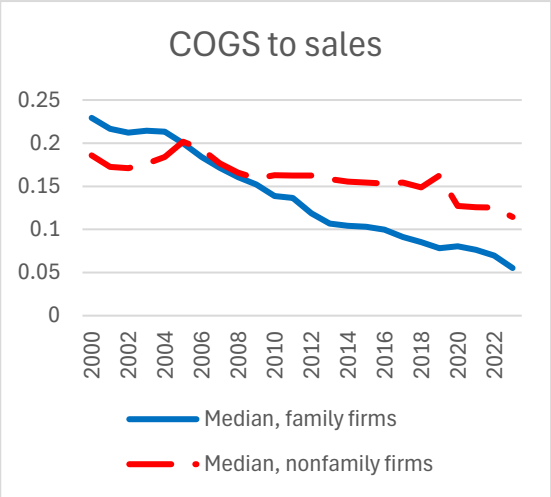






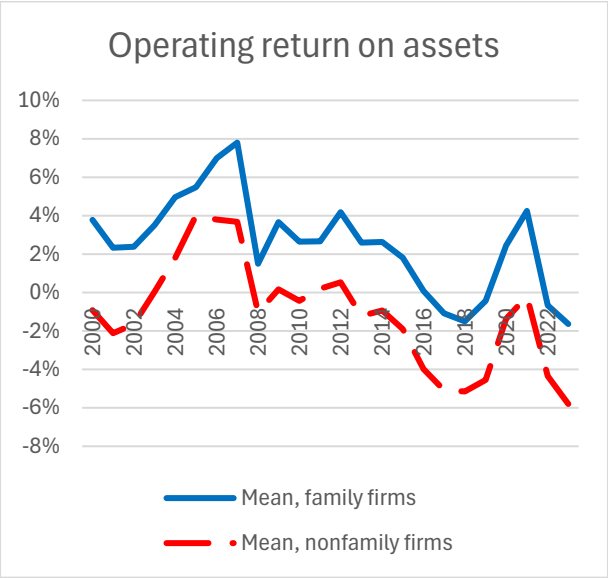
The ratio of direct costs (cost of goods sold, COGS) to sales is higher for nonfamily than for family firms, and it has been declining in recent years.

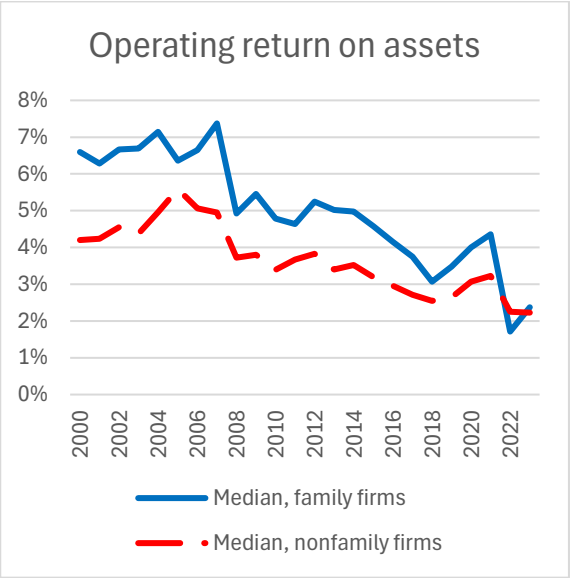


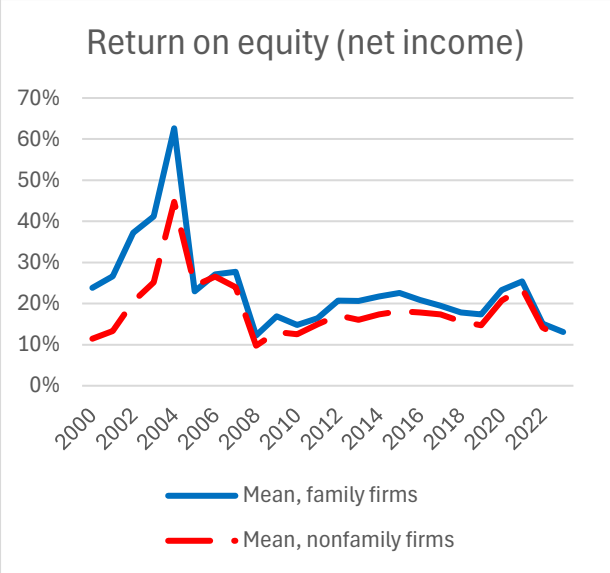


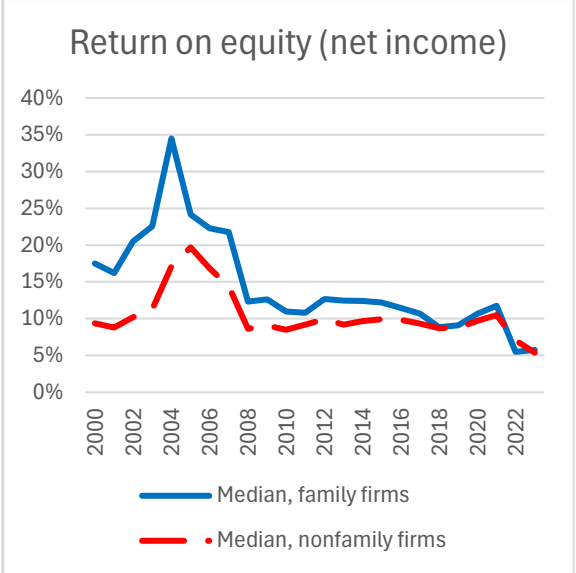
The profitability of firms follows the business cycle – it was affected for instance by the financial crisis or the Covid-19 shock. The high ratios around 2004, especially for returns on equity, are explained by the effects of the 2006 tax reform, which induced firms to pay very high dividends and thus reduce their equity prior to the tax increase.

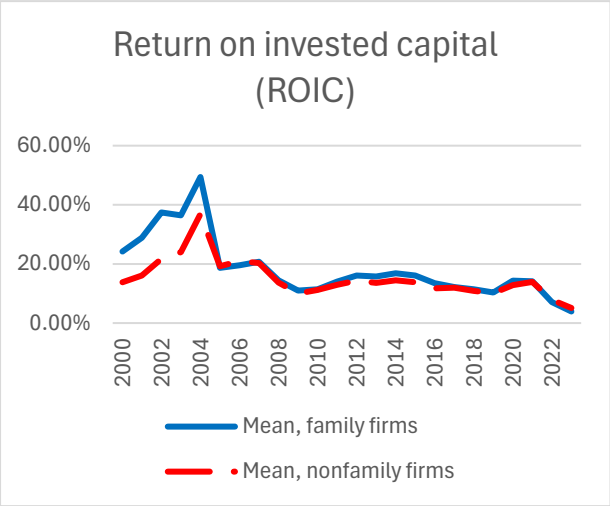
Family firms are usually more profitable than nonfamily firms across the business cycle.

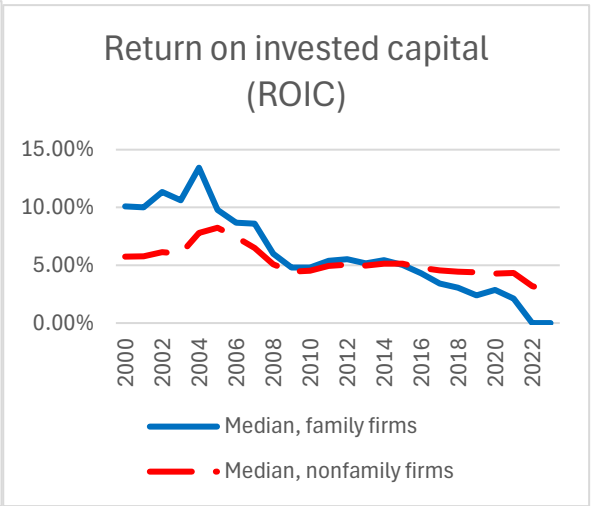




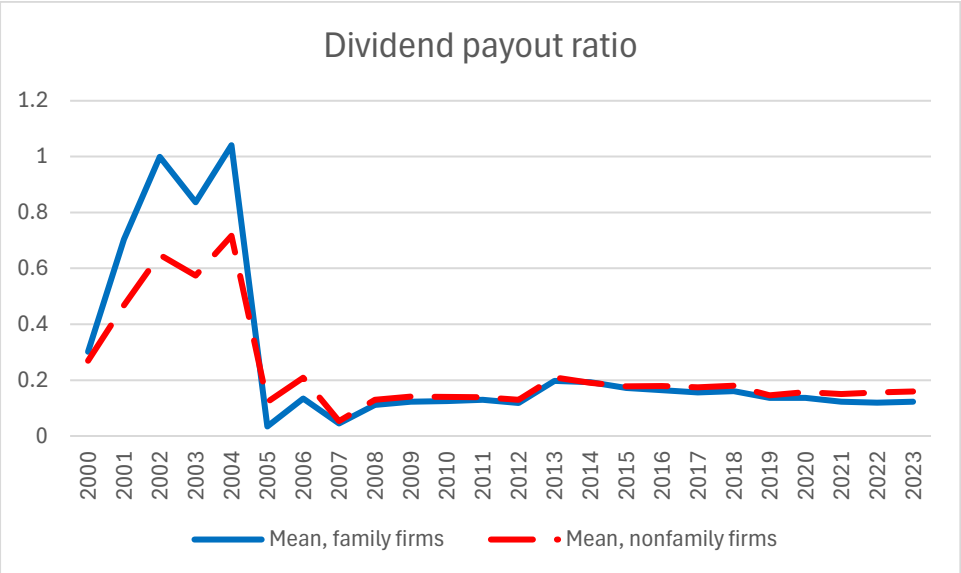


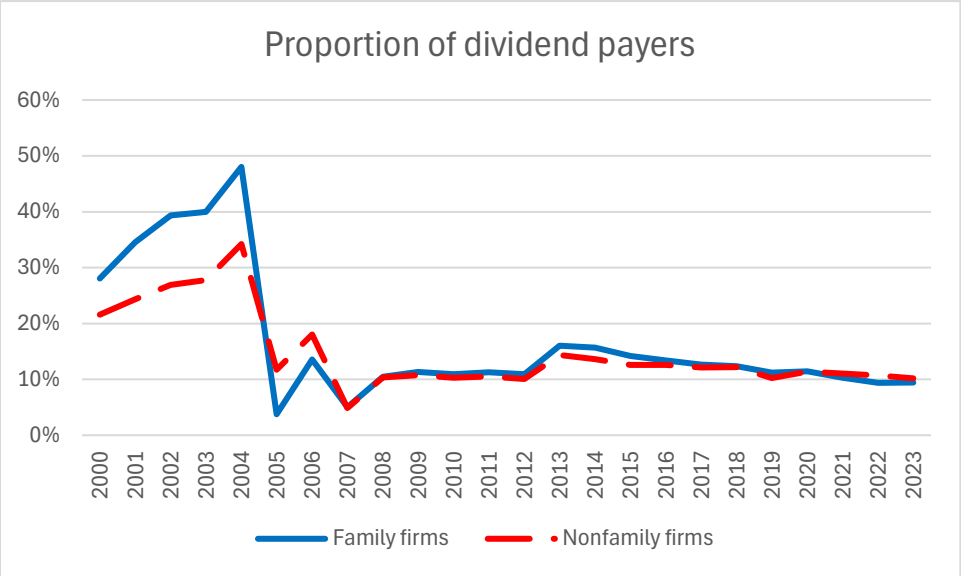






The dividend payout ratio and the proportion of dividend-paying firms were both very high prior to the 2006 tax reform. Since then they have stabilized at a lower lever for both family and nonfamily firms.

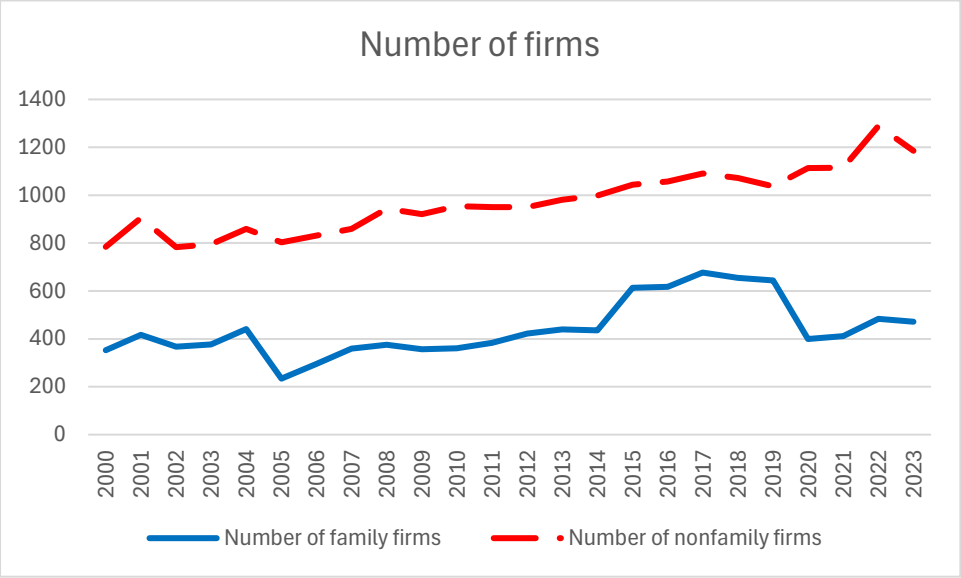



Proportion of dividend payers
60%
50%
40%
30%
20%
10%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Family firms
Nonfamily firms

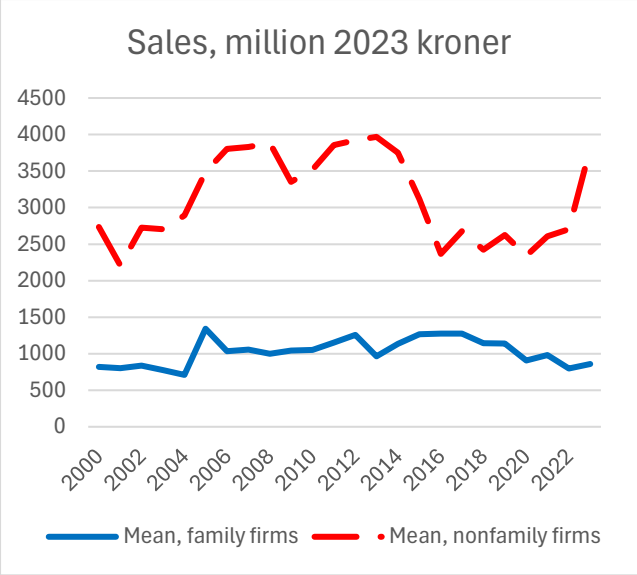
9.2. Financial indicators over time, large family and nonfamily firms

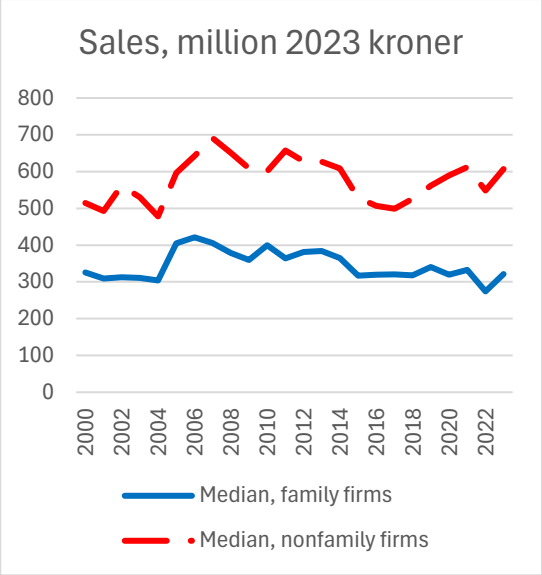
While family firms are smaller than nonfamily firms on average, there are nevertheless many large family firms that are of comparable size to nonfamily firms. The graphs below present financial indicators (means and medians) for every year between 2000 and 2023 for all large Norwegian limited liability family firms (in blue) and nonfamily firms (in red). Large firms are defined as firms with at least 100 employees and 100 million (2023) kroner in sales.

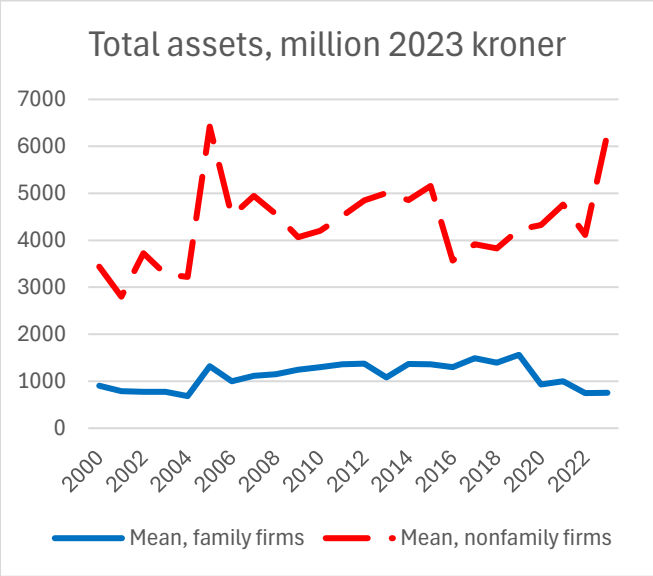
The number of large nonfamily firms increased gradually from around 800 to around 1,200. The number of large family firms was between 400 and 600 during the same period.

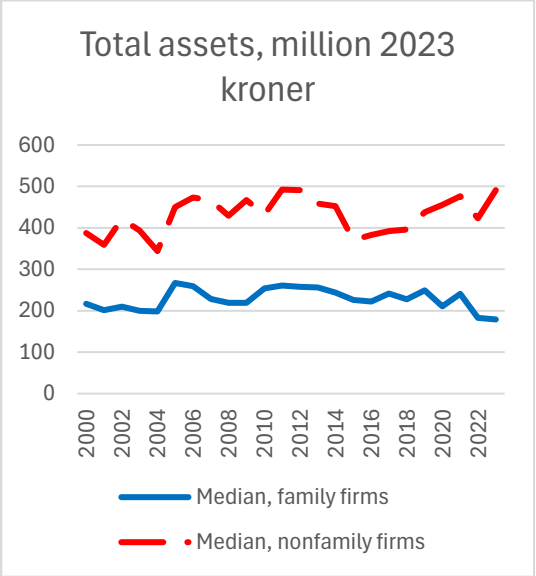


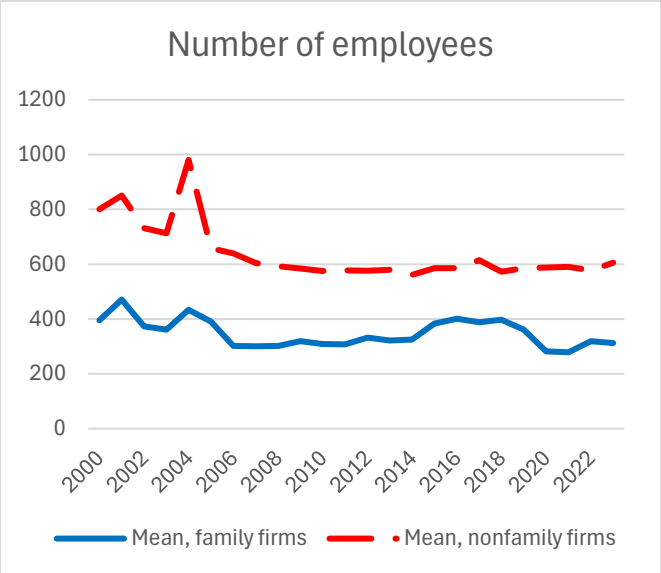
Large nonfamily firms are larger on average than large family firms. The difference is larger in means than medians, due to the influence of a few very large nonfamily firms.

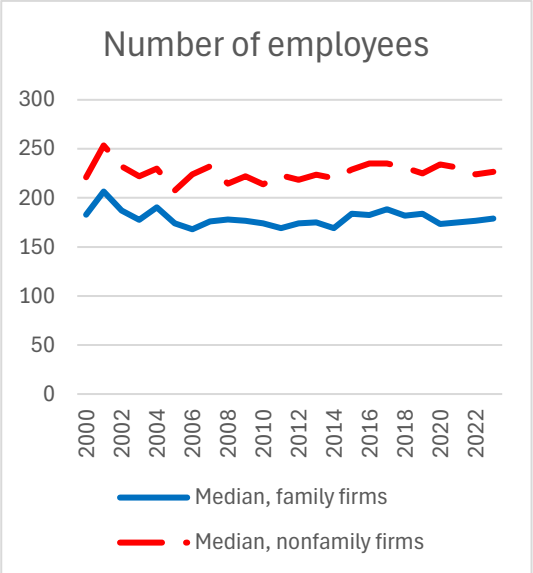




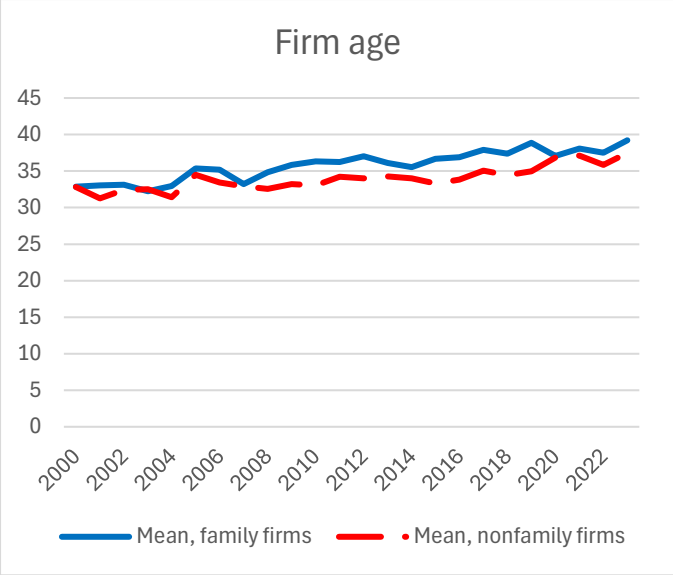


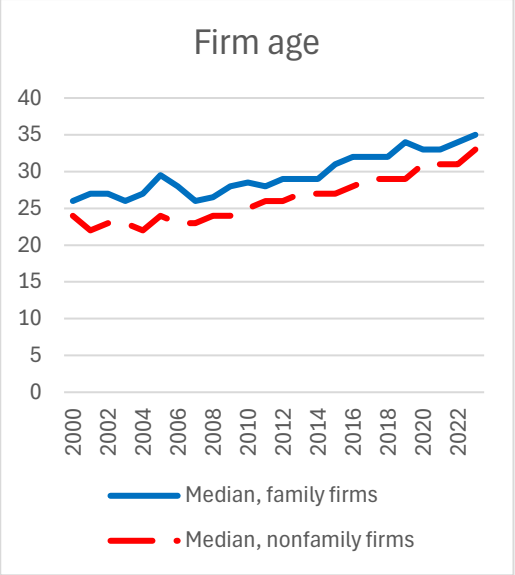




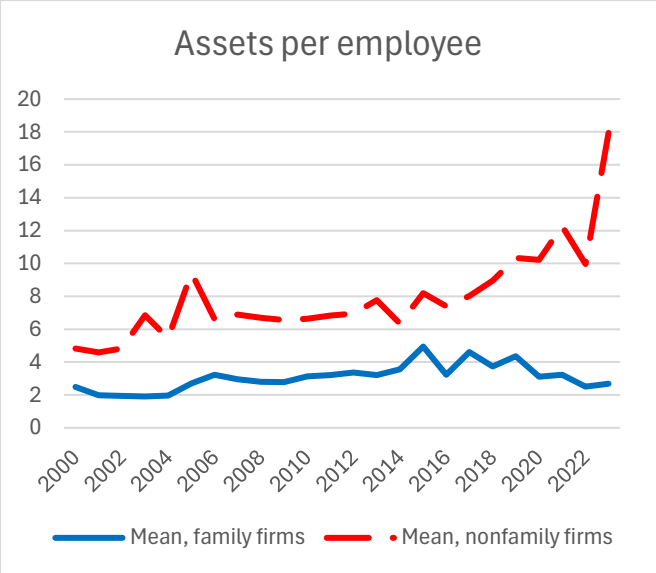


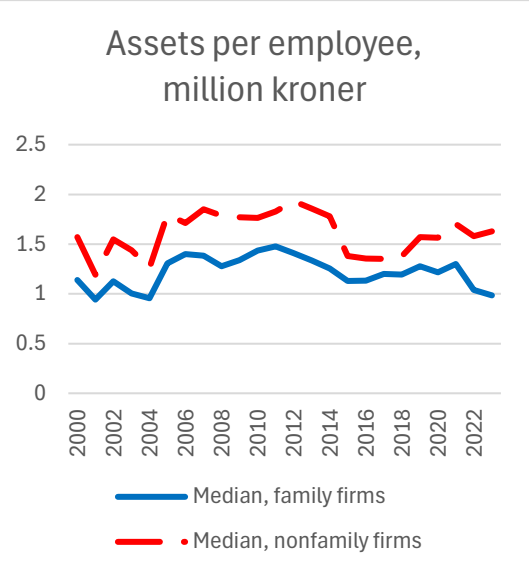
Large family firms are slightly older than large nonfamily firms.

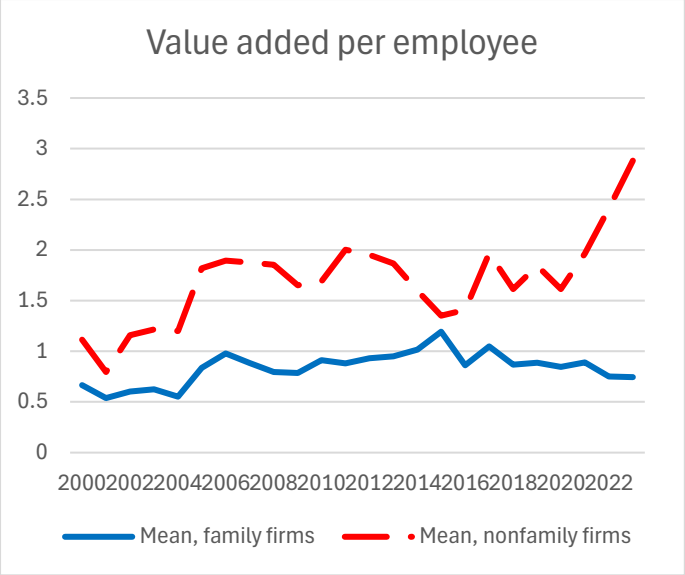


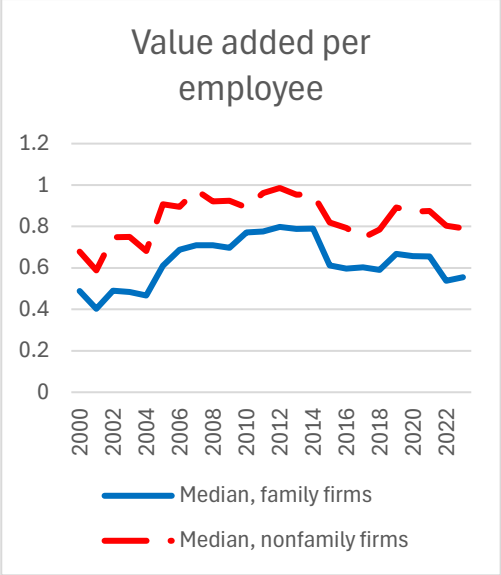


Family firms are less capital intensive than family firms, and that is reflected in lower assets per employee and value added per employee ratios.

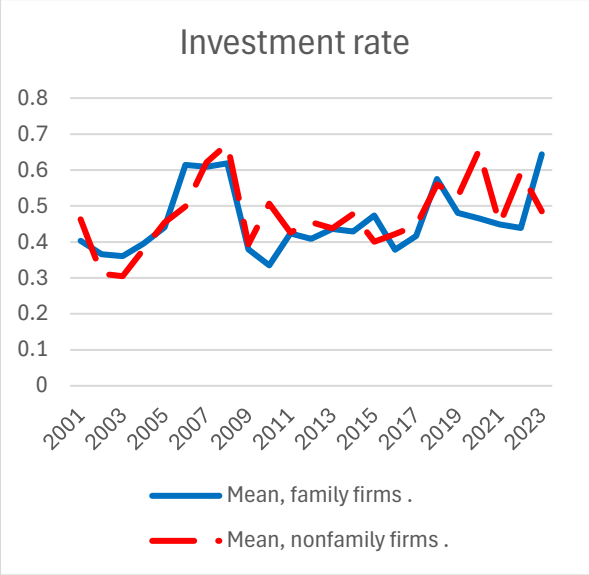


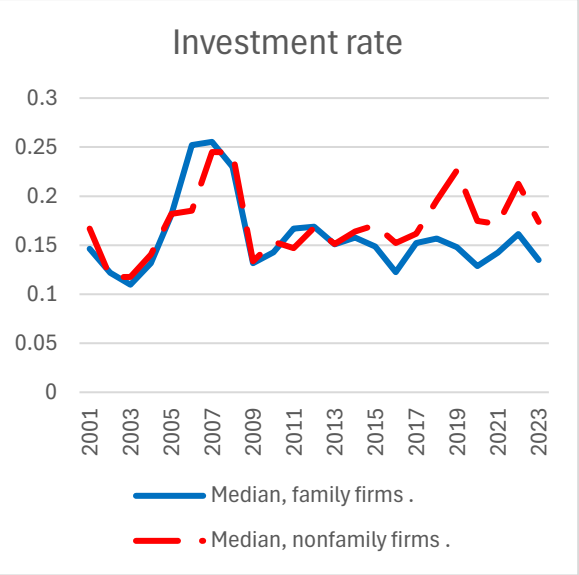


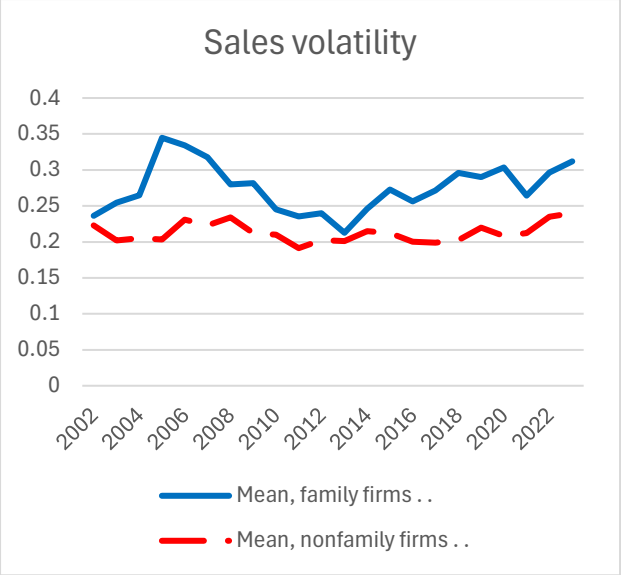


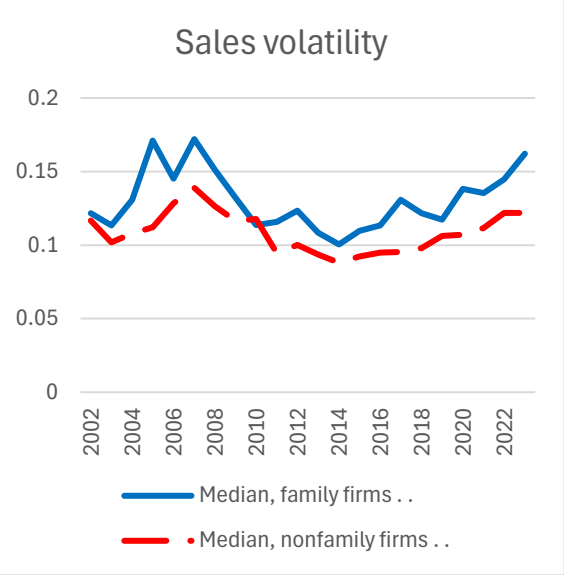


Investment rates are similar for family and nonfamily firms. Family firms have more volatile revenues.

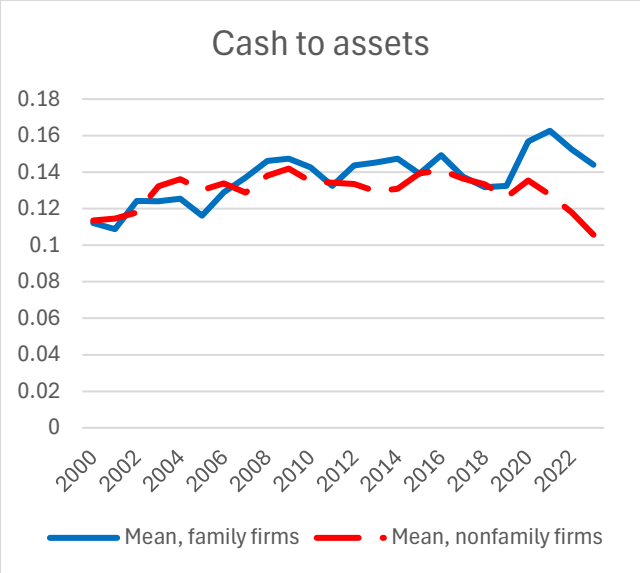


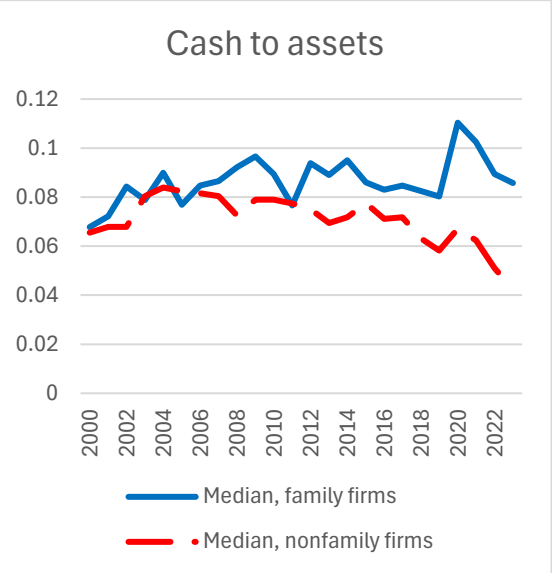


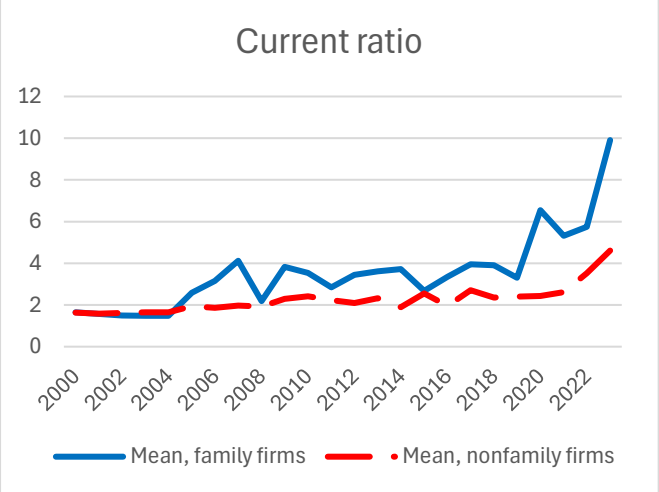


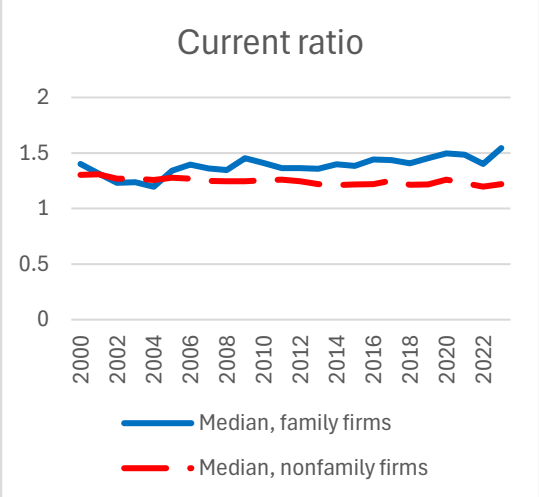


Similar to their smaller counterparts, large family firms have more liquidity than large nonfamily firms, as shown by their higher cash to assets ratio and current ratio.

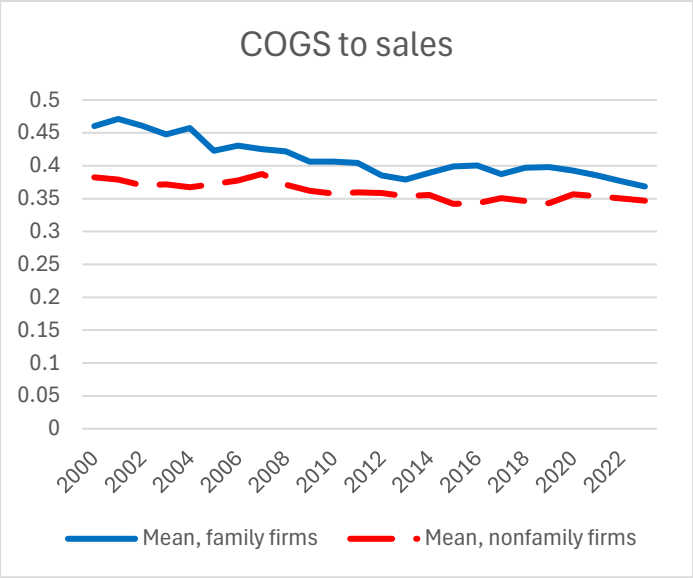


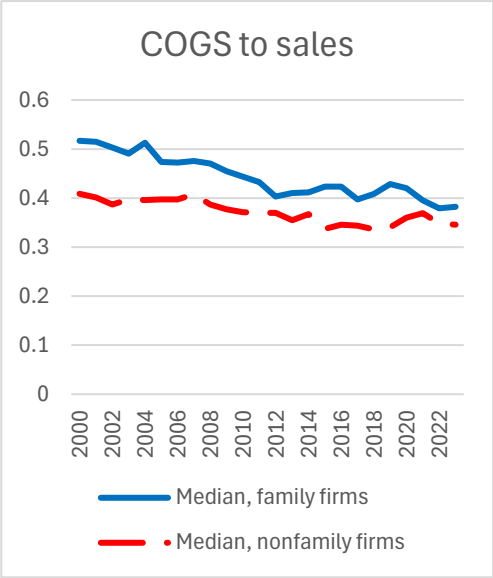




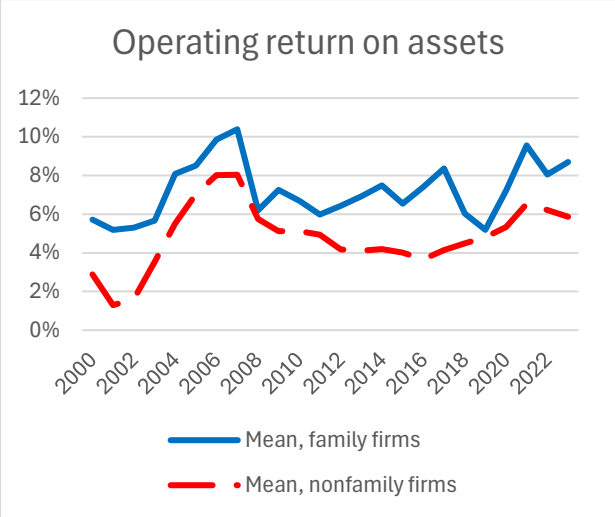


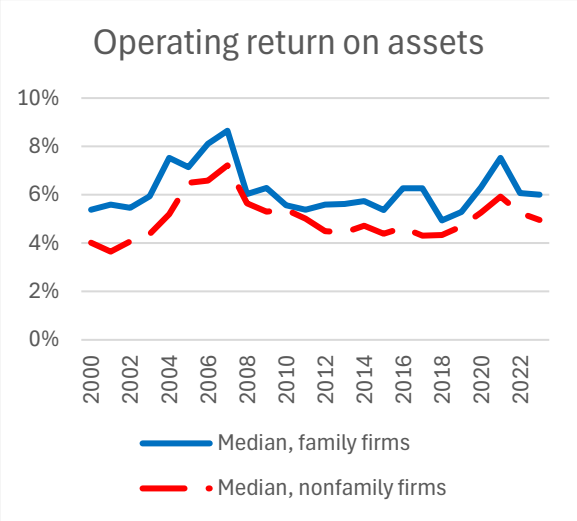
Family firms have a higher ratio of direct costs (COGS, cost of goods sold) to sales.

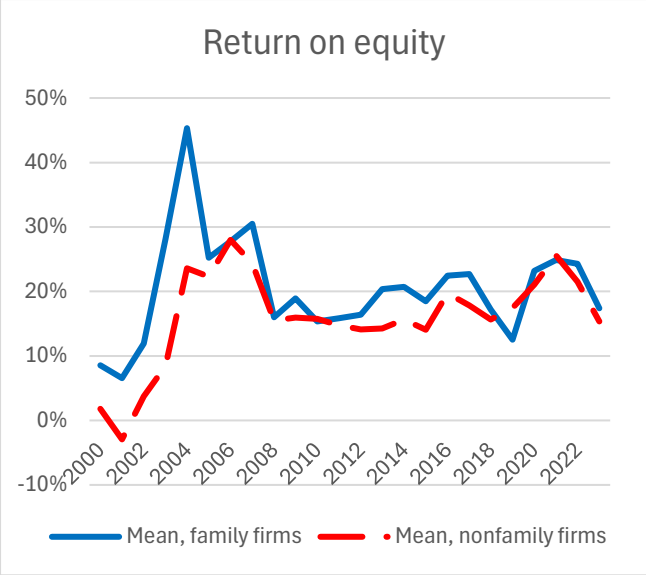


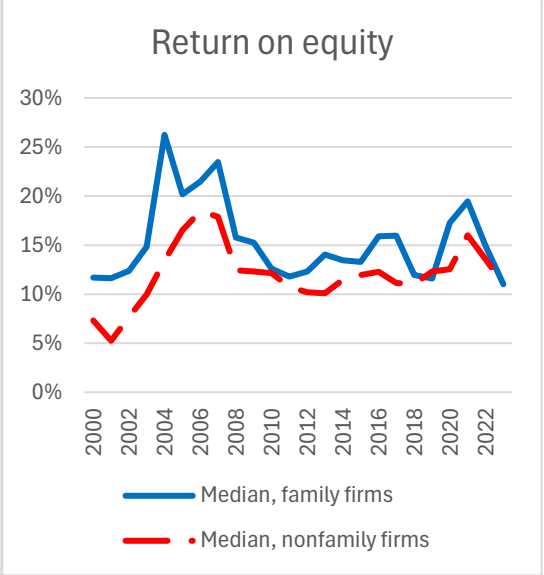


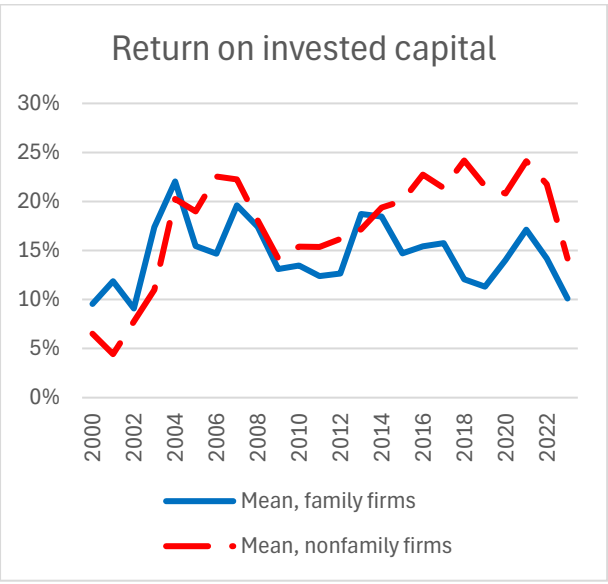
Family firms tend to be more profitable than nonfamily firms, at least as measured by the return on assets and return on equity.

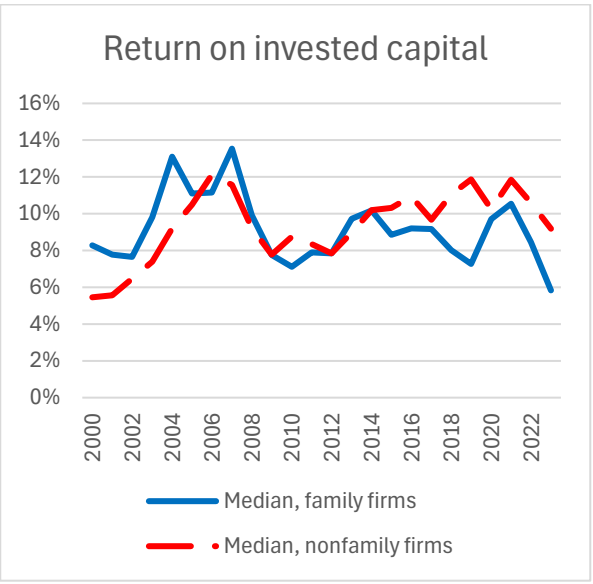


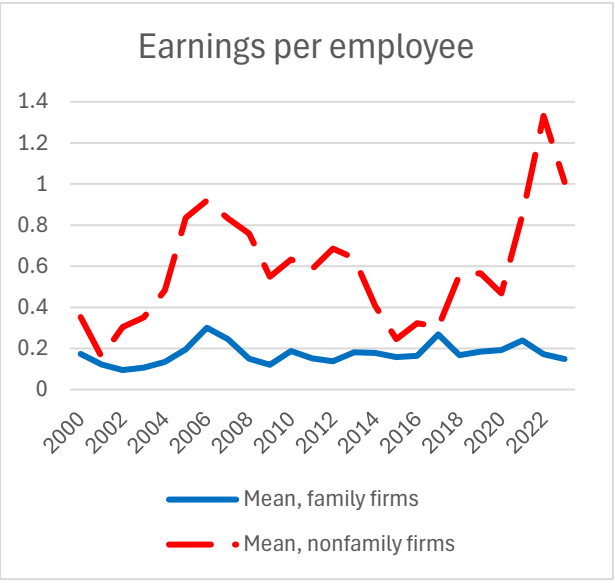


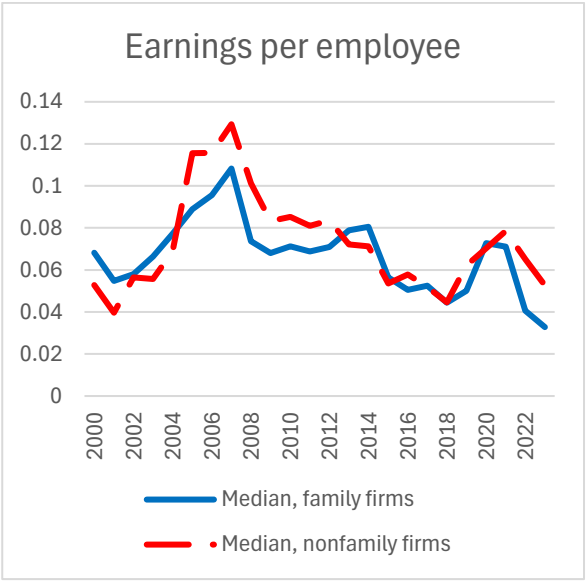

Return on equity
50%
40%
30%
20%
10%
0%
-10%
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Mean, family firms
Mean, nonfamily firms

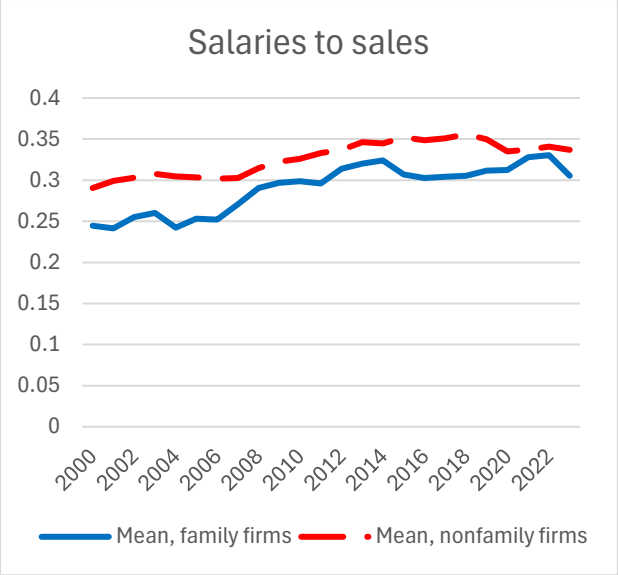

Return on equity
30%
25%
20%
15%
10%
5%
0%
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Median, family firms
Median, nonfamily firms

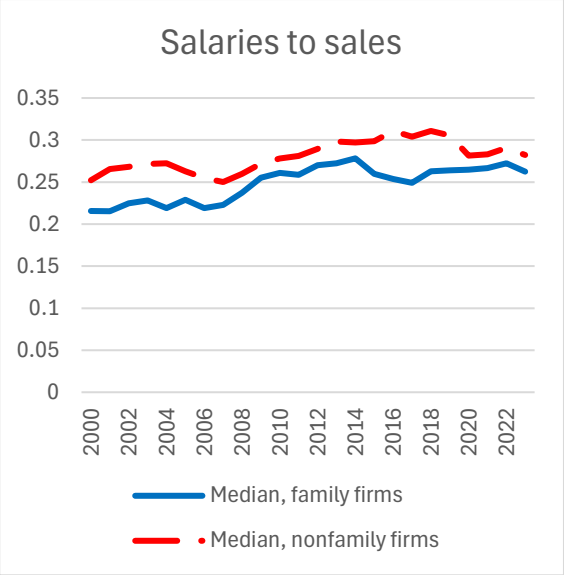

Return on invested capital
30%
25%
20%
15%
10%
5%
0%
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Mean, family firms
Mean, nonfamily firms


Return on invested capital
16%
14%
12%
10%
8%
6%
4%
2%
0%
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Median, family firms
Median, nonfamily firms

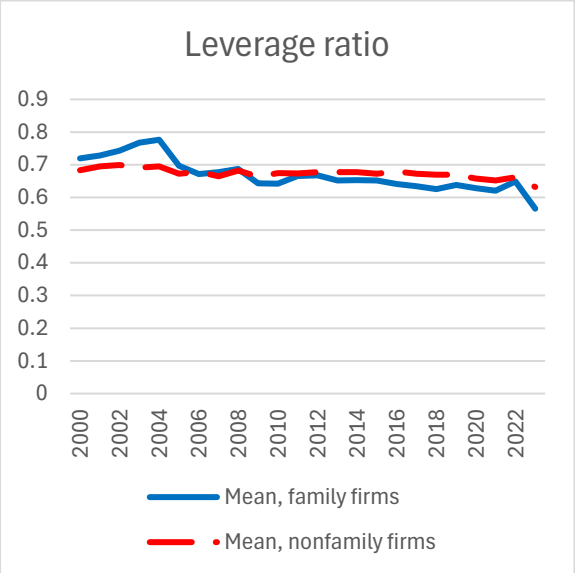

Earnings per employee
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Mean, family firms
Mean, nonfamily firms

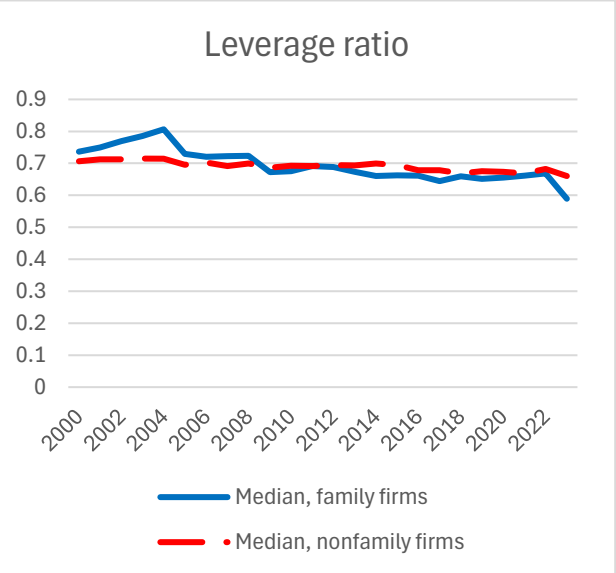

Earnings per employee
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Median, family firms
Median, nonfamily firms

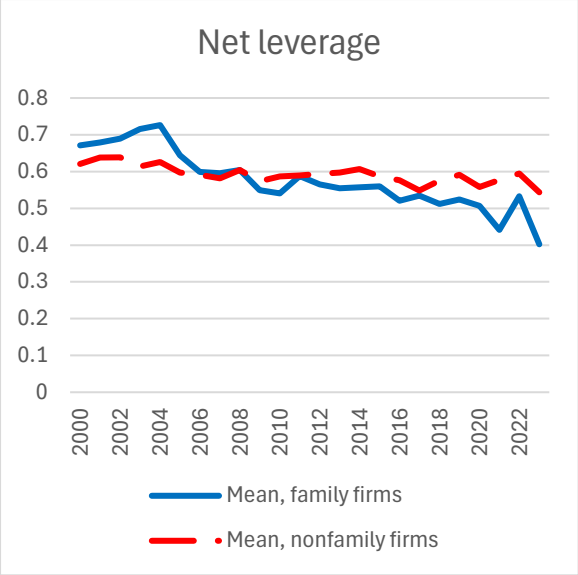


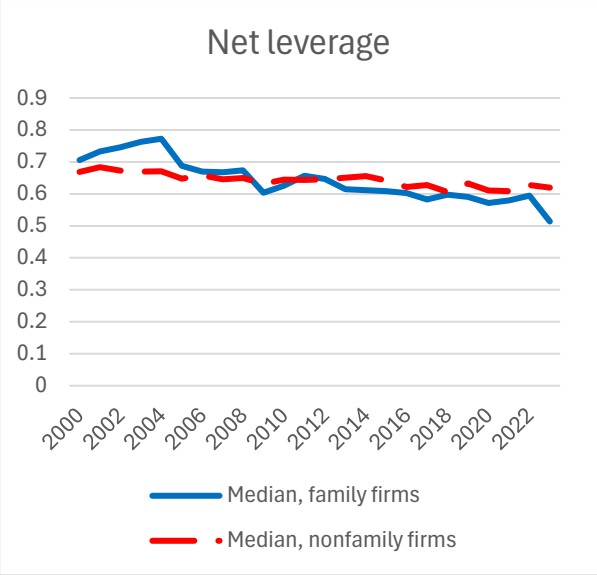


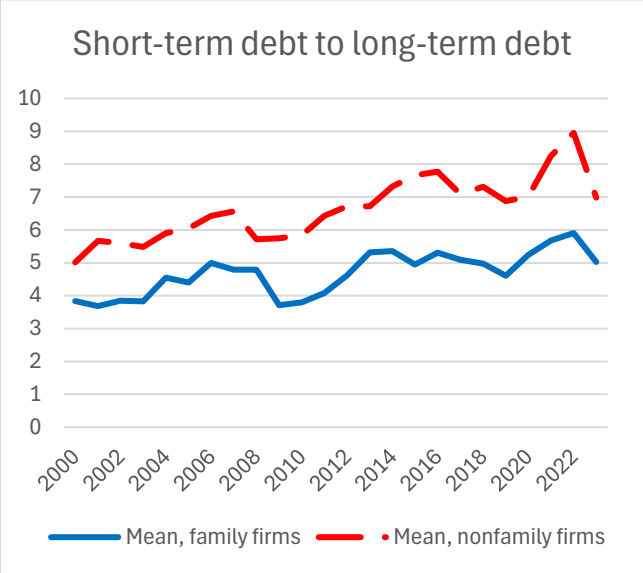
Leverage ratios are similar for family and nonfamily firms. The leverage ratios of family firms declined at a slightly faster rate following the 2006 tax reform. Nonfamily firms have a higher share of short-term financial debt, and they have lower interest costs, measured by the interest coverage ratio and the interest to sales ratio.

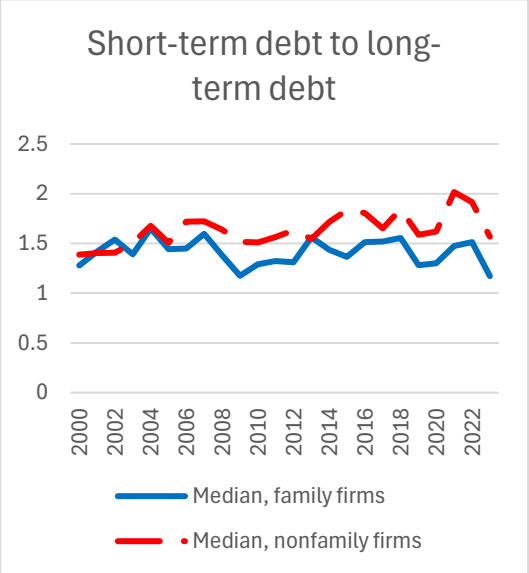


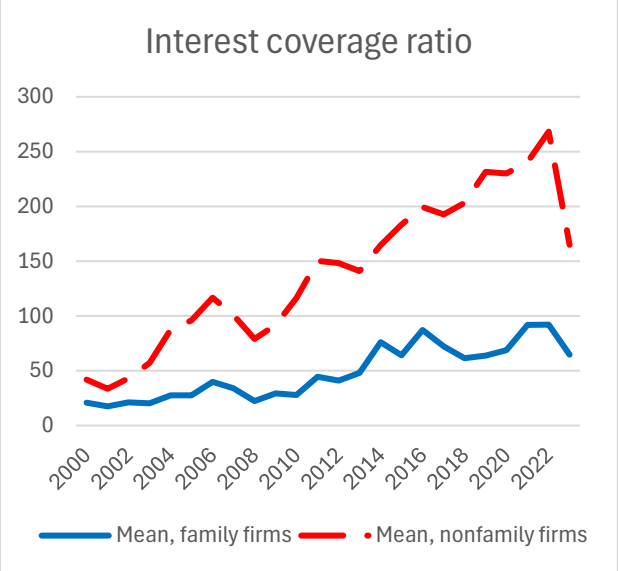


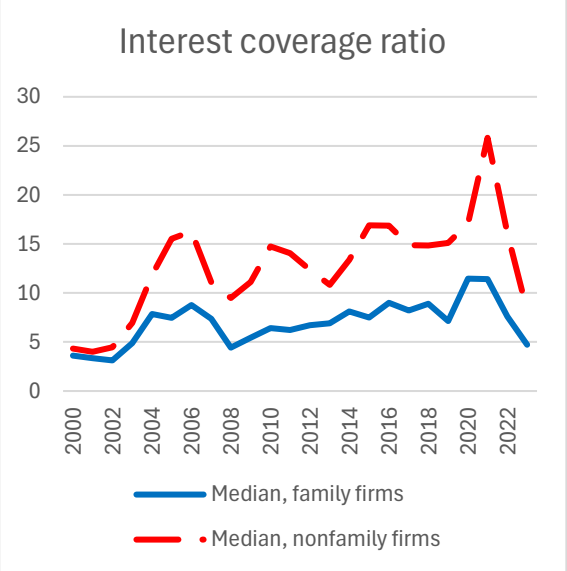

Net leverage
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022
Mean, family firms
Mean, nonfamily firms

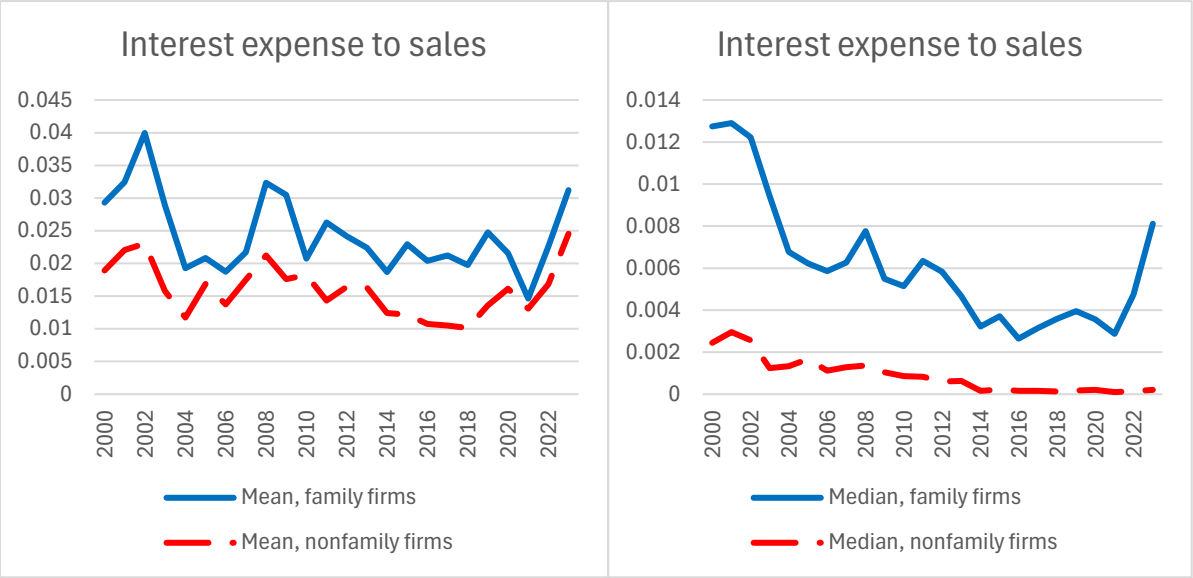

Net leverage
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022
Median, family firms
Median, nonfamily firms


Short-term debt to long-term debt
10
9
8
7
6
5
4
3
2
1
0
2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022
Mean, family firms
Mean, nonfamily firms

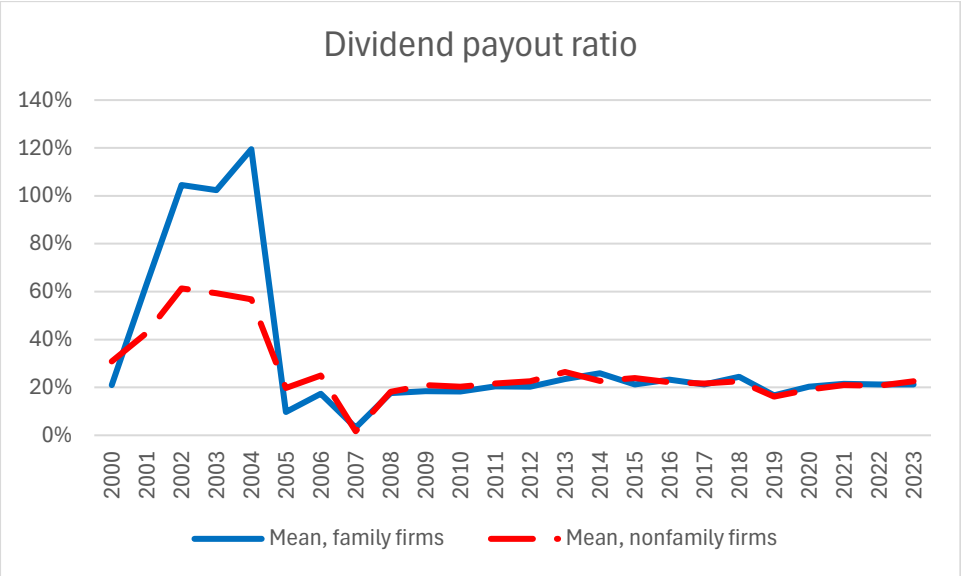

Short-term debt to long-term debt
2.5
2
1.5
1
0.5
0
2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022
Median, family firms
Median, nonfamily firms

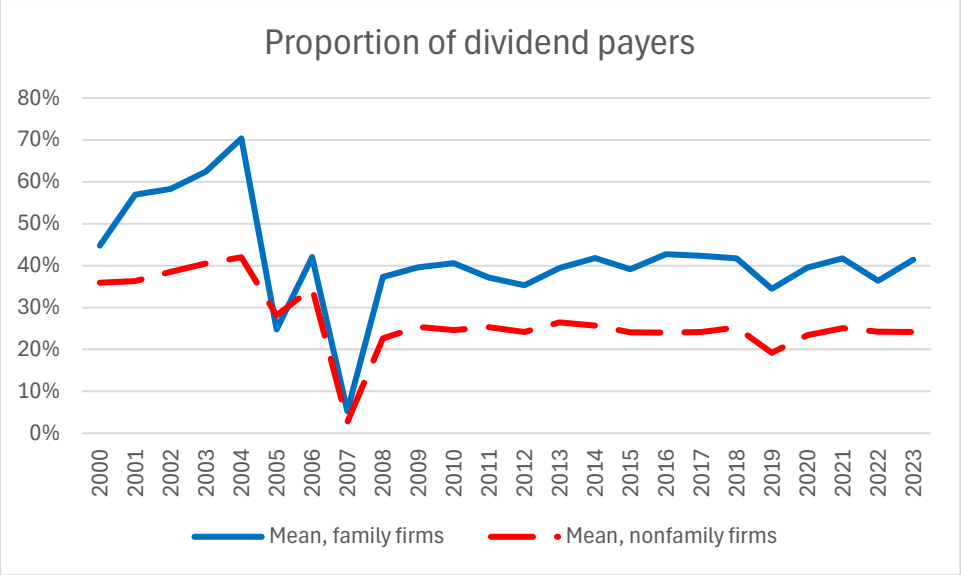

Interest coverage ratio
300
250
200
150
100
50
0
2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022
Mean, family firms
Mean, nonfamily firms


Interest coverage ratio
30
25
20
15
10
5
0
2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022
Median, family firms
Median, nonfamily firms



Family firms paid higher dividends prior to the 2006 tax reform. Following that, family and nonfamily firms have similar dividend payout ratios, but family firms are more frequent payers.

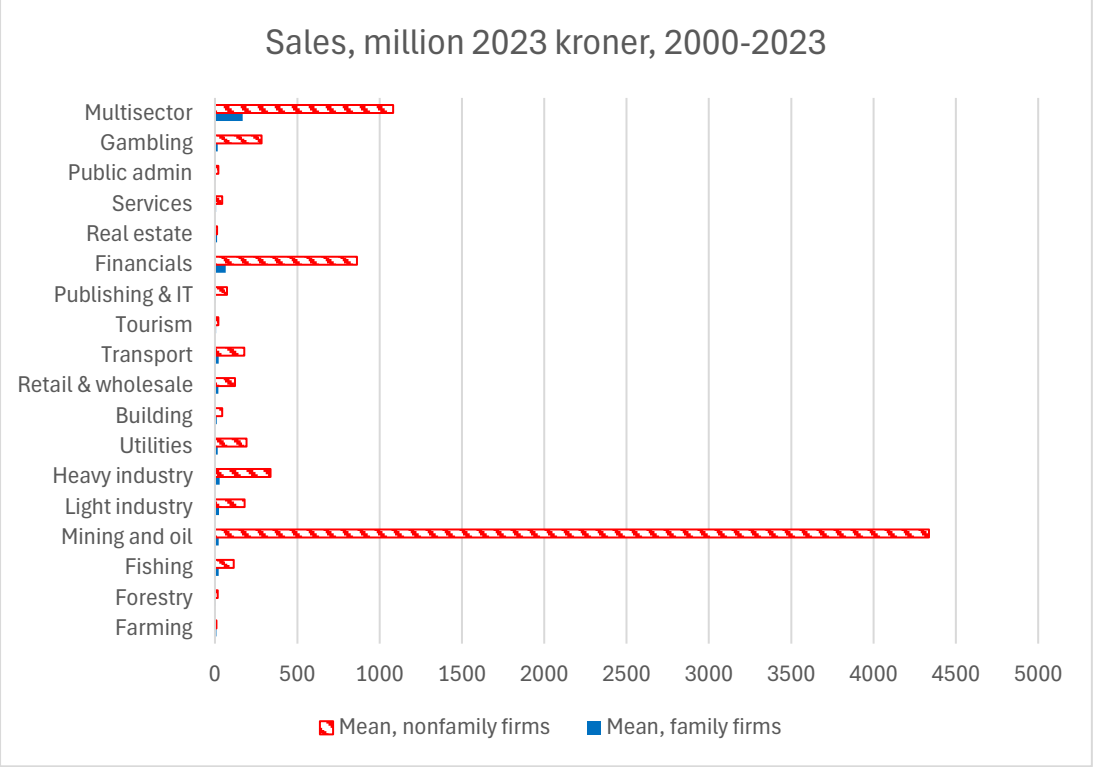



Proportion of dividend payers
80%
70%
60%
50%
40%
30%
20%
10%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms

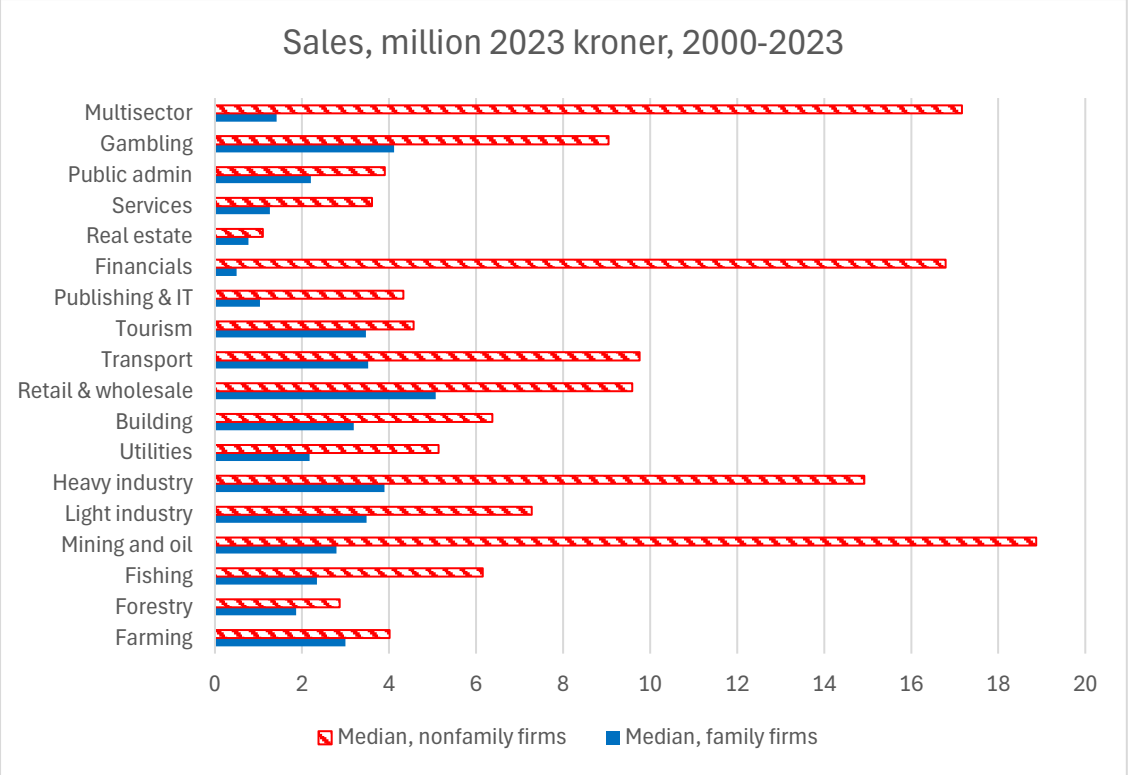
10. Financial indicators for family and nonfamily firms by industry, 2000-2023

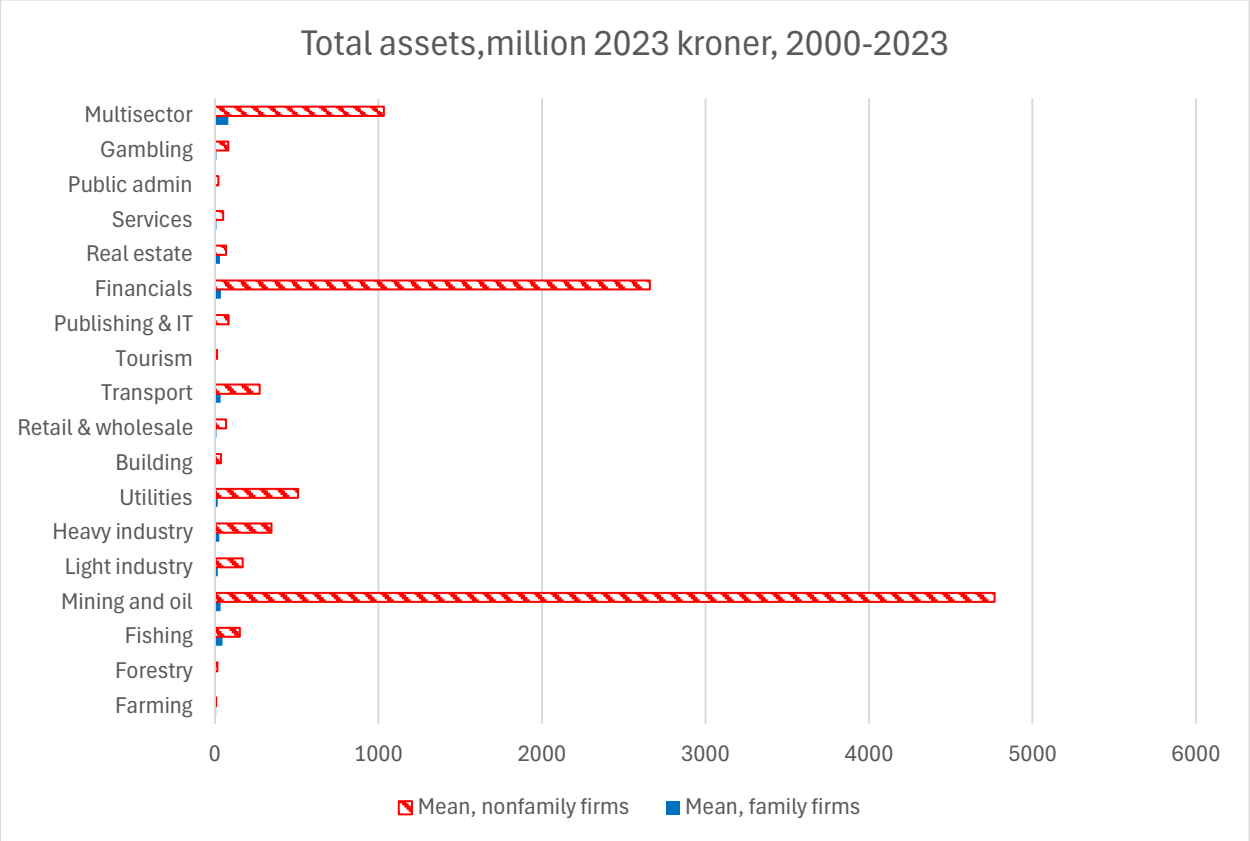
The graphs below present financial indicators (means and medians for the 2000-2023 period) by industry for family firms (in blue) and nonfamily firms (in red)[17].

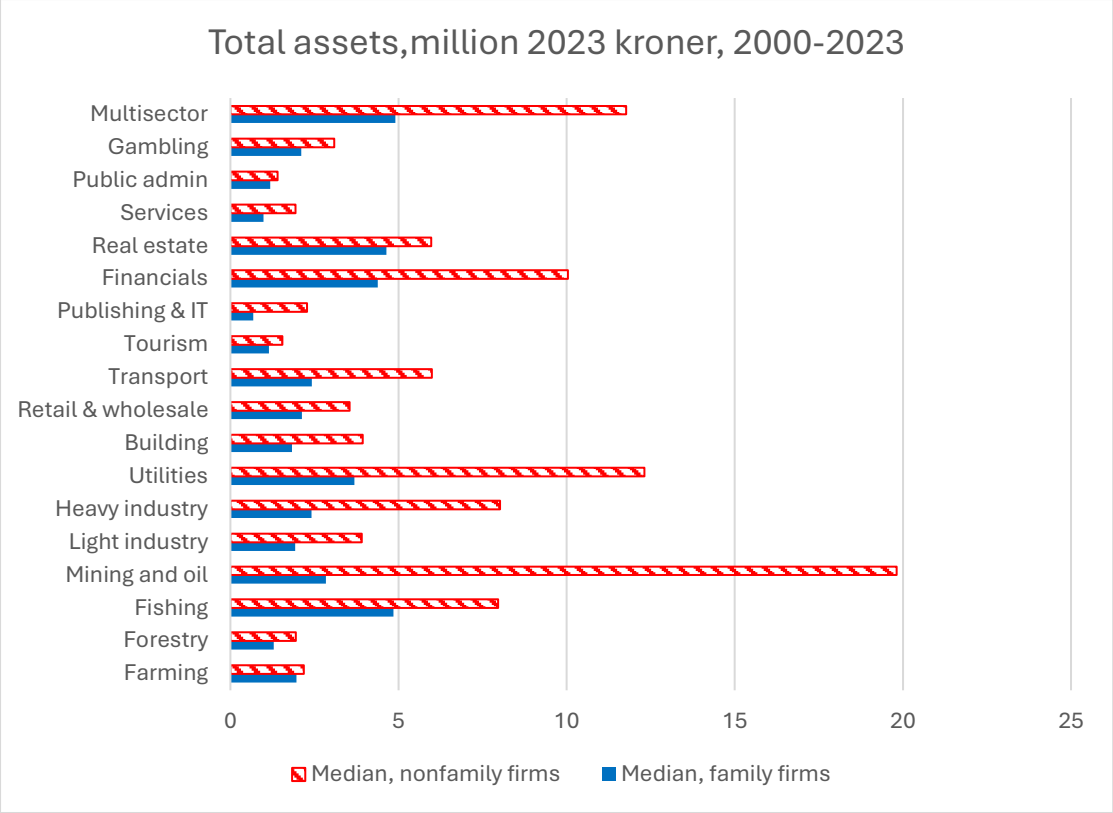
Nonfamily firms are larger than family firms in terms of sales, total assets, number of employees, and value added in all industries. The difference is larger when we look at means than when we look at medians, due to the existence of a subset of very large nonfamily firms.

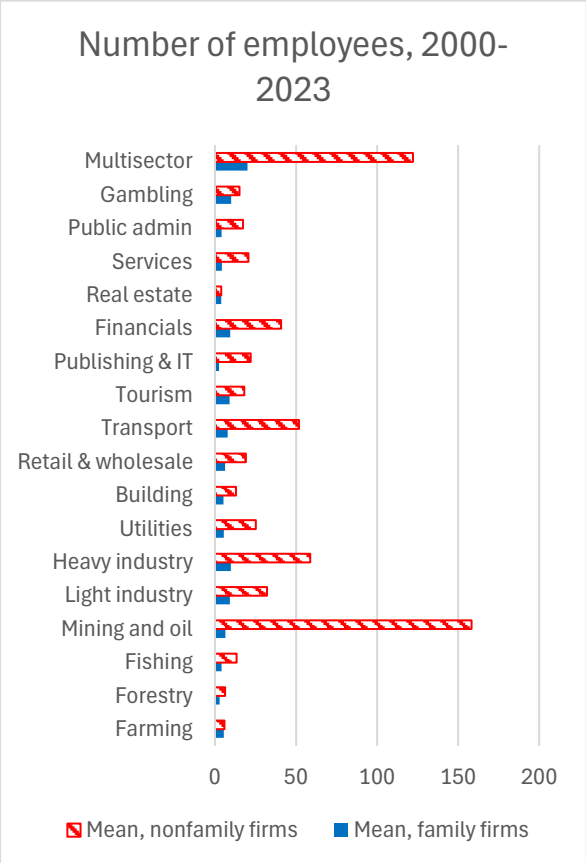


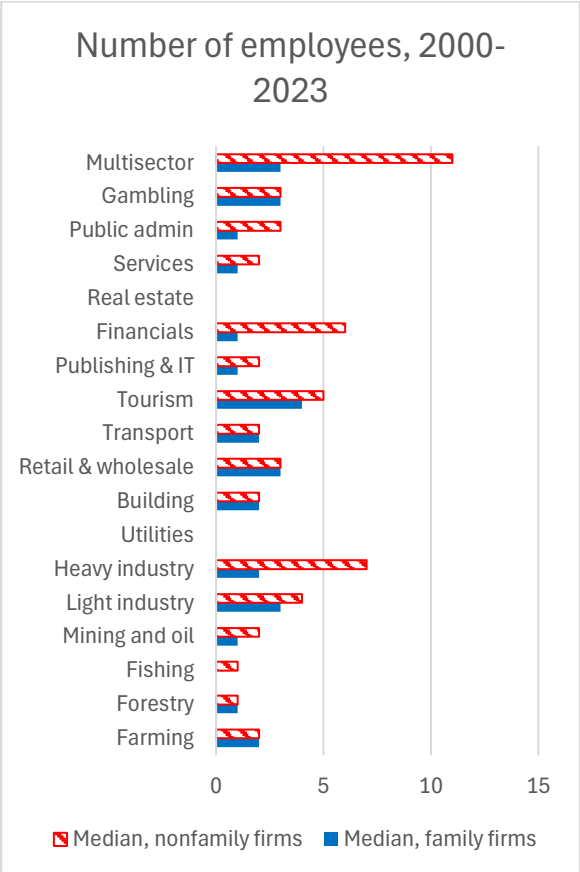
[17] This section presents averages (means and medians) by industry for the entire 2000-2023 period. The numbers for just 2023 can be found in the Appendix.

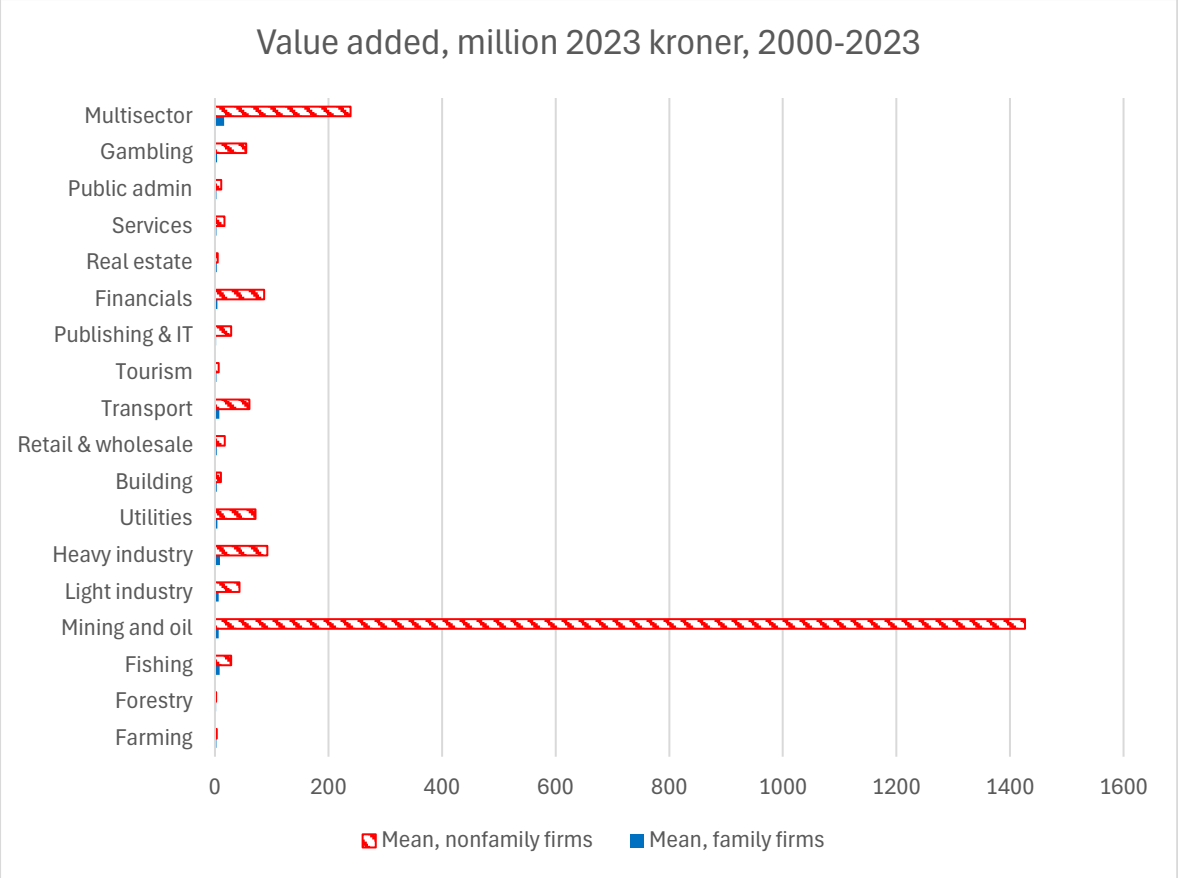

Sales, million 2023 kroner, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
2
4
6
8
10
12
14
16
18
20
Median, nonfamily firms
Median, family firms

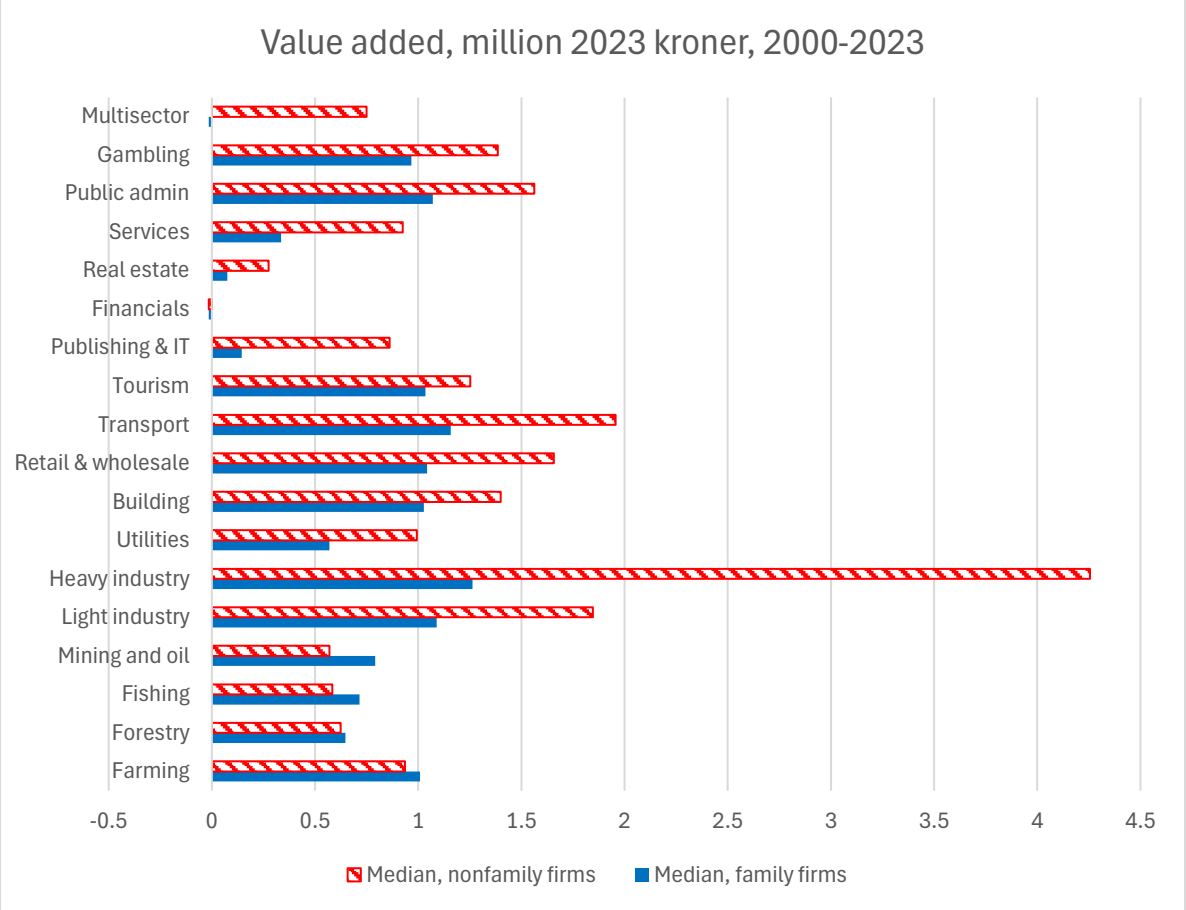

Total assets,million 2023 kroner, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
1000
2000
3000
4000
5000
6000
Mean, nonfamily firms
Mean, family firms


Total assets,million 2023 kroner, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
5
10
15
20
25
Median, nonfamily firms
Median, family firms

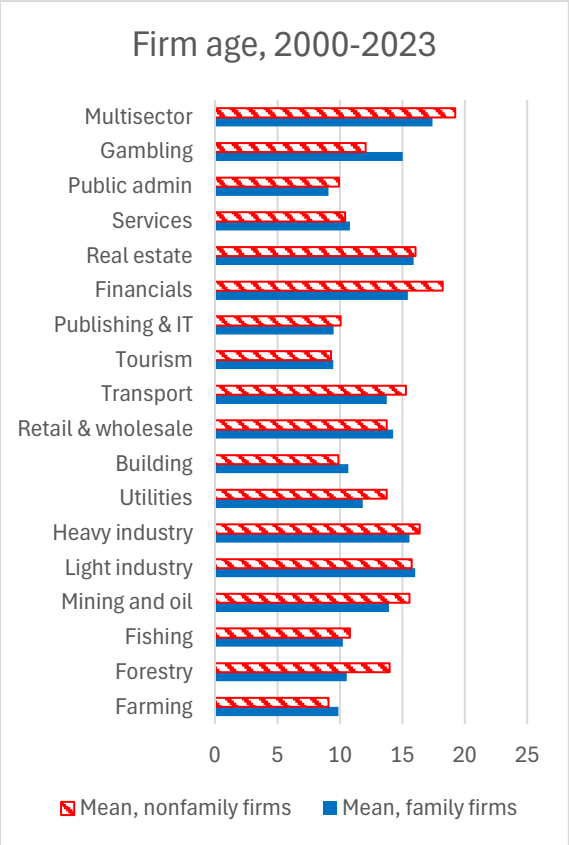

Number of employees, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
50
100
150
200
Mean, nonfamily firms
Mean, family firms

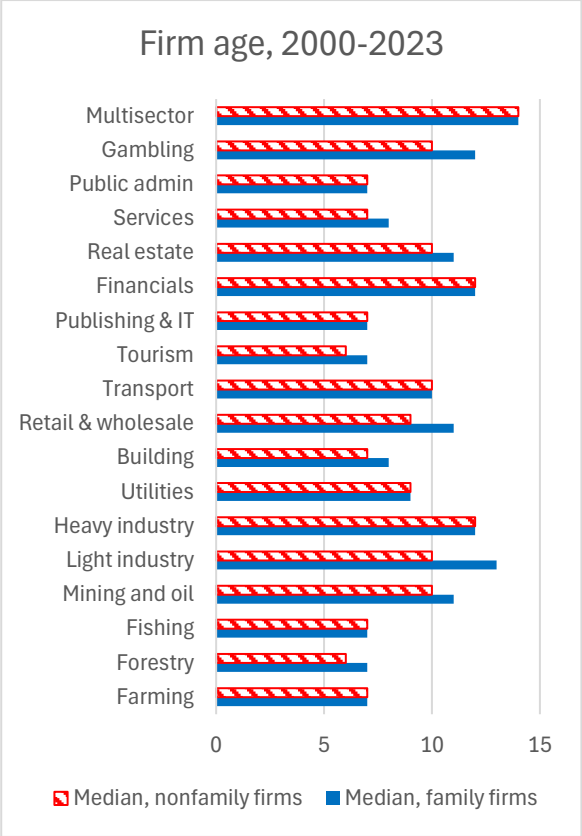

Number of employees, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
5
10
15
Median, nonfamily firms
Median, family firms


Value added, million 2023 kroner, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
200
400
600
800
1000
1200
1400
1600
Mean, nonfamily firms
Mean, family firms

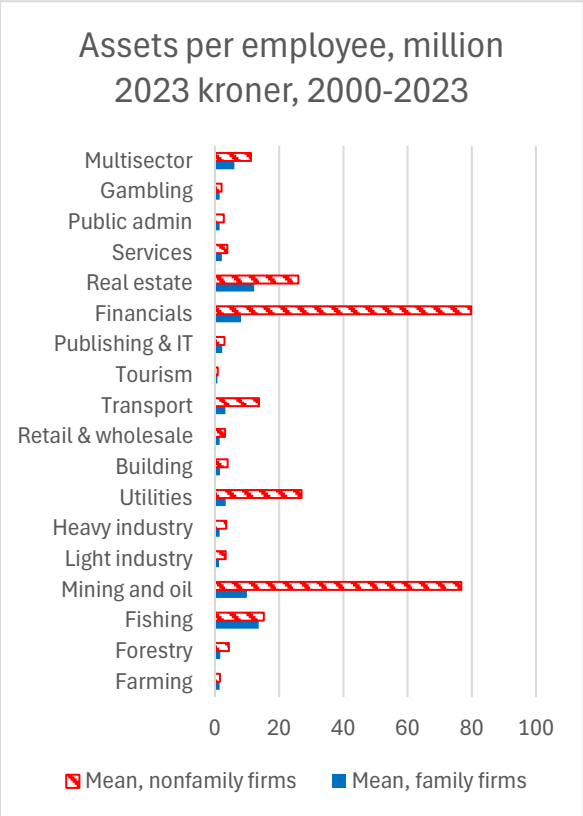

Value added, million 2023 kroner, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-0.5
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
Median, nonfamily firms
Median, family firms

The typical firm age of family and nonfamily firms is quite similar across industries.

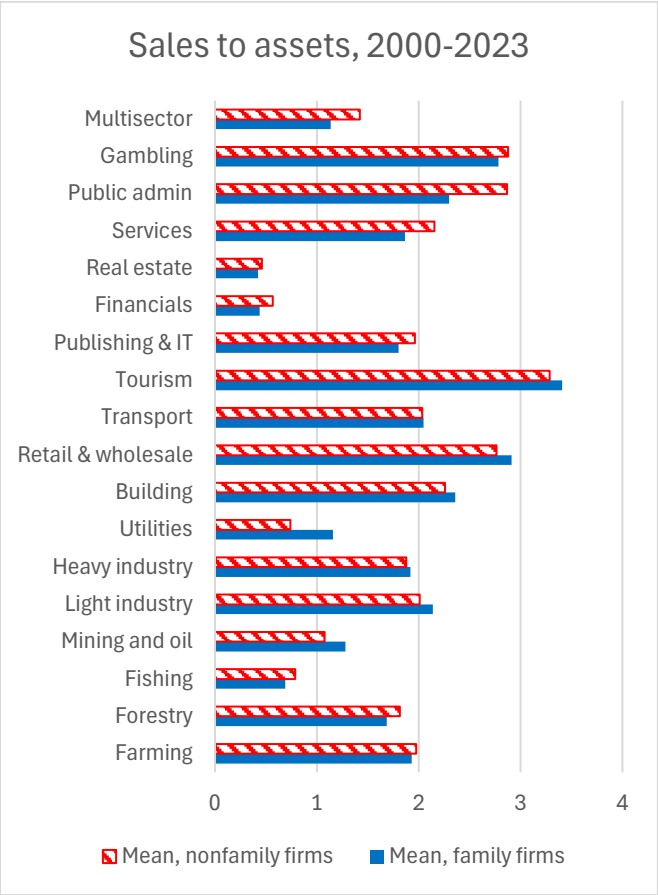


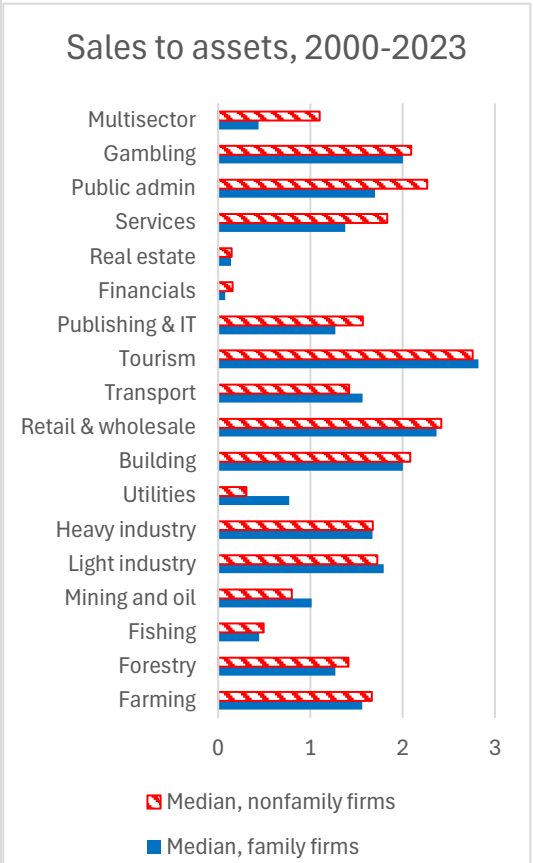


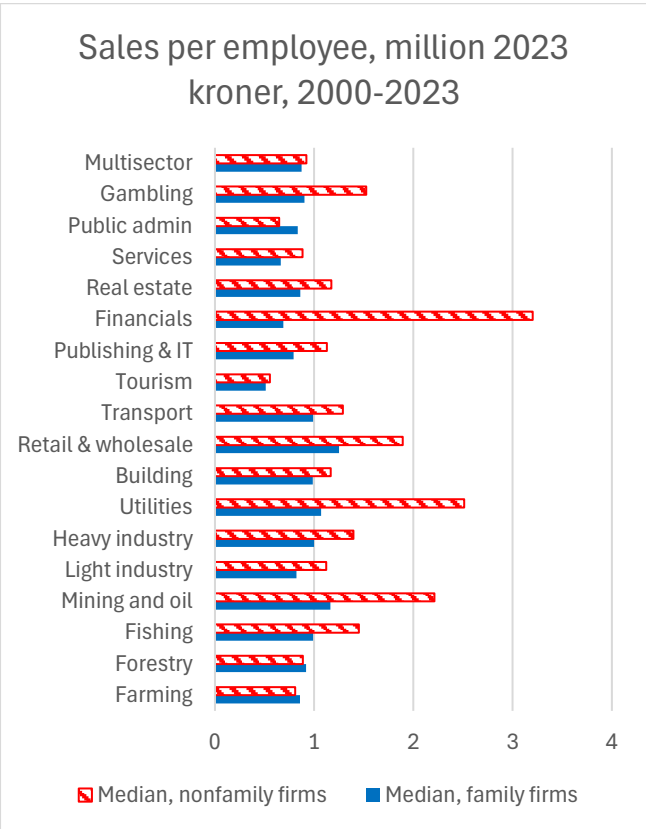
Nonfamily firms are more capital intensive than family firms. The difference is particularly large in mining and oil and utilities.

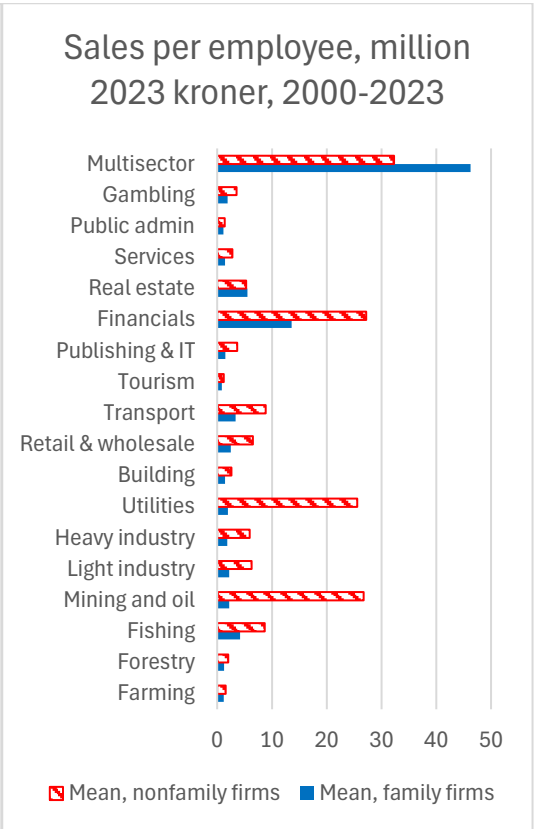


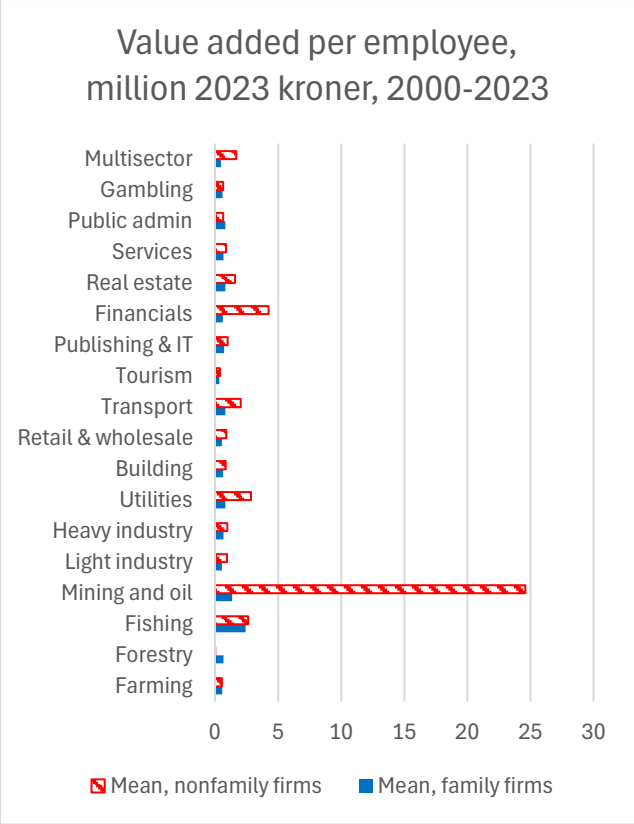
The lower capital intensity of family firms is also illustrated by their higher sales to assets ratios compared to sales and value added per employee.

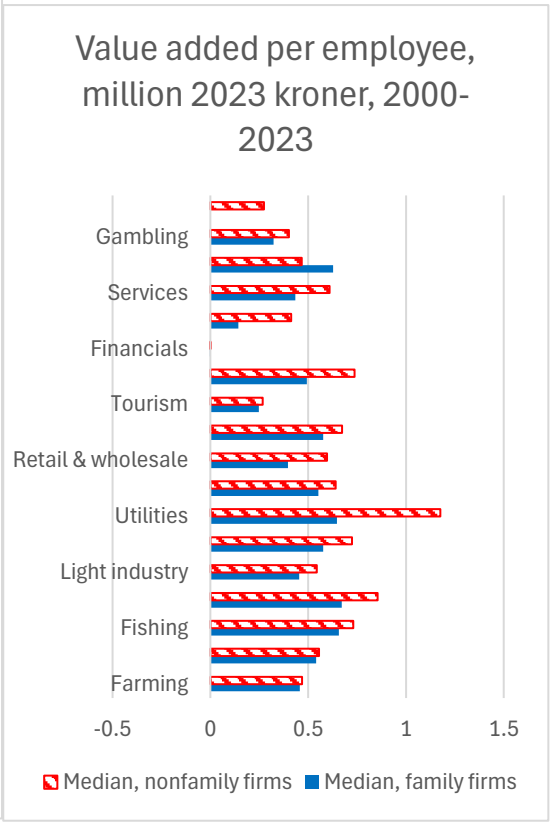




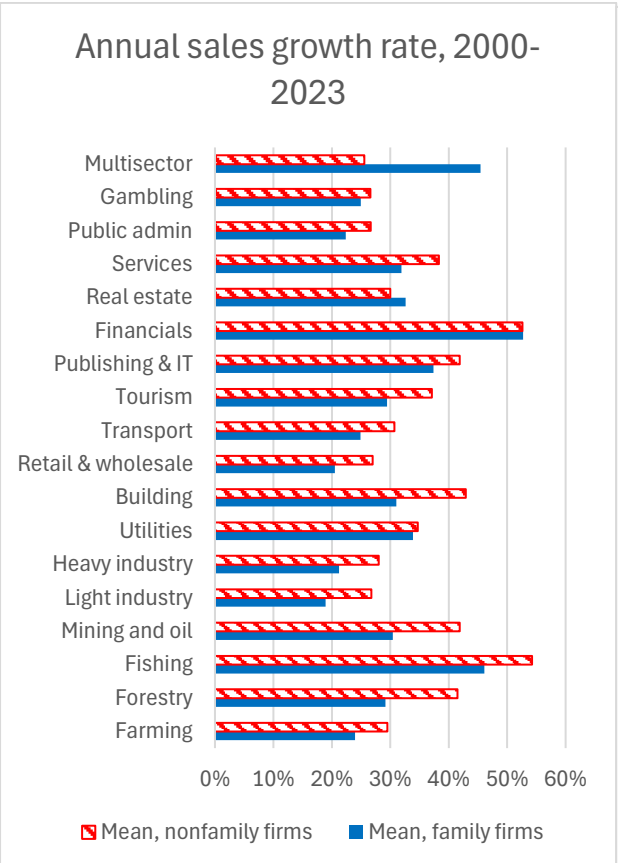


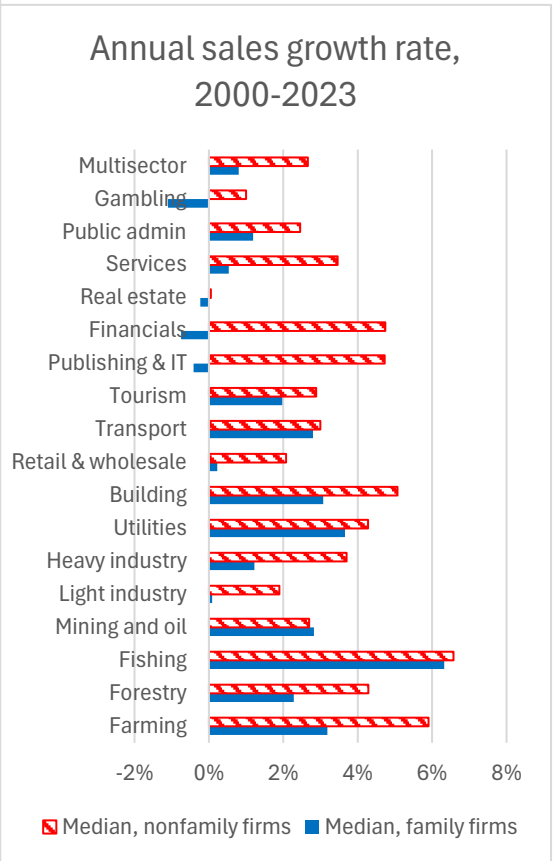


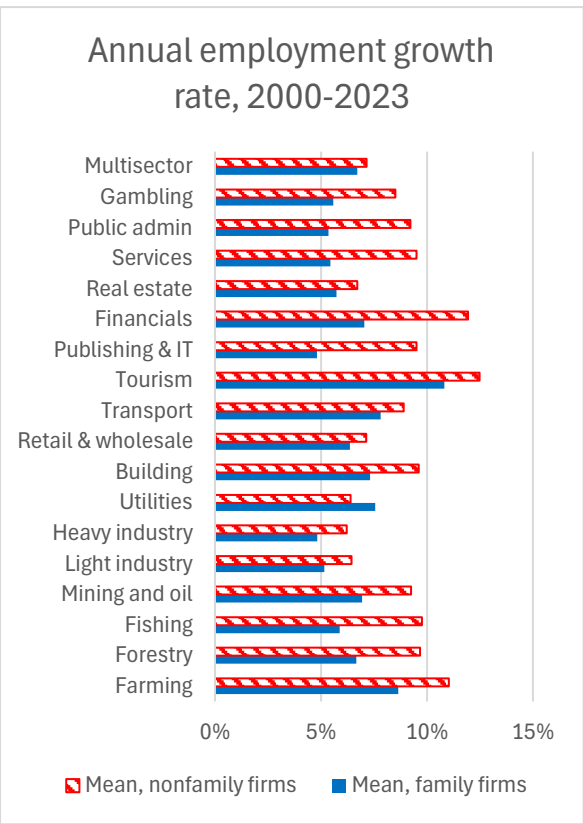


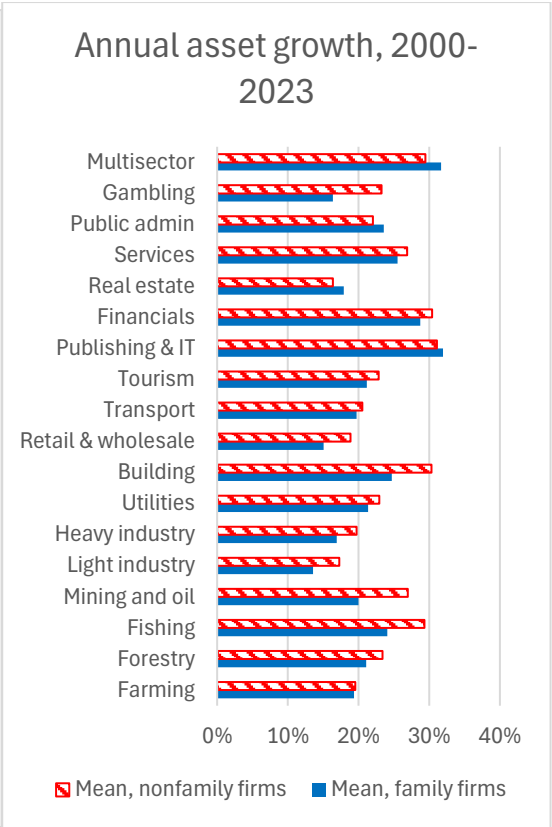


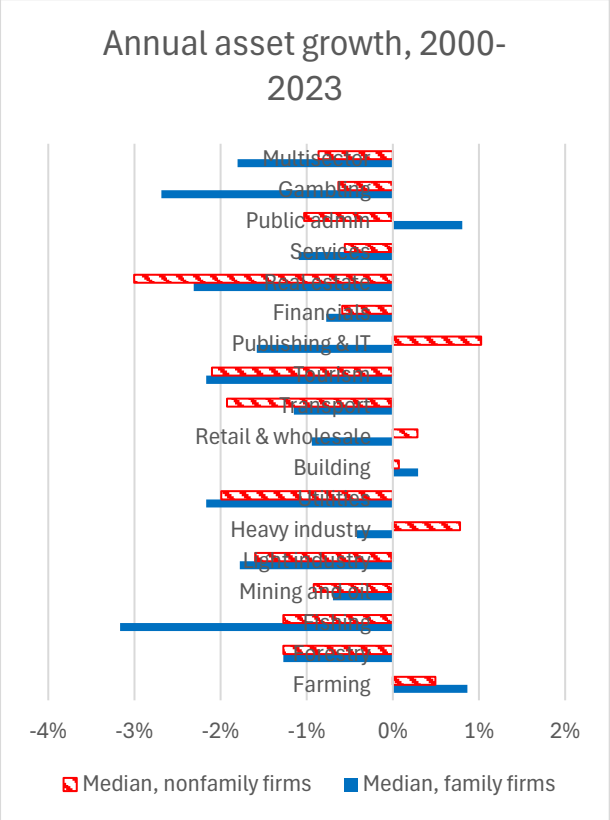
The growth rates of sales, assets, and employment have been higher form nonfamily than for family firms in most industries. An exception is multisector firms, which are active in multiple industries.



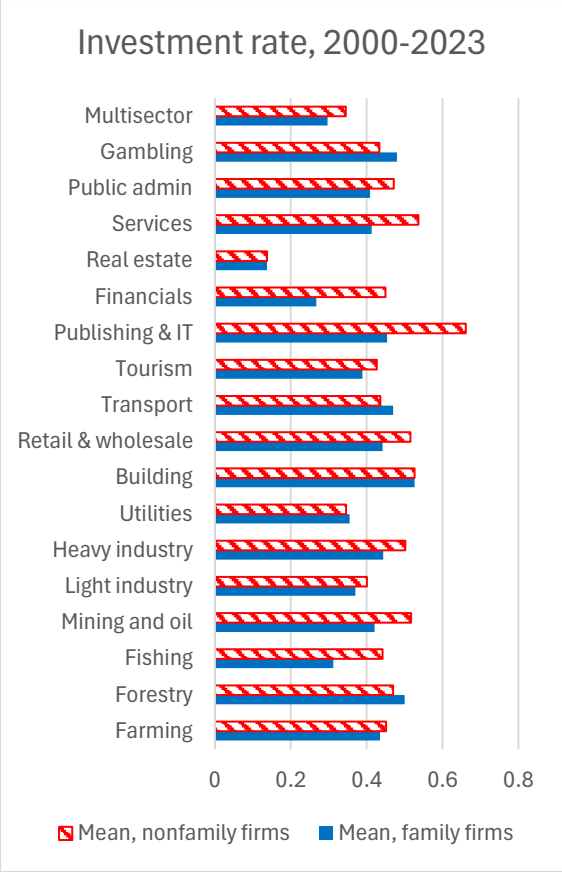


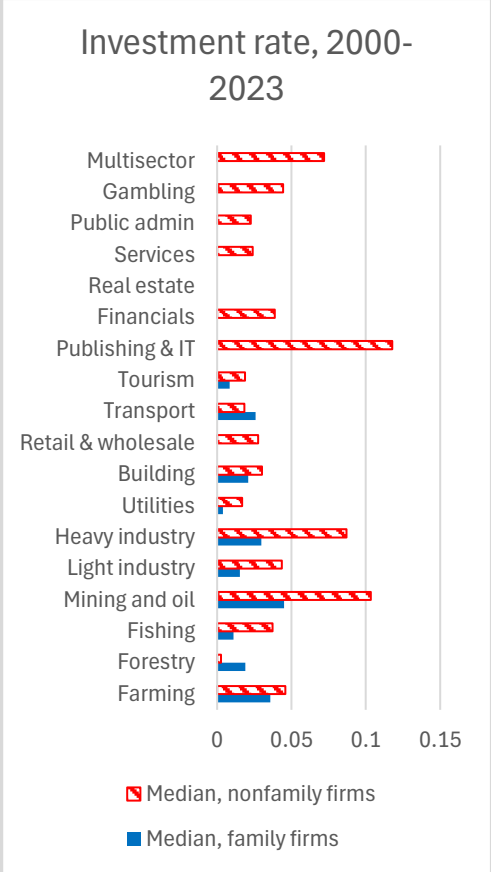




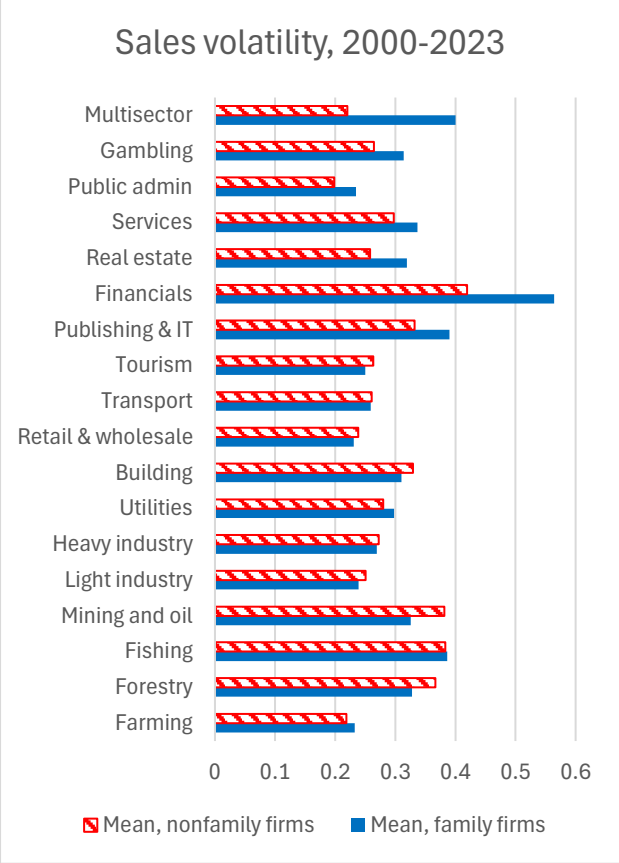


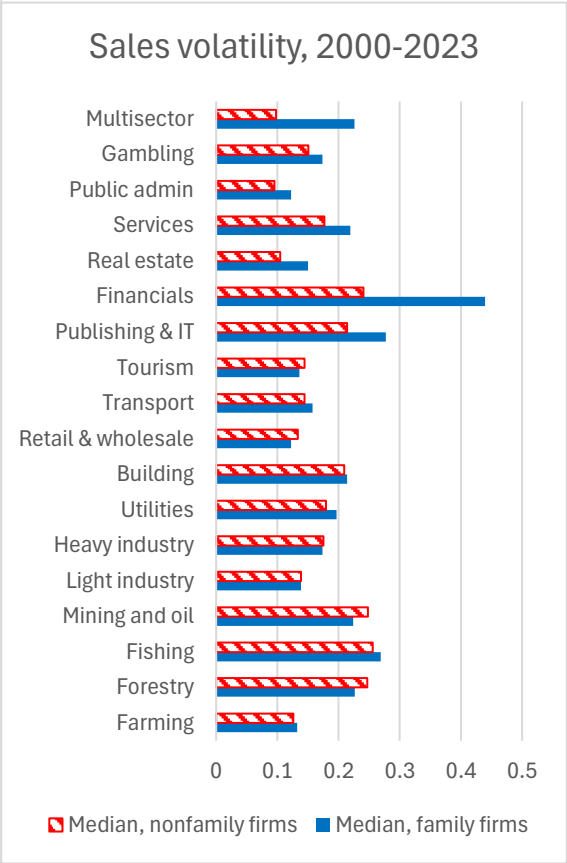
The mean investment rates of family firms is comparable to that of nonfamily firms. The highest investment rates in recent years have been in IT and mining and oil.



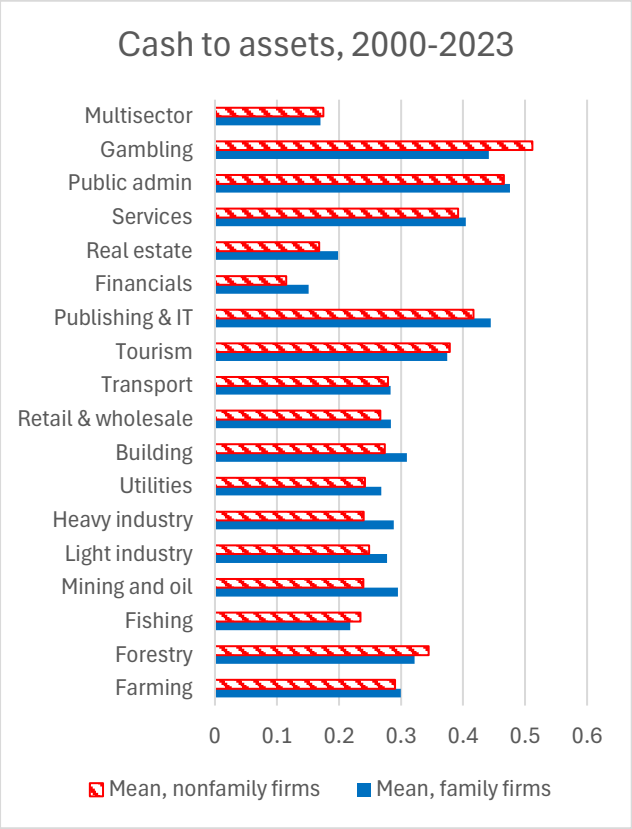


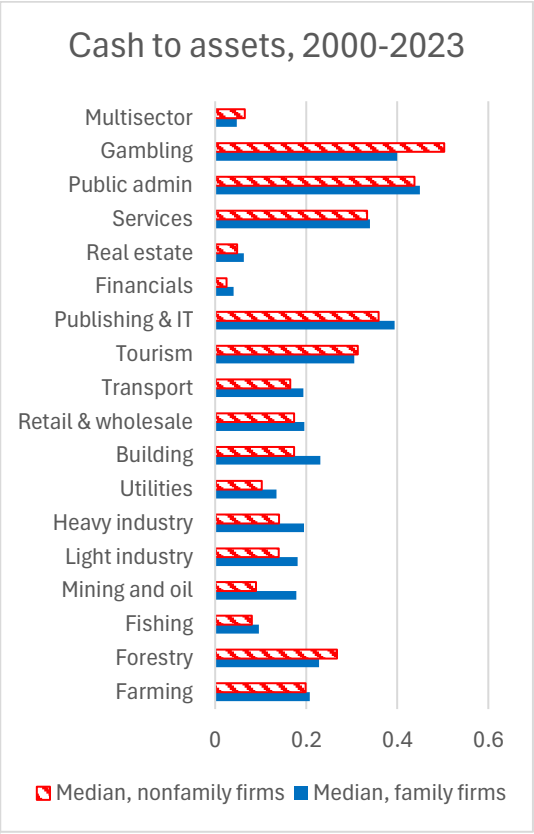
The volatility of sales is similar or slightly higher in the case of family firms.

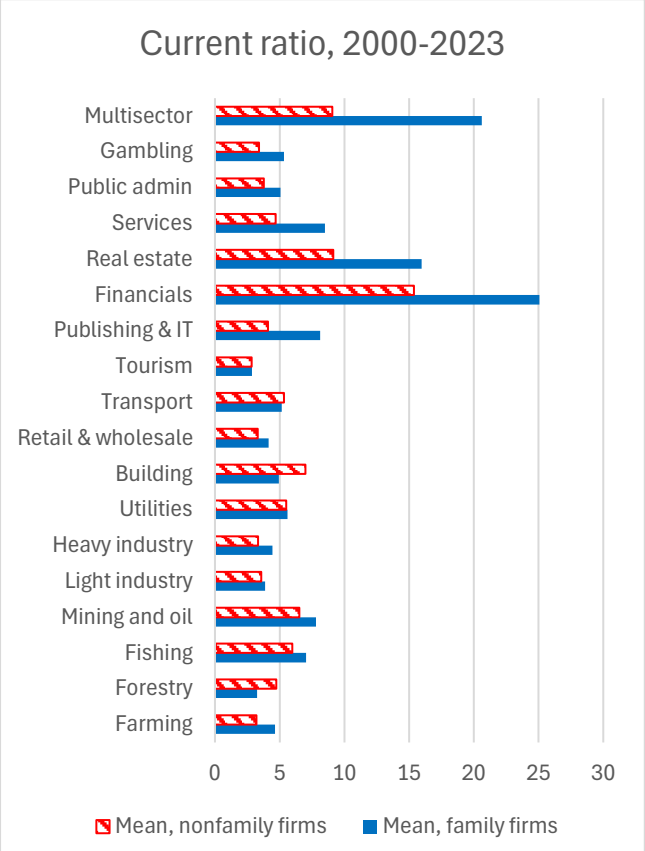


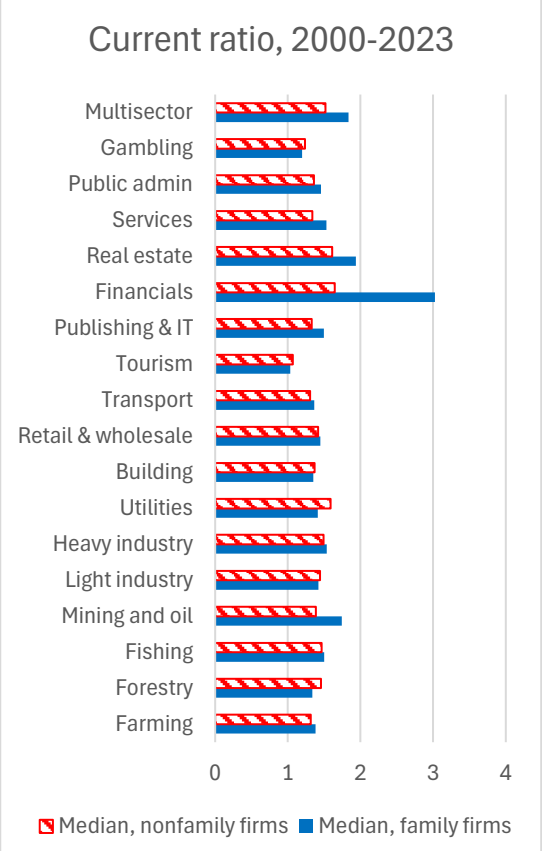


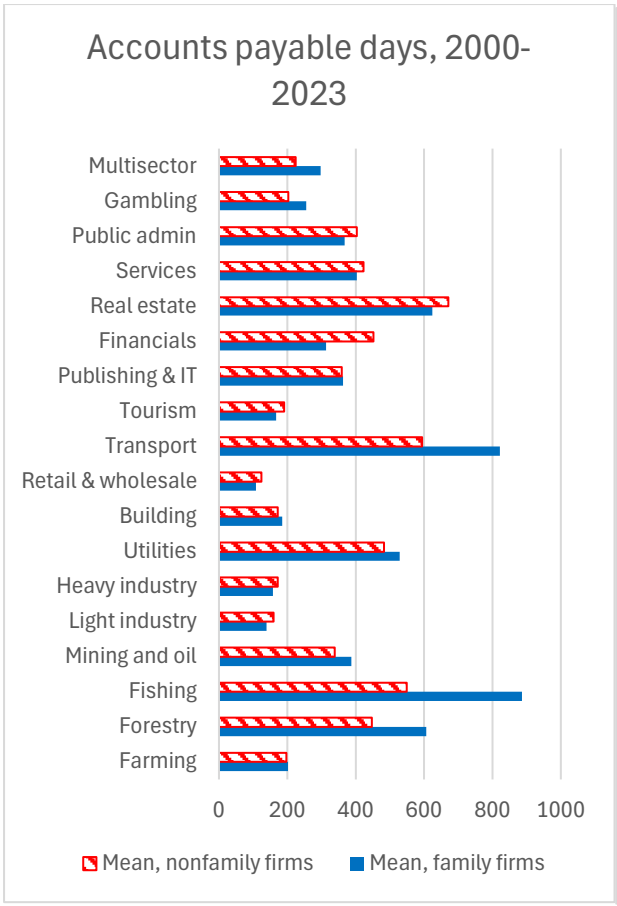
The liquidity position of family firms is usually better across industries, as illustrated by the cash to assets ratio and the current ratio.

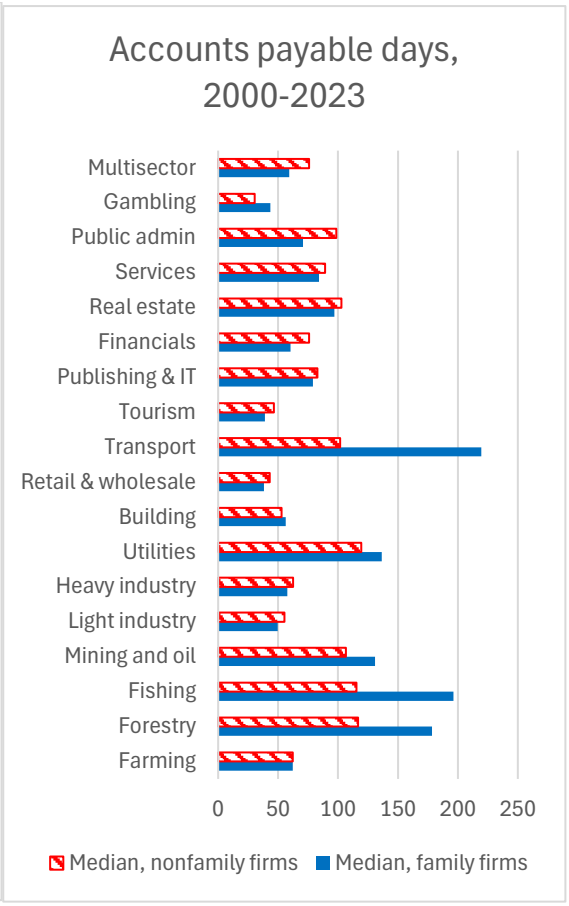


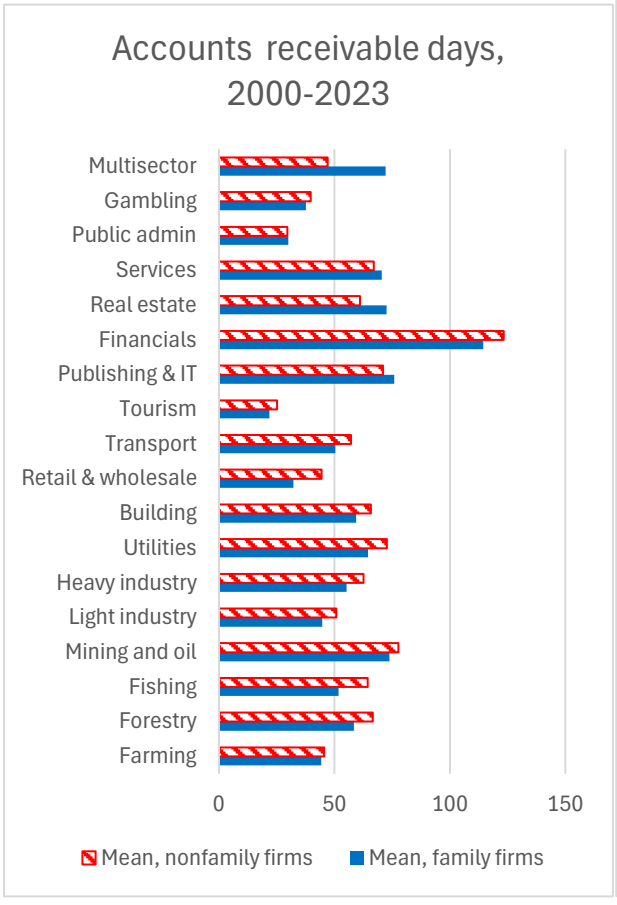


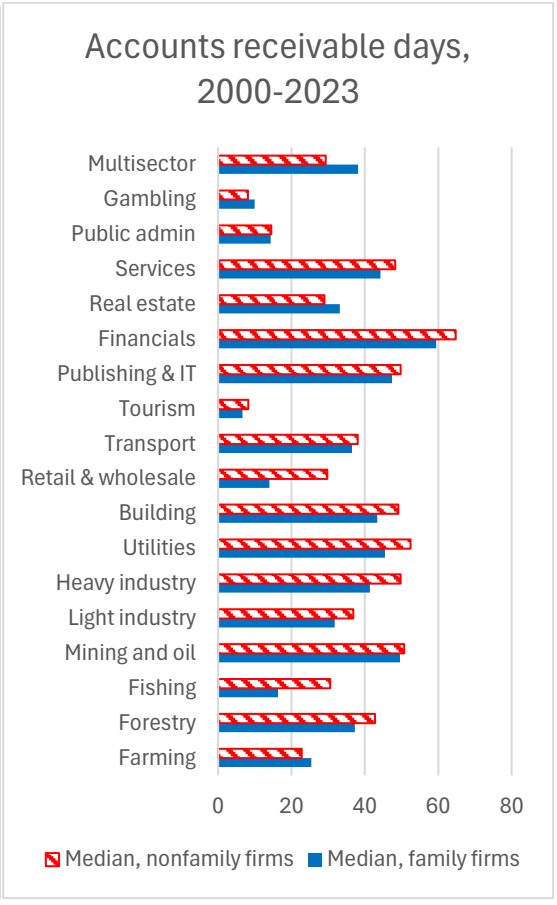


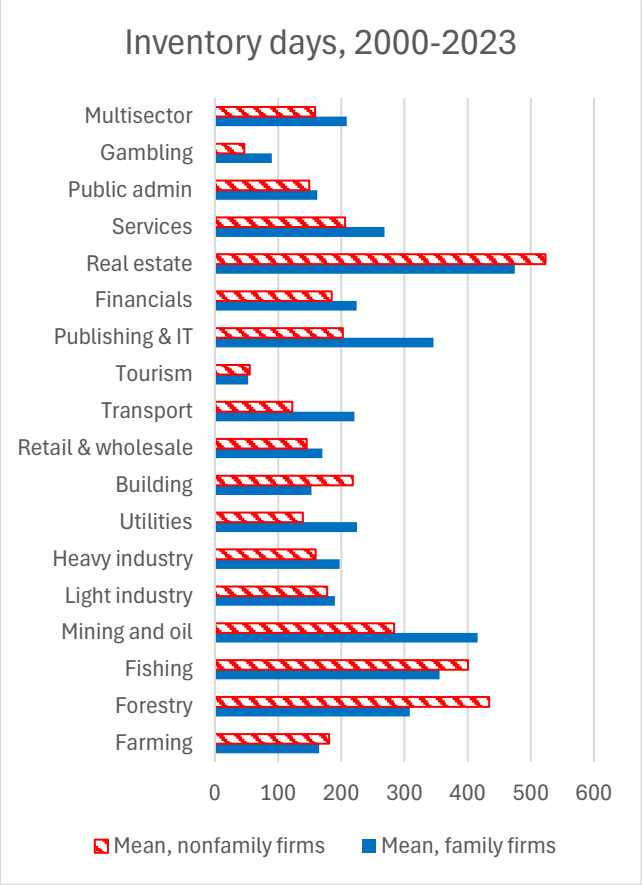


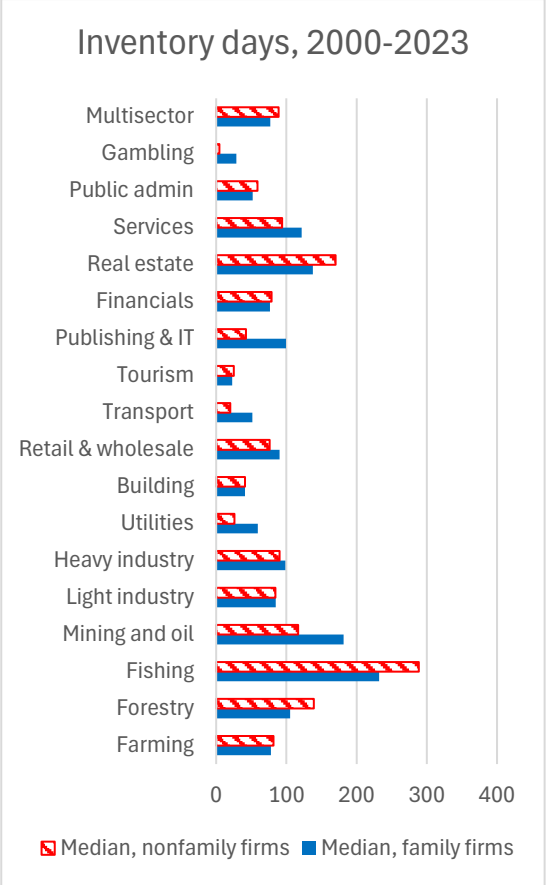

Accounts payable days, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
200
400
600
800
1000
Mean, nonfamily firms
Mean, family firms

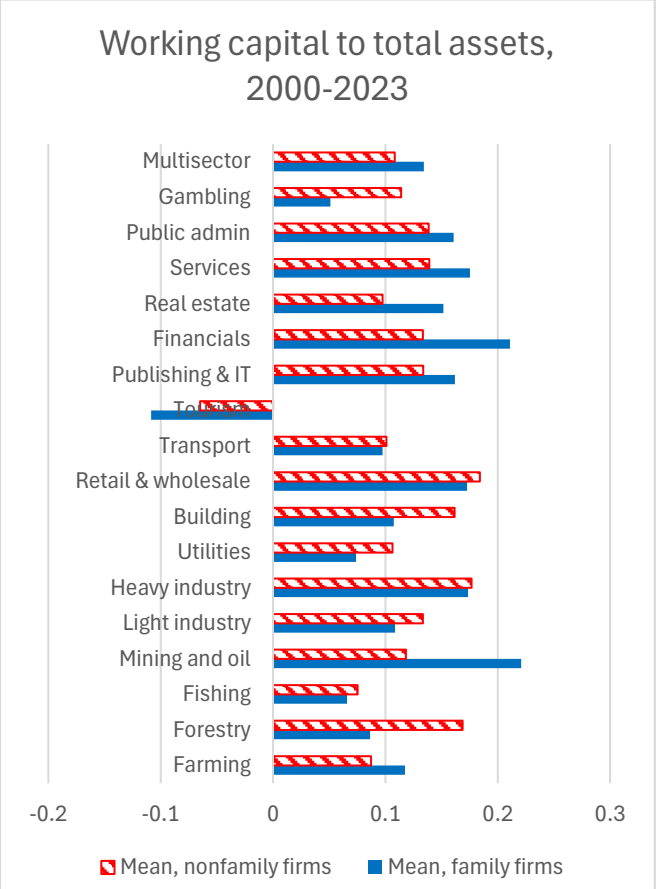

Accounts payable days, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
50
100
150
200
250
Median, nonfamily firms
Median, family firms

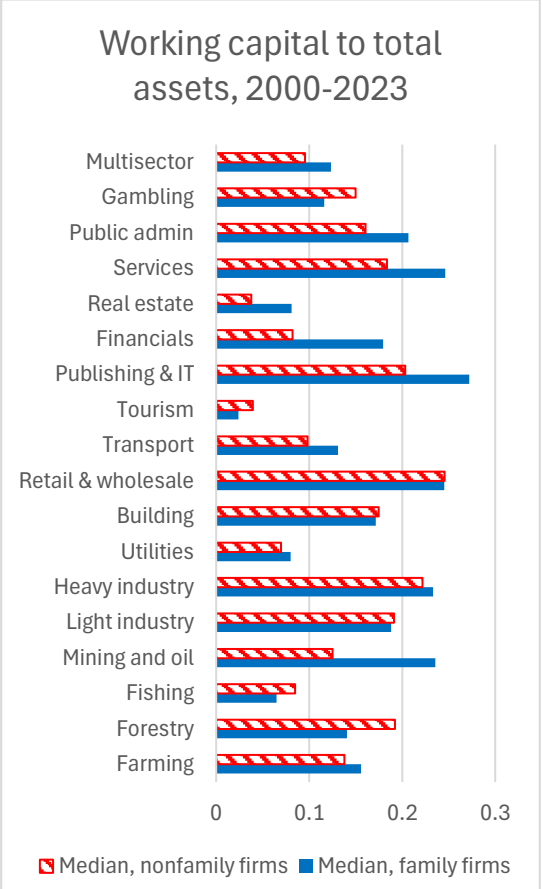

Accounts receivable days, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
50
100
150
Mean, nonfamily firms
Mean, family firms


Accounts receivable days, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
20
40
60
80
Median, nonfamily firms
Median, family firms

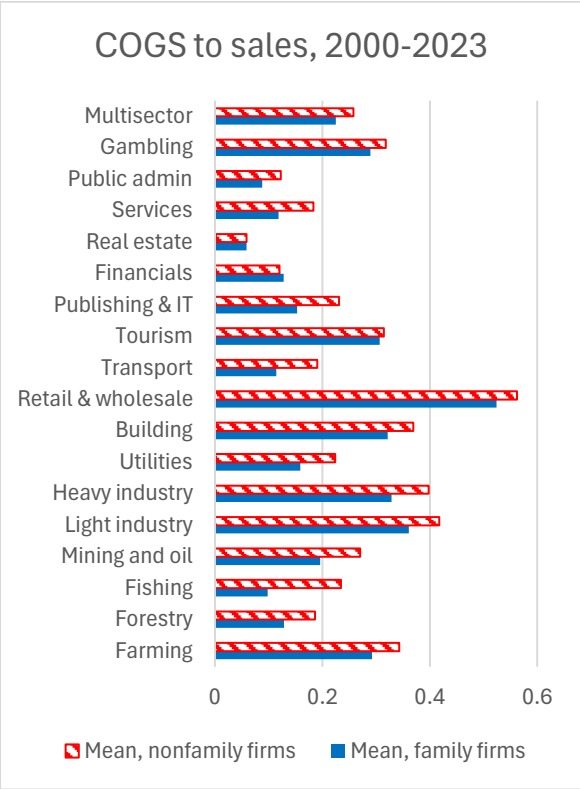

Inventory days, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
100
200
300
400
500
600
Mean, nonfamily firms
Mean, family firms

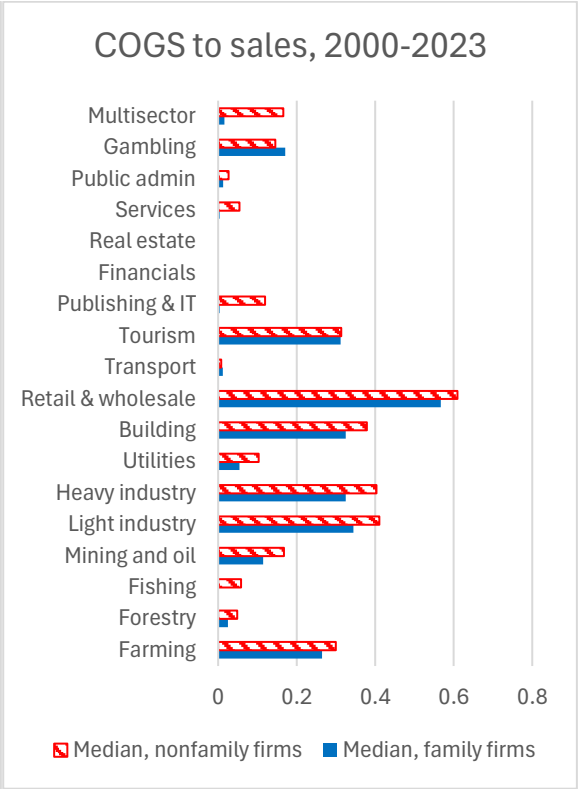

Inventory days, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
100
200
300
400
Median, nonfamily firms
Median, family firms


Working capital to total assets, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-0.2
-0.1
0
0.1
0.2
0.3
Mean, nonfamily firms
Mean, family firms

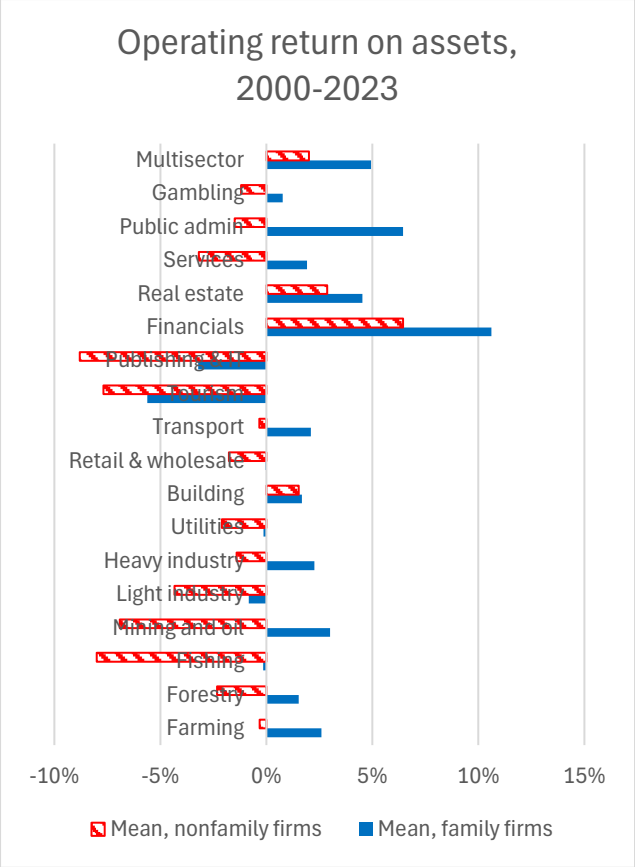

Working capital to total assets, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
0.1
0.2
0.3
Median, nonfamily firms
Median, family firms

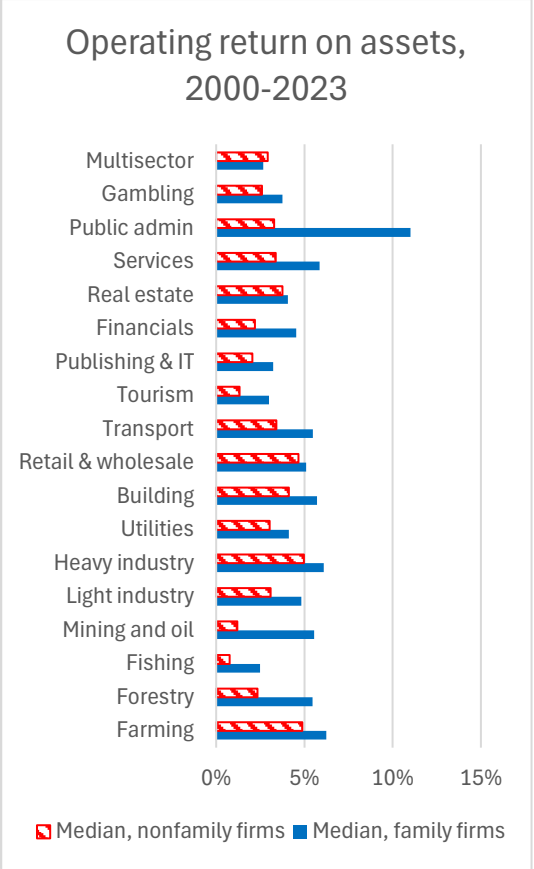
The ratio of direct costs (COGS) to sales is slightly lower in family firms than in nonfamily firms across industries. The largest ratio, unsurprisingly, is in retail and wholesale.

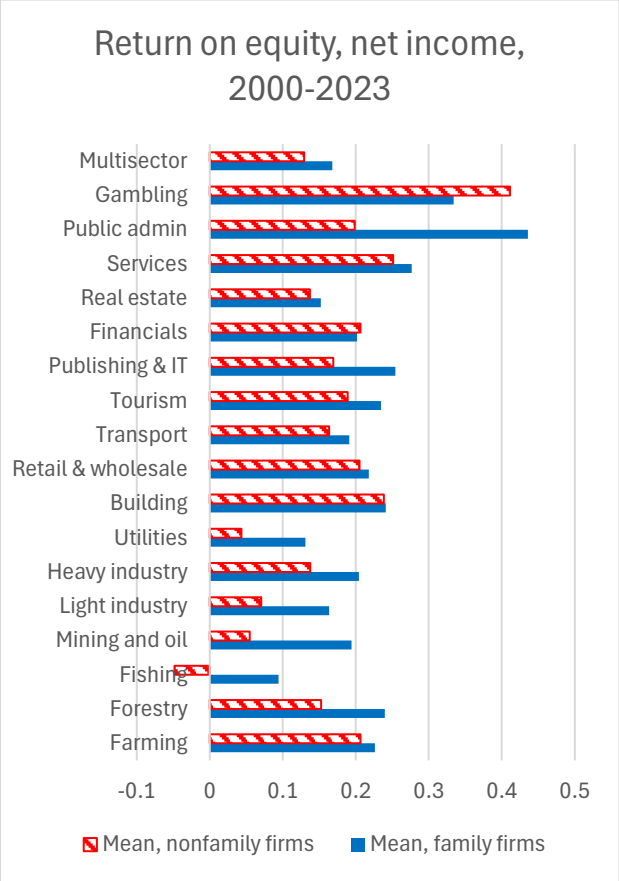


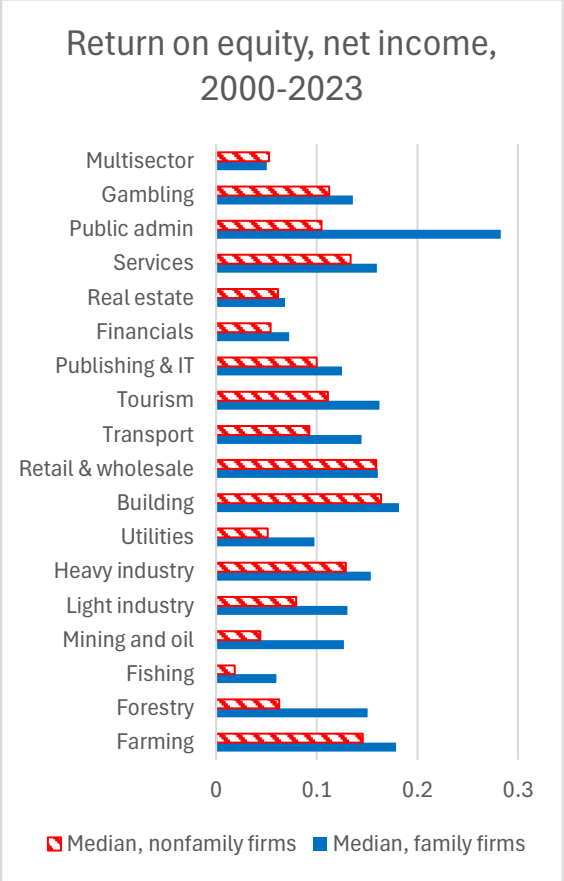


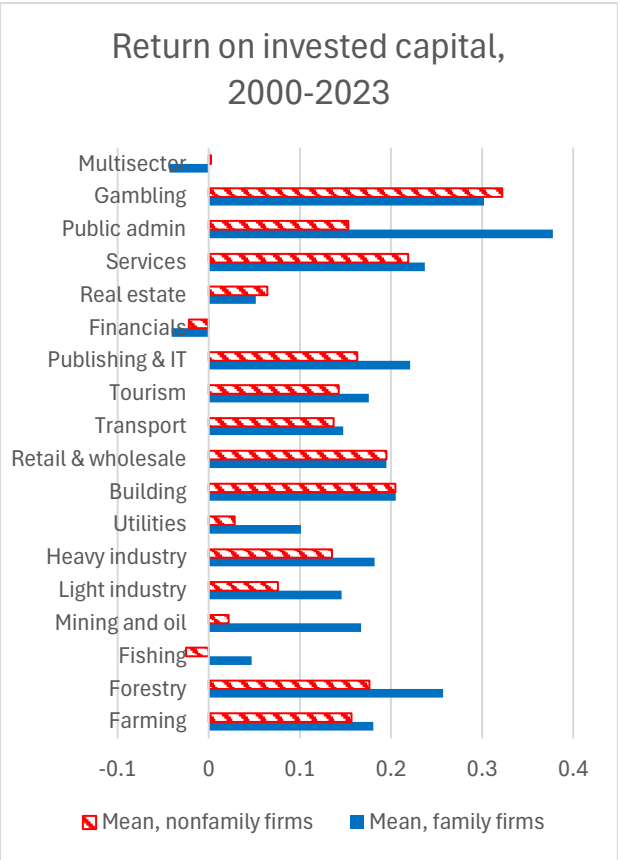
Family firms are more profitable than nonfamily firms across industries, as measured by operating return on assets, returns on equity, and returns on invested capital.

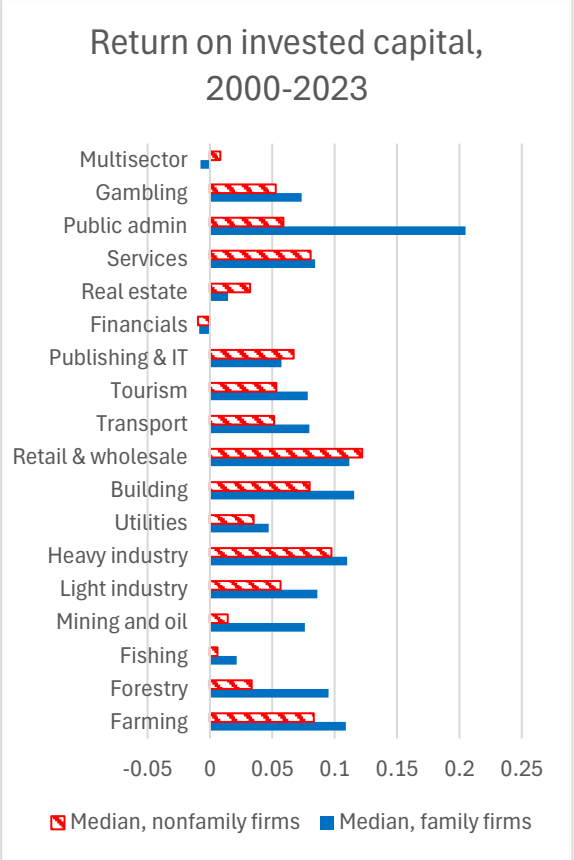

Operating return on assets, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-10%
-5%
0%
5%
10%
15%
Mean, nonfamily firms
Mean, family firms


Operating return on assets, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0%
5%
10%
15%
Median, nonfamily firms
Median, family firms

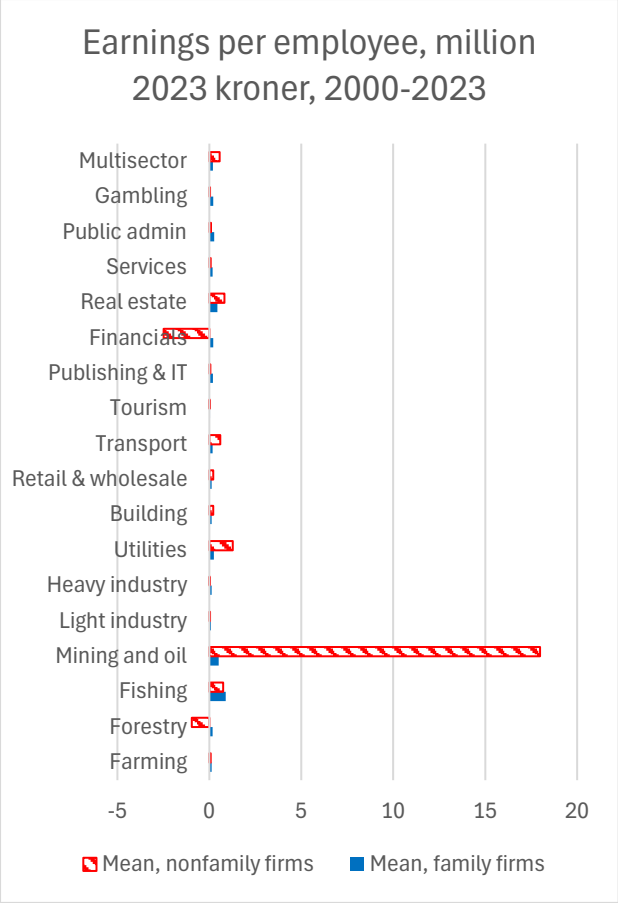

Return on equity, net income, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-0.1
0
0.1
0.2
0.3
0.4
0.5
Mean, nonfamily firms
Mean, family firms

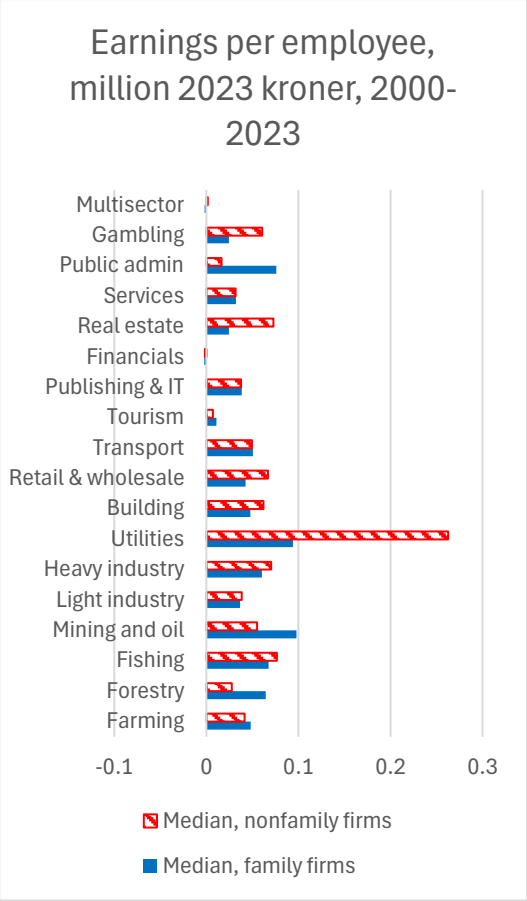

Return on equity, net income, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
0.1
0.2
0.3
Median, nonfamily firms
Median, family firms

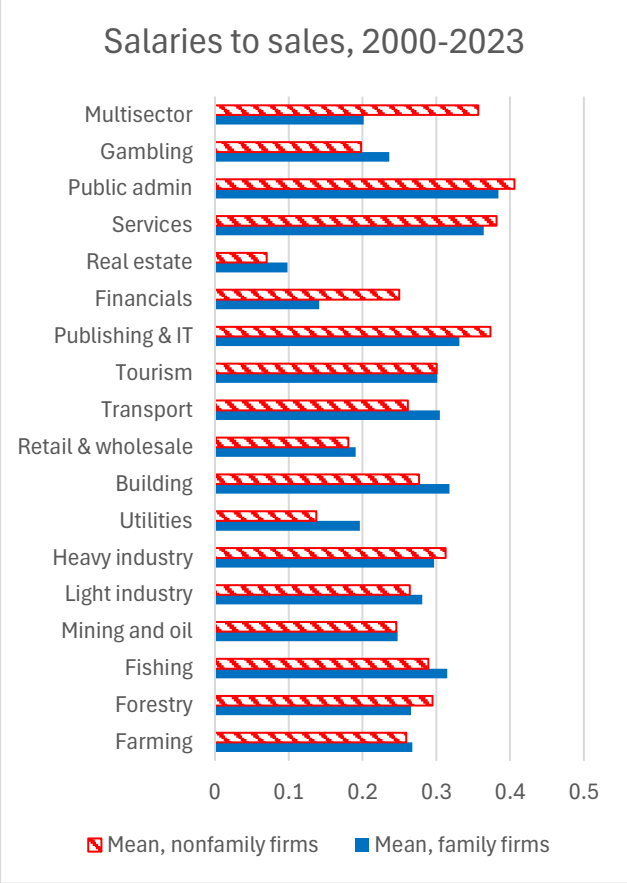


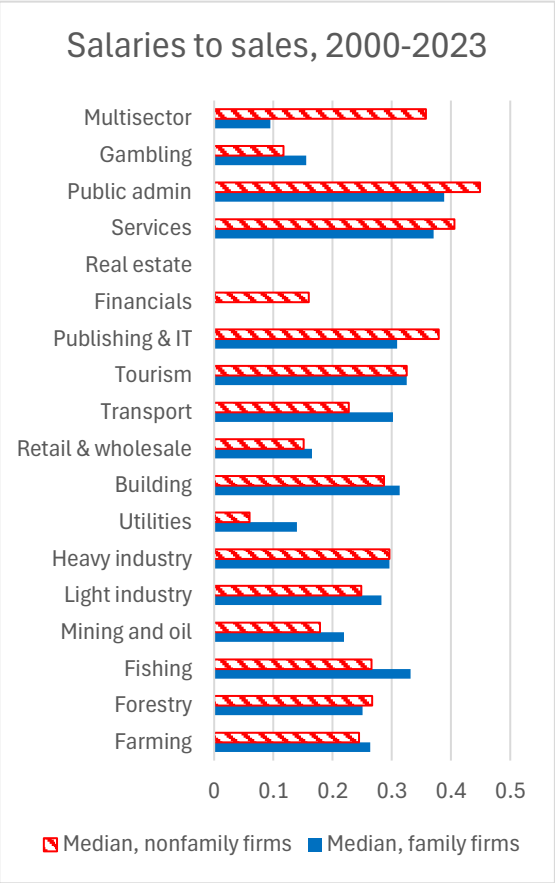


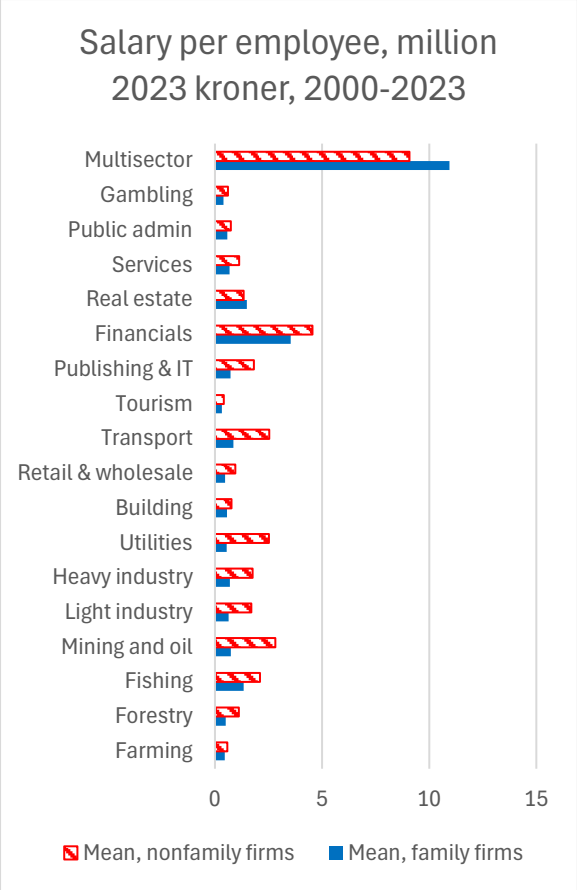
Given their higher labor intensity, family firms often generate lower earnings per employee – with a large difference in mining and oil. The ratio of salaries to sales is comparable for family and nonfamily firms, and is highest in services, including public services. Consistent with the existing literature (e.g. Sraer and Thesmar 2007), salaries per employee seem to be slightly lower in family firms.

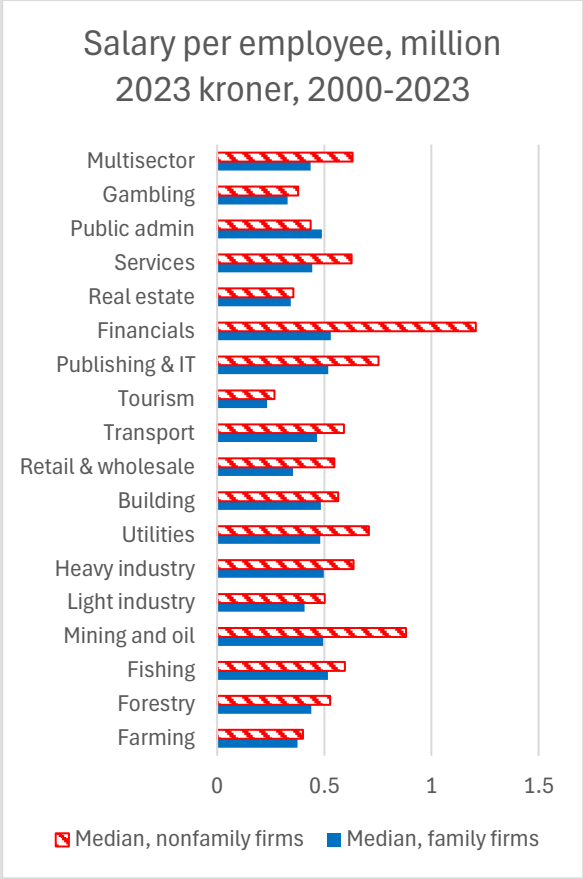

Earnings per employee, million 2023 kroner, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-5
0
5
10
15
20
Mean, nonfamily firms
Mean, family firms


Earnings per employee, million 2023 kroner, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-0.1
0
0.1
0.2
0.3
Median, nonfamily firms
Median, family firms

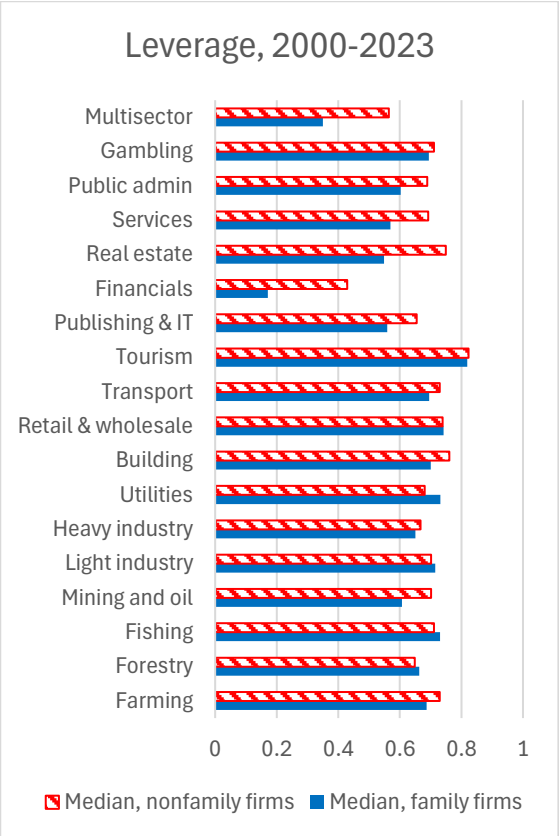

Salaries to sales, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
0.1
0.2
0.3
0.4
0.5
Mean, nonfamily firms
Mean, family firms

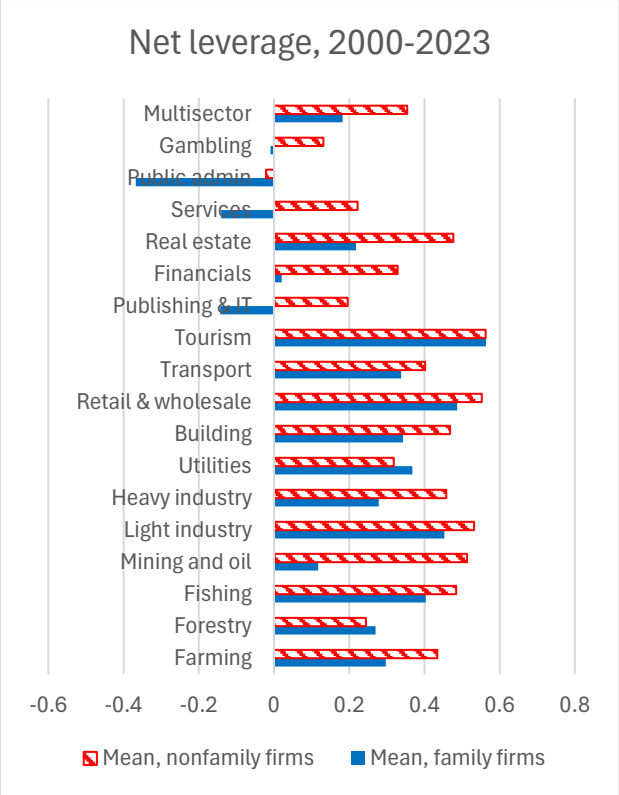

Salaries to sales, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
0.1
0.2
0.3
0.4
0.5
Median, nonfamily firms
Median, family firms



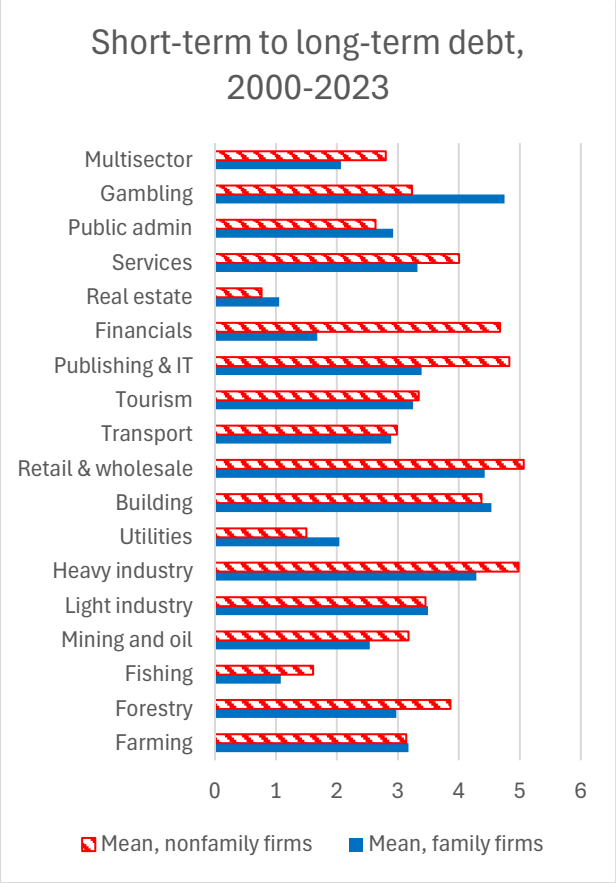


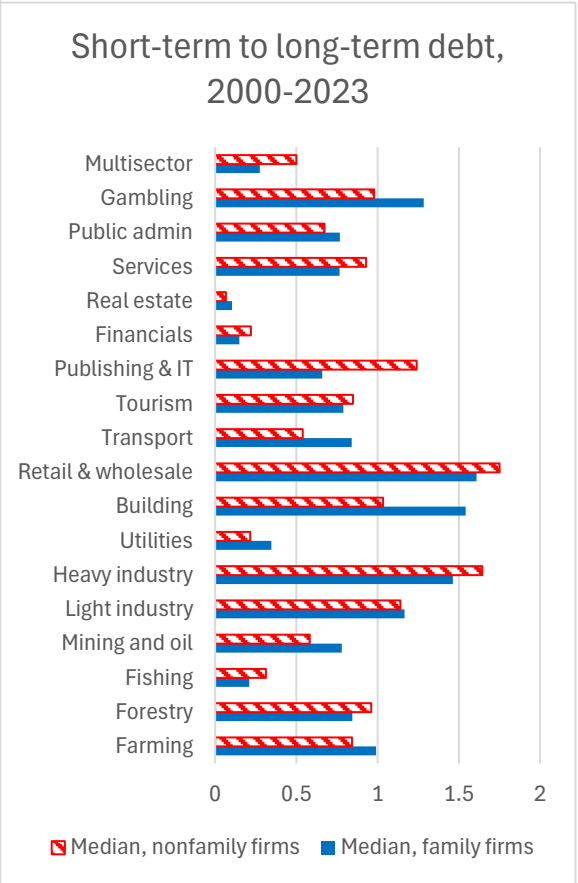
The leverage ratios of family and nonfamily firms are similar across industries, while the net leverage is lower, especially in services, IT, and mining and oil.

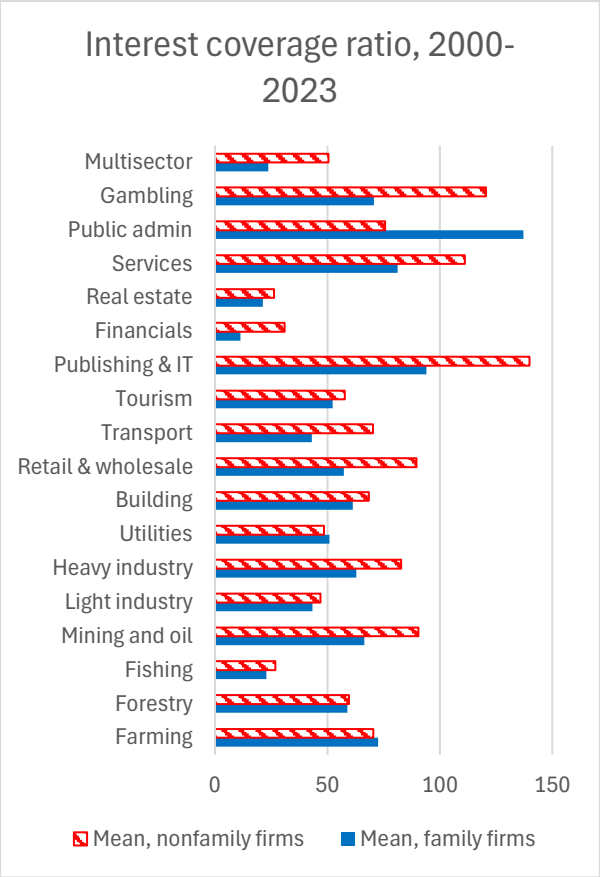


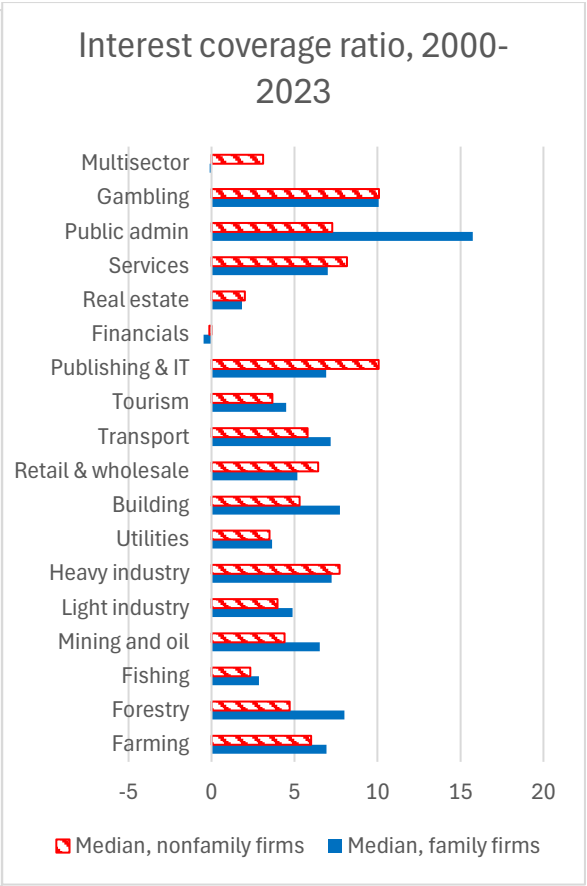

Net leverage, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
Mean, nonfamily firms
Mean, family firms

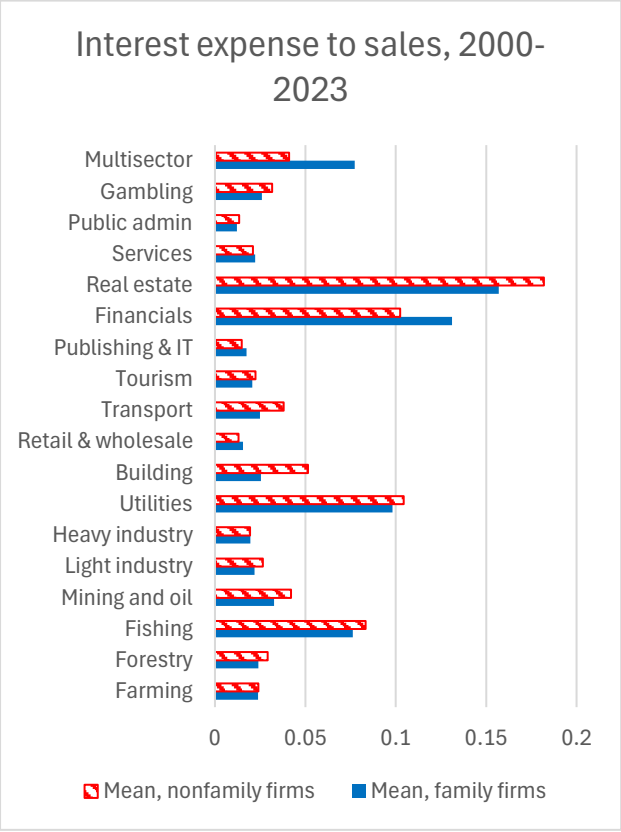

Net leverage, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
0.2
0.4
0.6
0.8
Median, nonfamily firms
Median, family firms

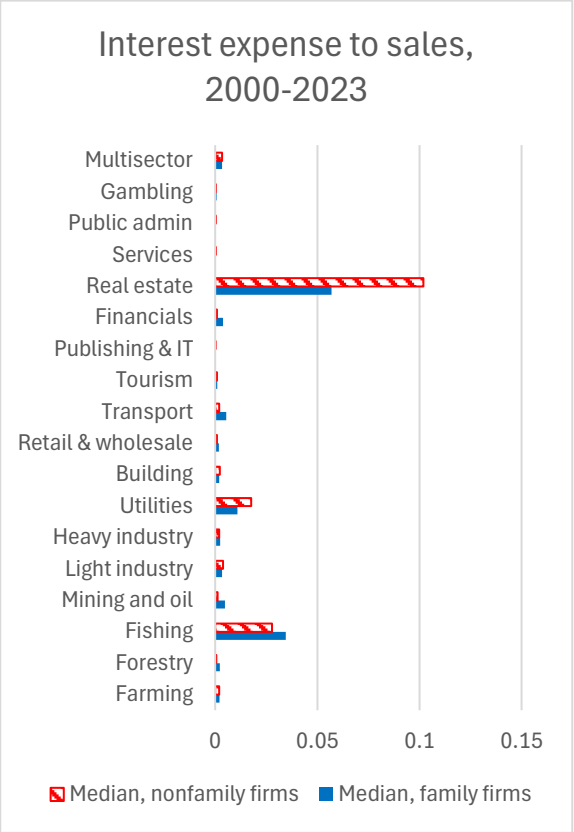

Short-term to long-term debt, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
1
2
3
4
5
6
Mean, nonfamily firms
Mean, family firms


Short-term to long-term debt, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
0.5
1
1.5
2
Median, nonfamily firms
Median, family firms

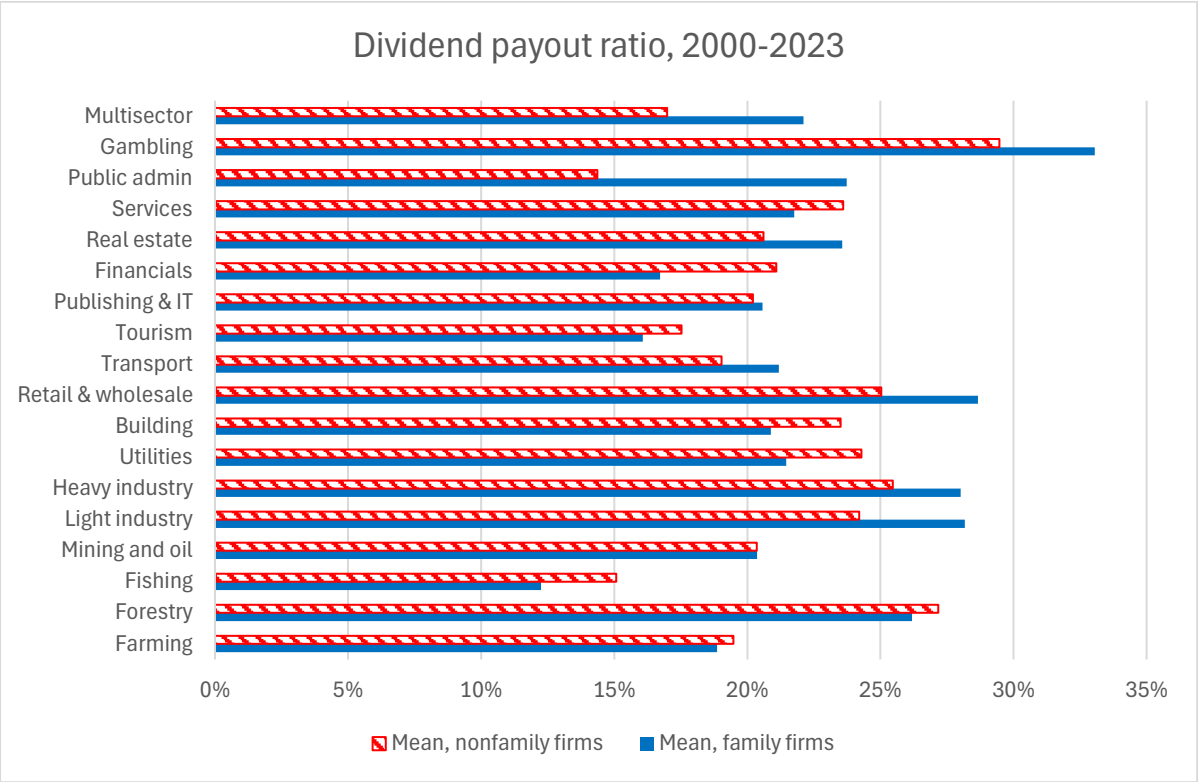

Interest coverage ratio, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
50
100
150
Mean, nonfamily firms
Mean, family firms

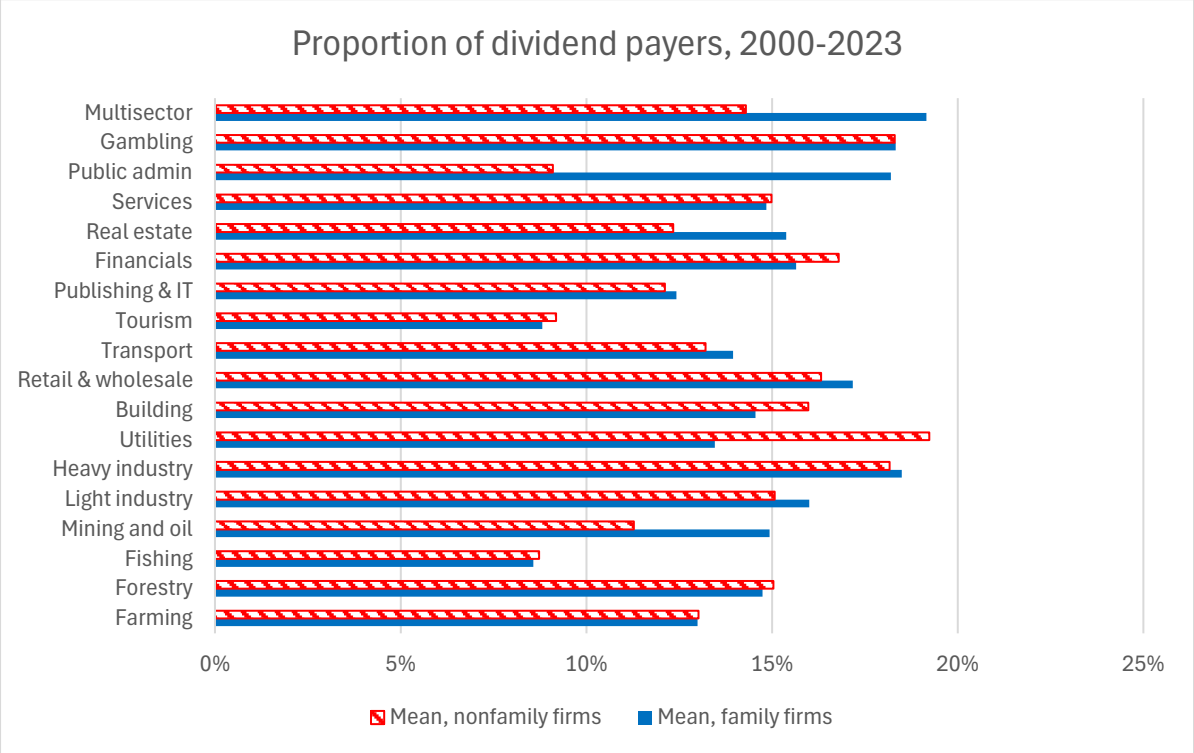

Interest coverage ratio, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-5
0
5
10
15
20
Median, nonfamily firms
Median, family firms


Interest expense to sales, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
0.05
0.1
0.15
0.2
Mean, nonfamily firms
Mean, family firms


Interest expense to sales, 2000-2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
0.05
0.1
0.15
Median, nonfamily firms
Median, family firms

Average dividend payout ratios and the proportion of dividend payers have been quite similar across industries, and between family and nonfamily firms.



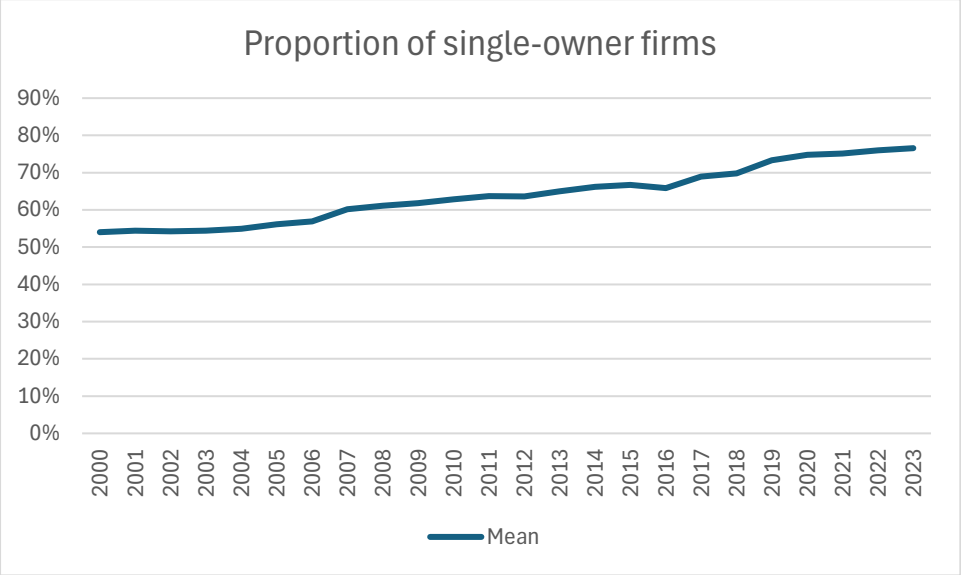


11. The governance of limited liability Norwegian firms

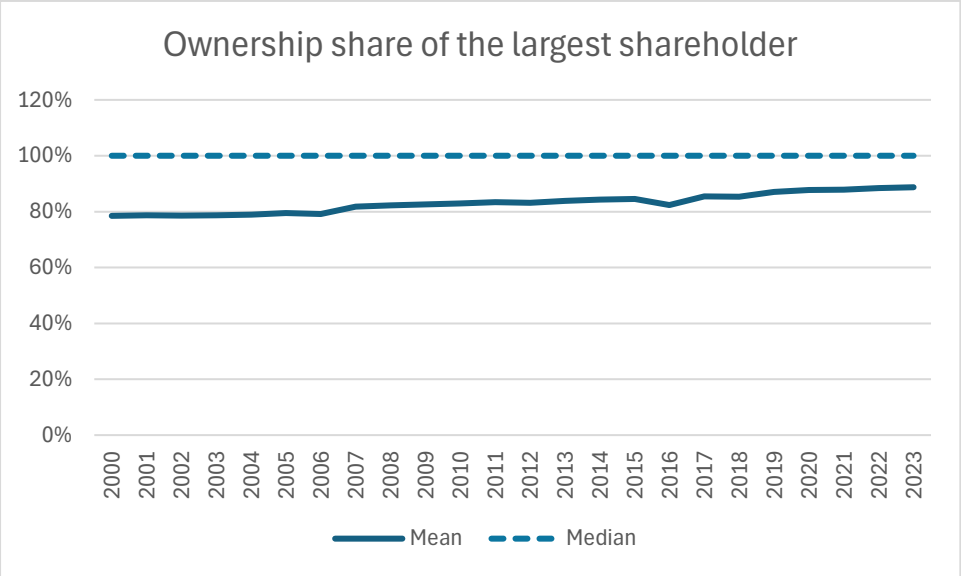
11.2. Ownership

We begin by examining the ownership of Norwegian limited liability firms. We group owners in families, look for ultimate ownership, and group firms in business groups so that one business group is one observation in our dataset. For business groups, we choose the holding company with the largest and most representative board.

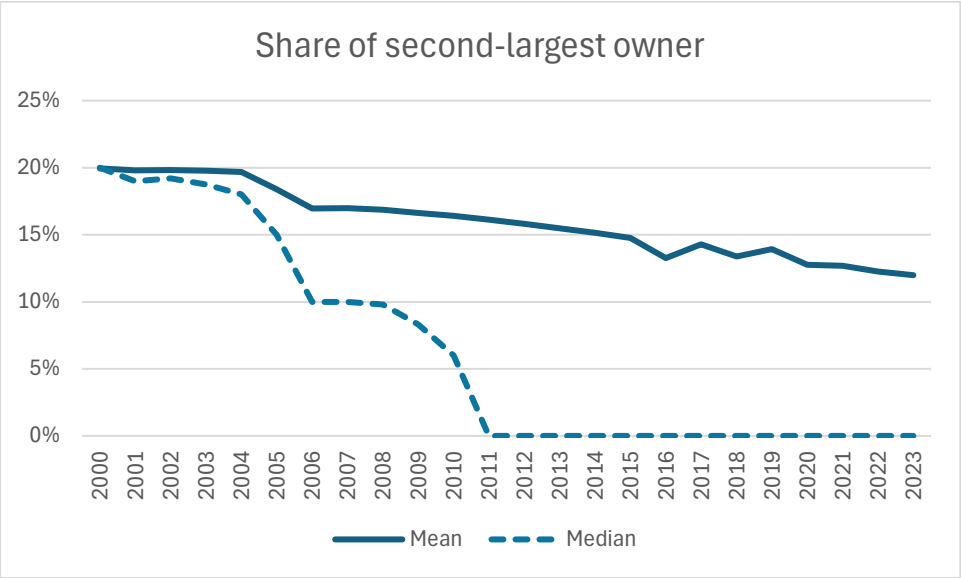
The proportion of single-owner firms has increased over time, partly as a result of the increase in the number of small limited liability firms after 2012. Around three quarters of limited liability firms are now completely owned by one individual, family, financial institution or foreign entity.



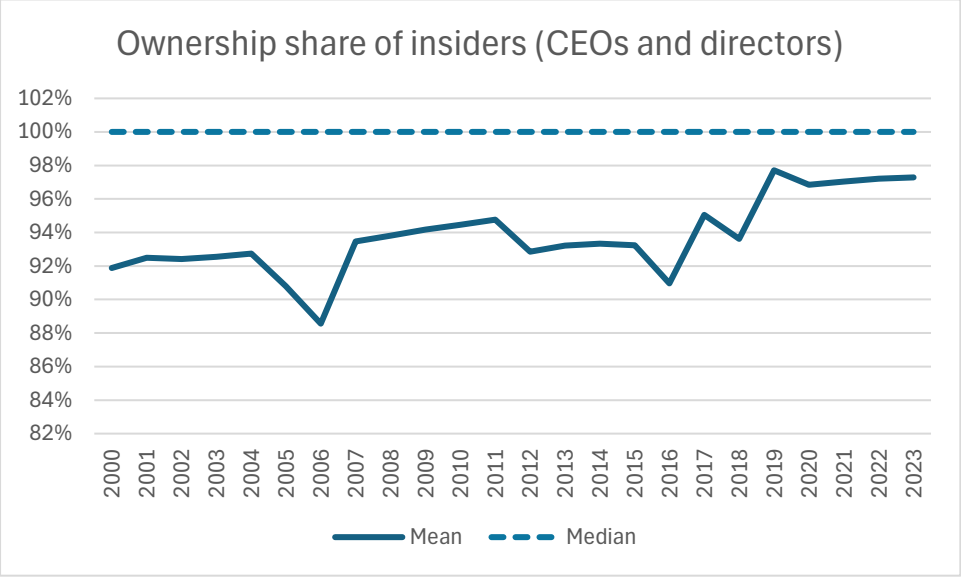
The median limited liability firm was a single-owner firm throughout the sample period. The mean ownership share of the largest shareholder has been increasing slightly over time from 80% to around 90%.



As the ownership share of the largest shareholder has been increasing, the share of second-largest shareholders has been decreasing.

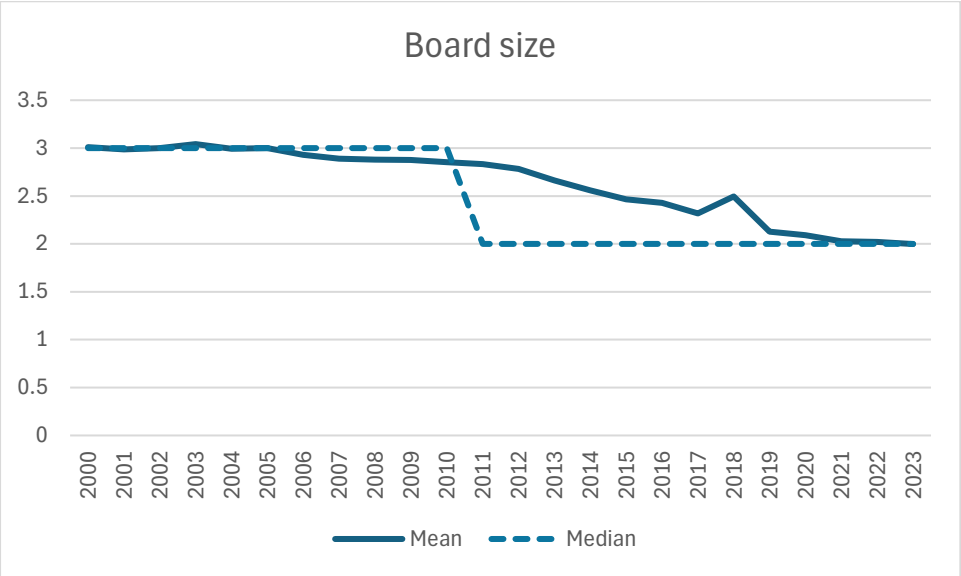


The average ownership share of insiders (CEO and members of the board of directors) in limited liability firms has always been high, but there has been an additional gradual increase in recent years.

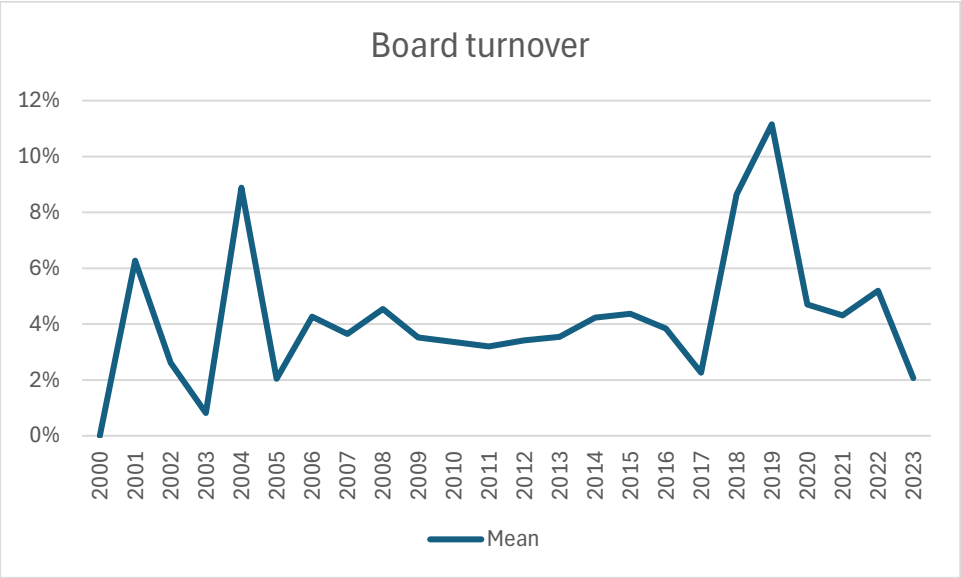


11.3. The board of directors

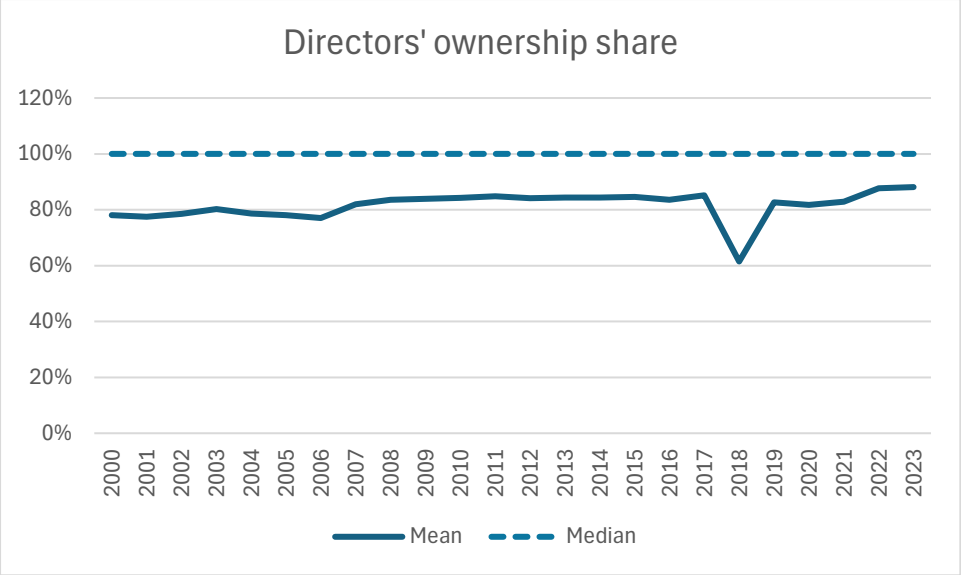
The typical board size in Norway is small by international standards. Given the increase in the number of small firms in recent years there has been an additional decrease in the average board size.

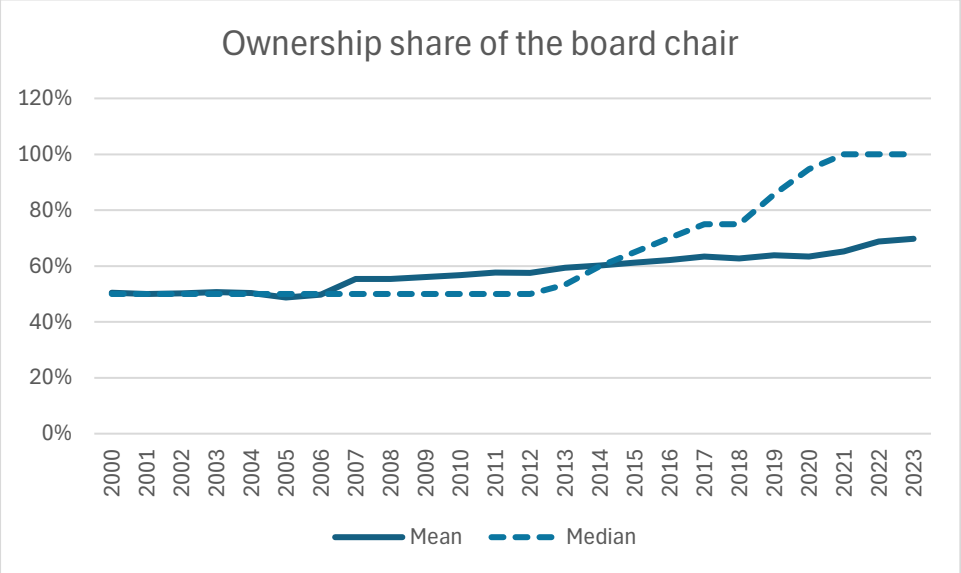


The directors of Norwegian companies are elected for limited terms – typically 2 years – and can be replaced by shareholders anytime. The board turnover rate (the proportion of directors replaced in a given year) over time reflects important events, such as the 2004 board gender quota for ASA firms.

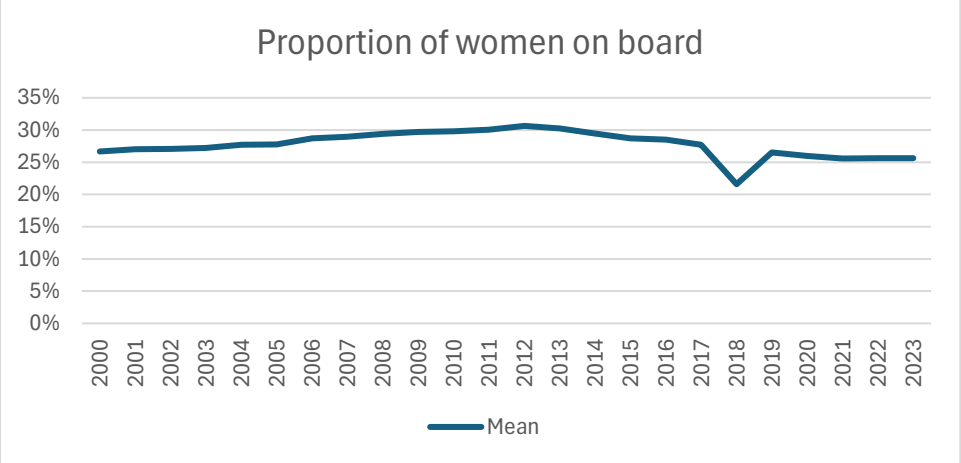


On average, directors own 80% of the equity in limited liability firms, and the chair of the board owns around 60%.

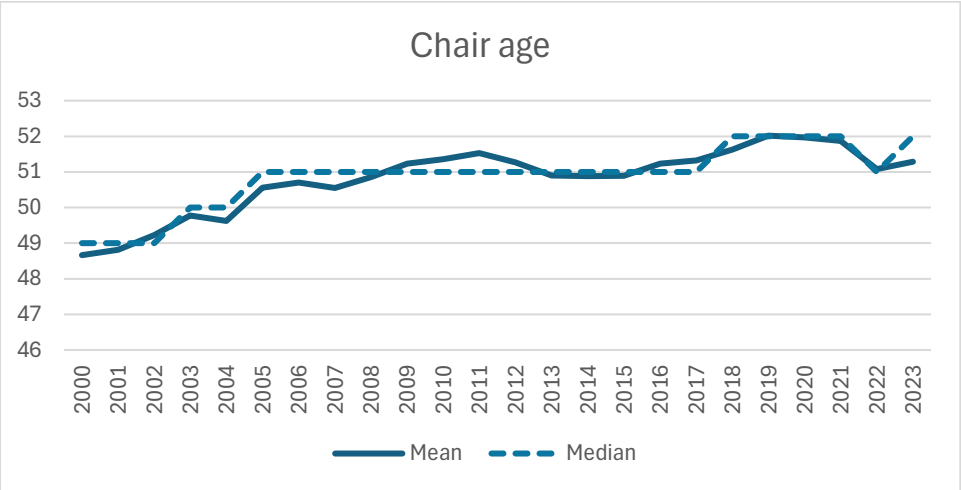


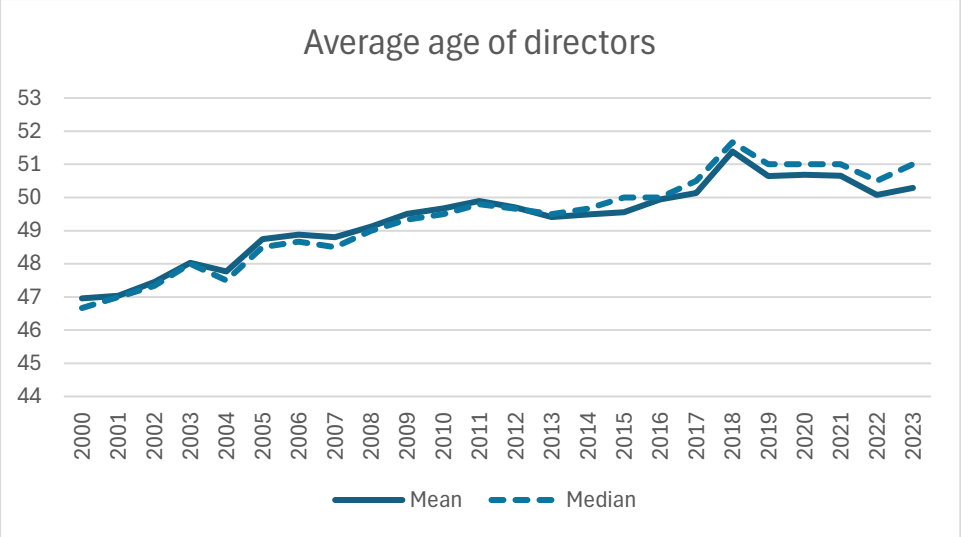


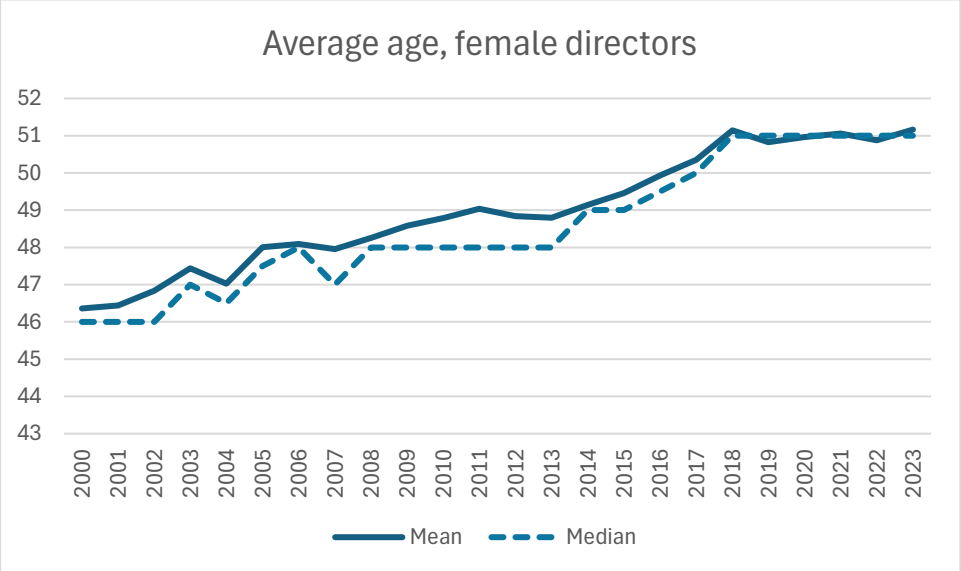
The proportion of women on board is around 25%.

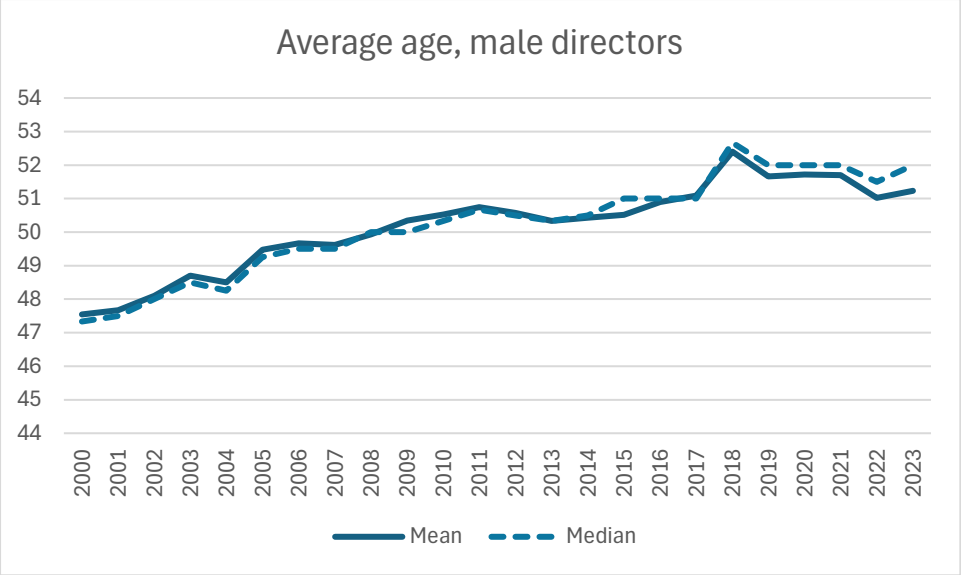


The average age of board members (both men and women) and board chairs has gradually increased in recent years.

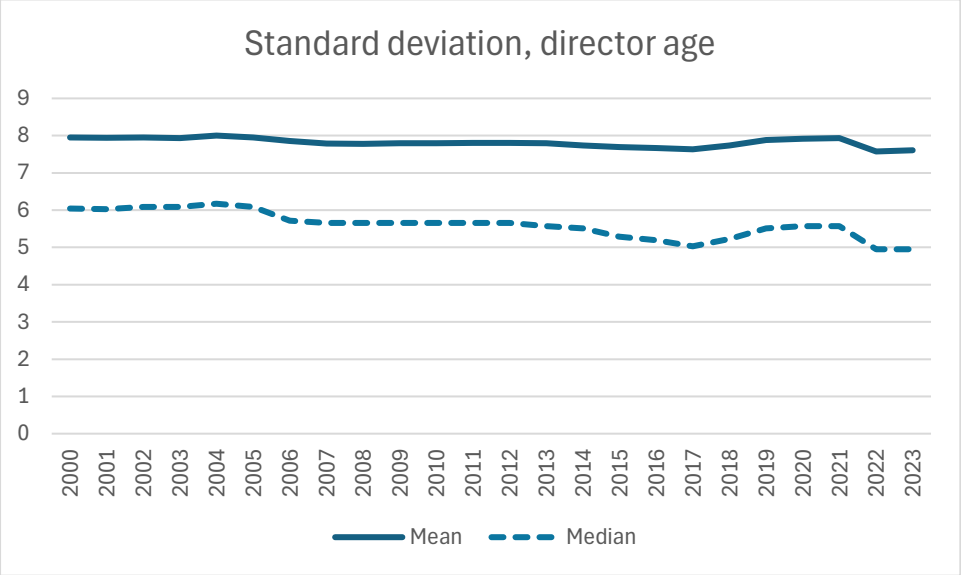






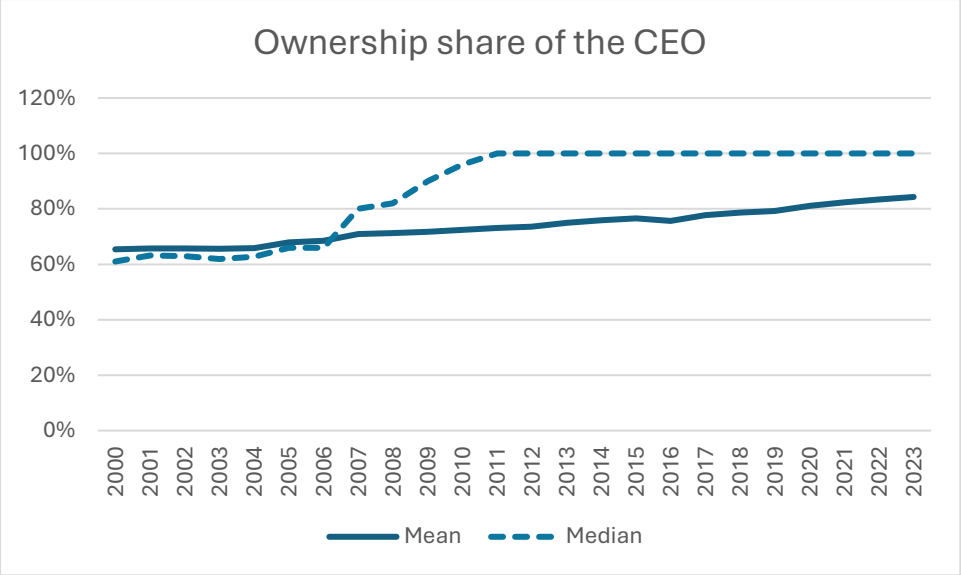


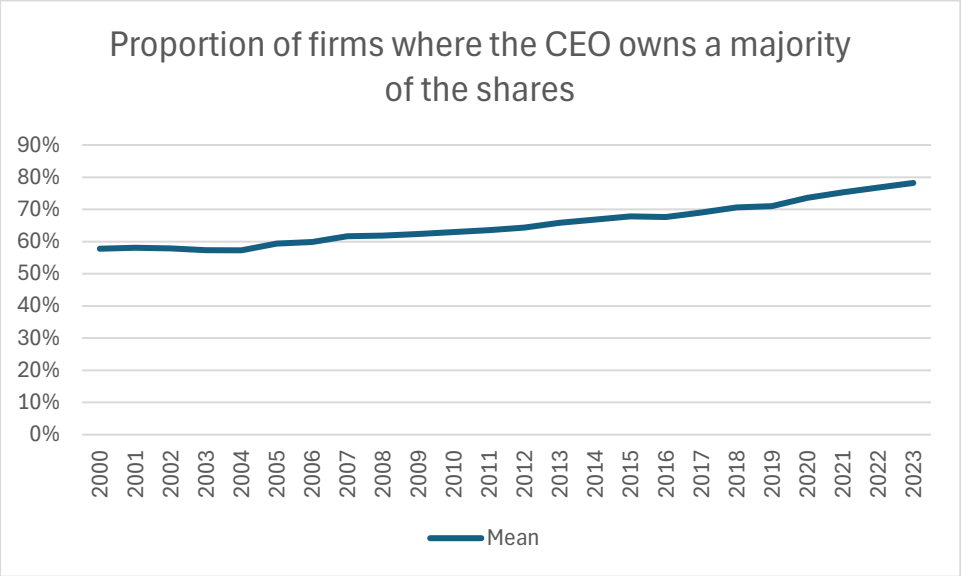
The standard deviation of director ages has been fairly stable over time.



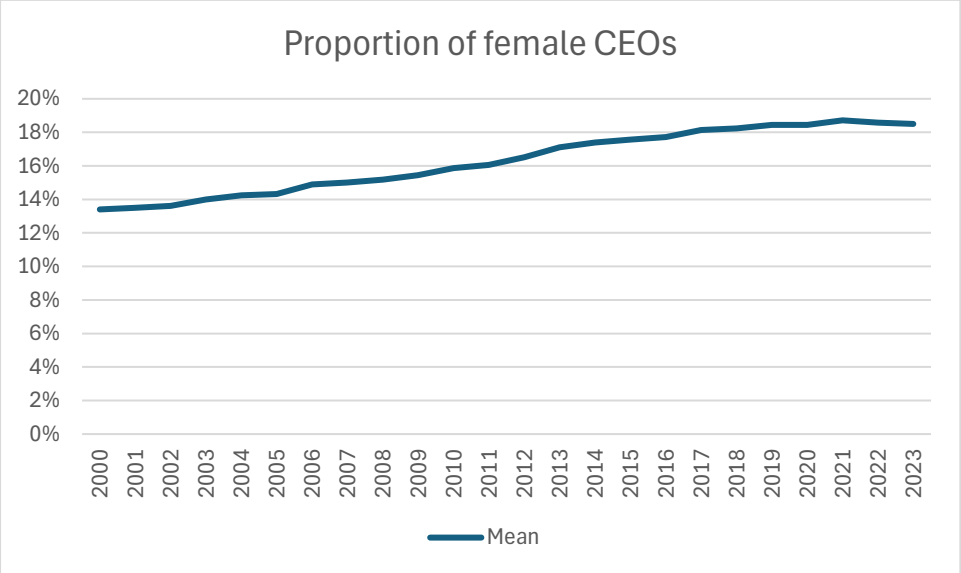
11.4. CEOs

In line with the trend towards higher ownership concentration, the CEO ownership share and the proportion of firms where the CEO controls a majority of the shares has been increasing over time.

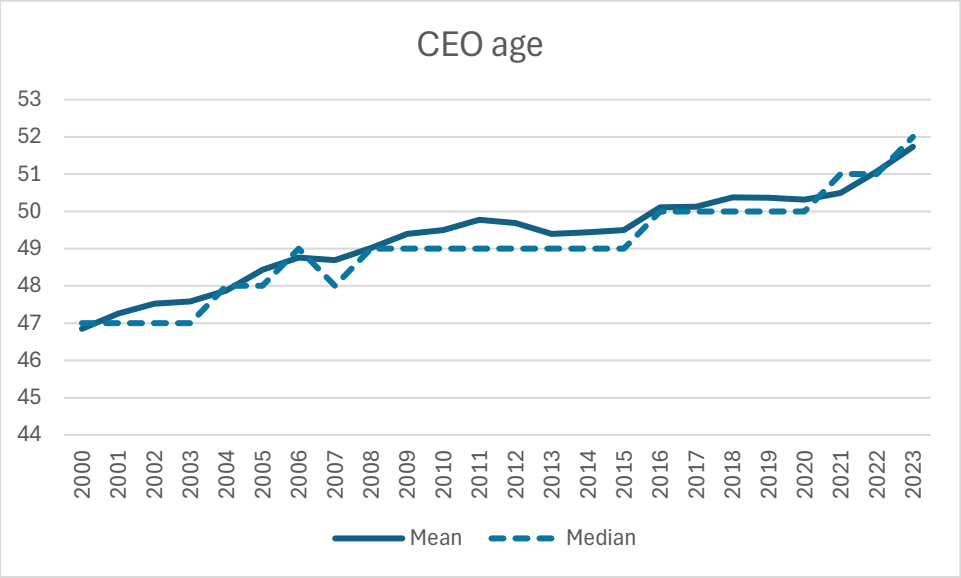


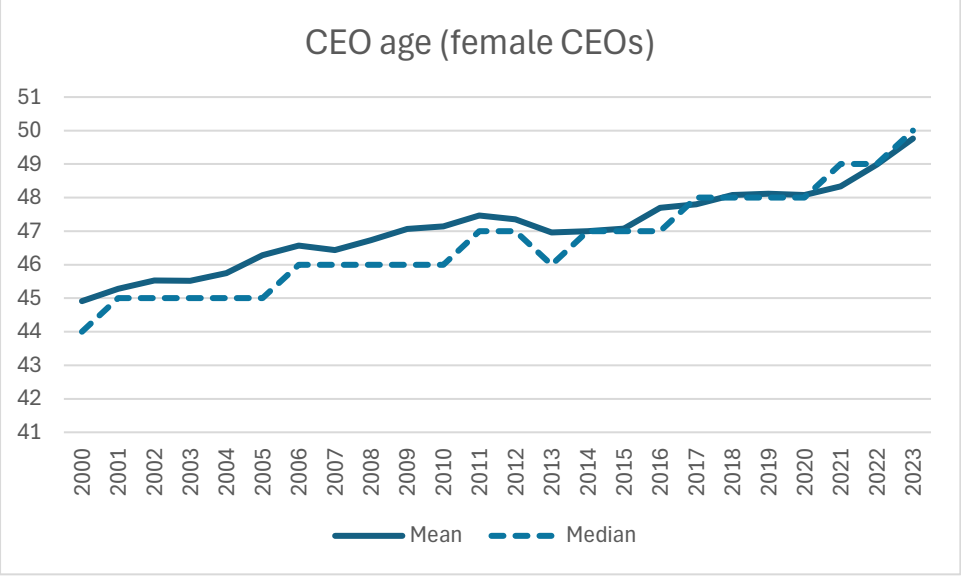


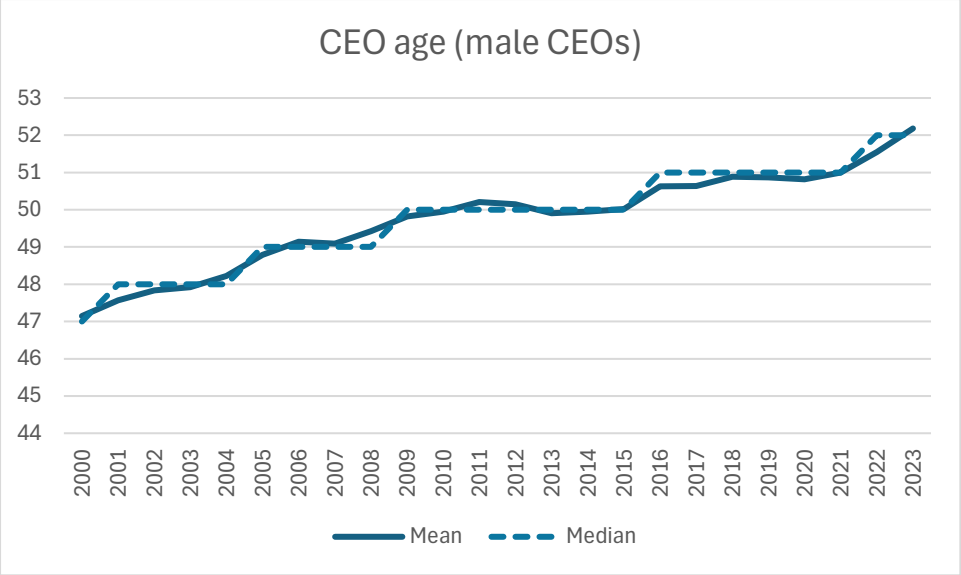
The proportion of female CEOs is low, but it has been gradually increasing from 14% to 18%:



The average CEO age has been increasing over time regardless of gender. Female CEOs are still slightly younger than male CEOs.



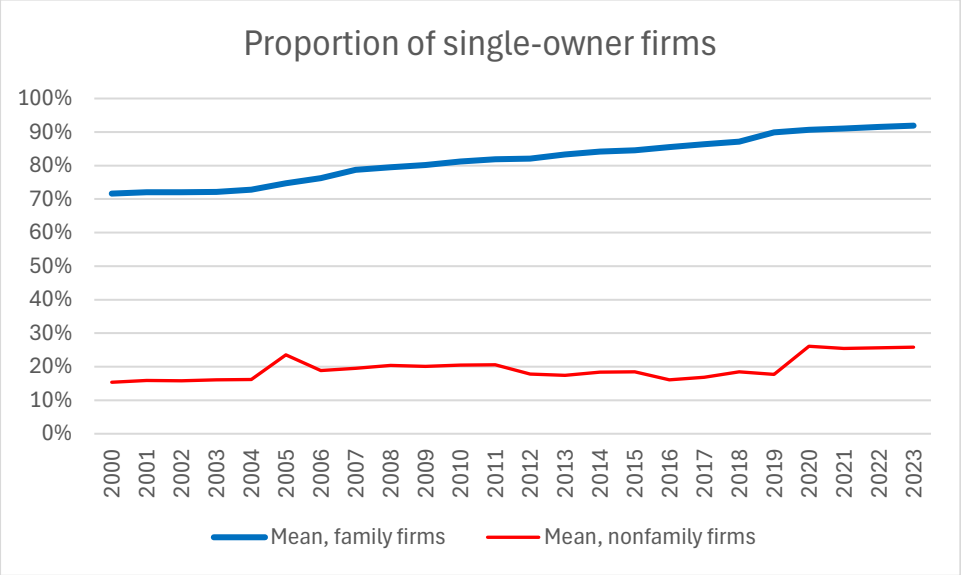


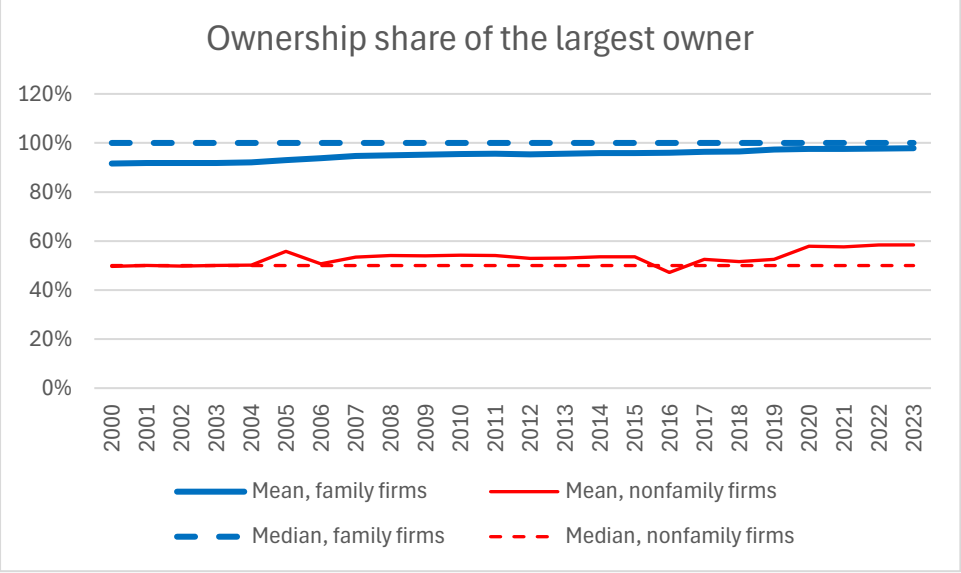

CEO age (male CEOs)
53
52
51
50
49
48
47
46
45
44
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean
Median

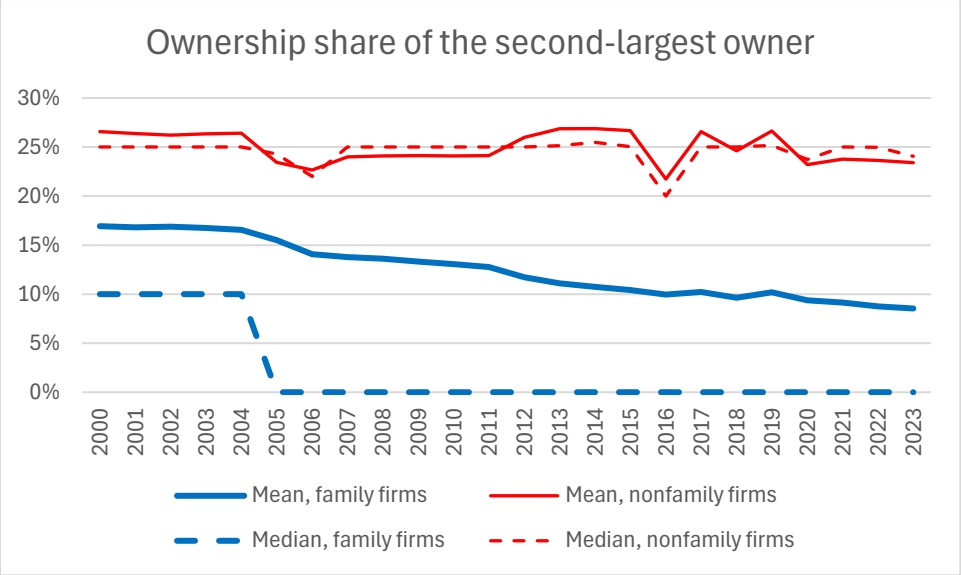
12. Governance: Family and nonfamily firms

12.2. Ownership

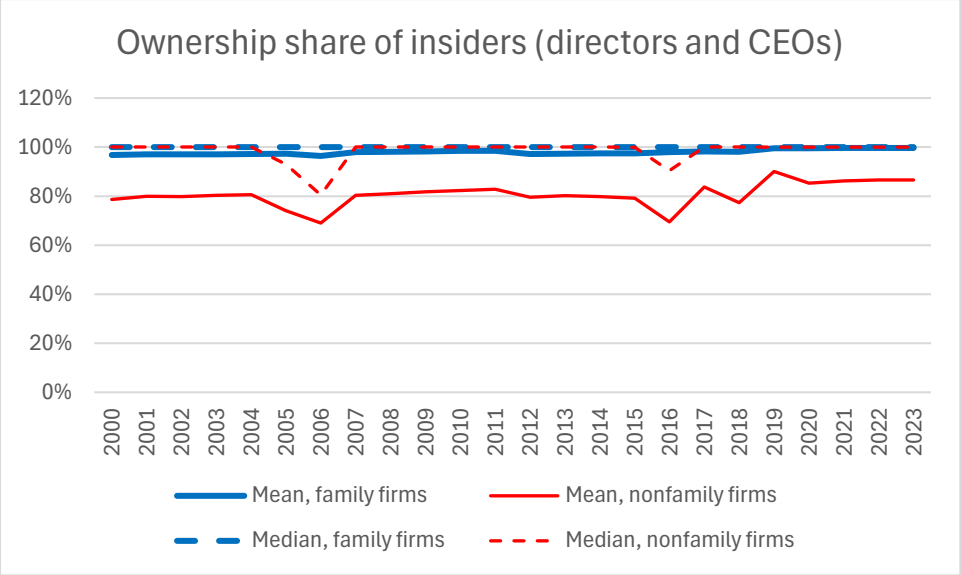
The ownership concentration of family firms is higher than that of nonfamily firms. Moreover, among family firms, the proportion of firms where the family owns all the shares has increased from around 70% to around 90%. In parallel, the average size of the second-largest stake in the firm has been decreasing.





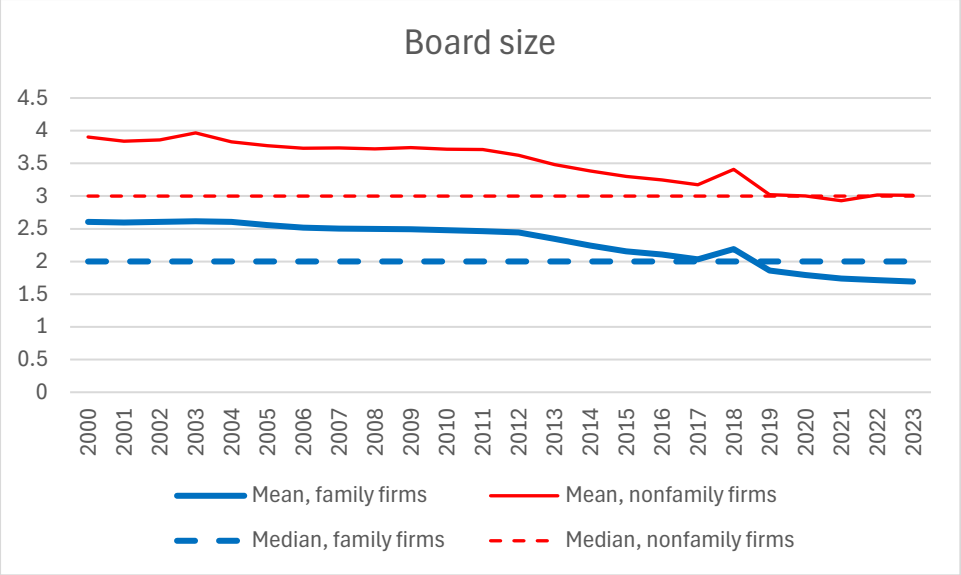


Insiders (directors and CEOs) typically own a large proportion of the firm's equity. This indicates that large shareholders are usually also represented on the board in nonfamily firms.

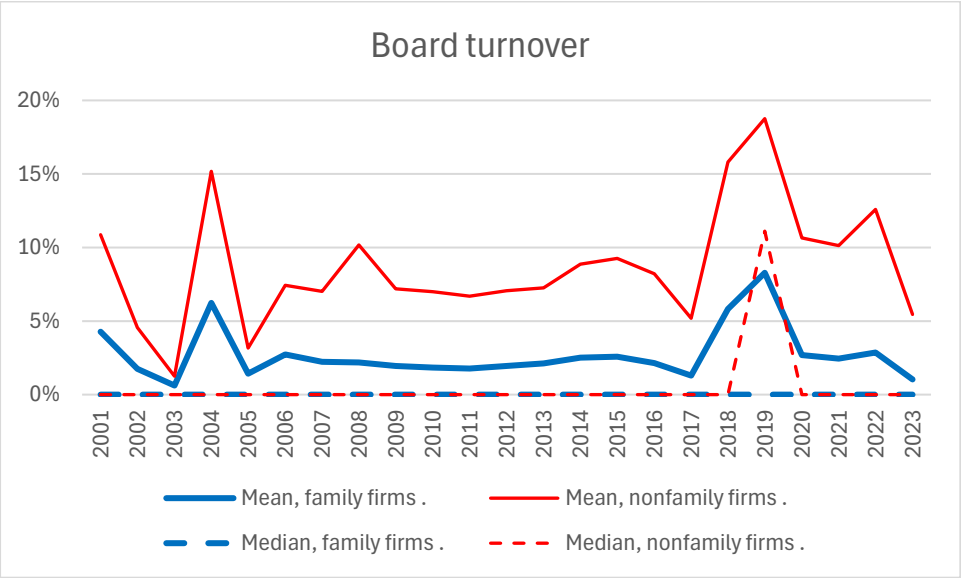


12.3. The board of directors

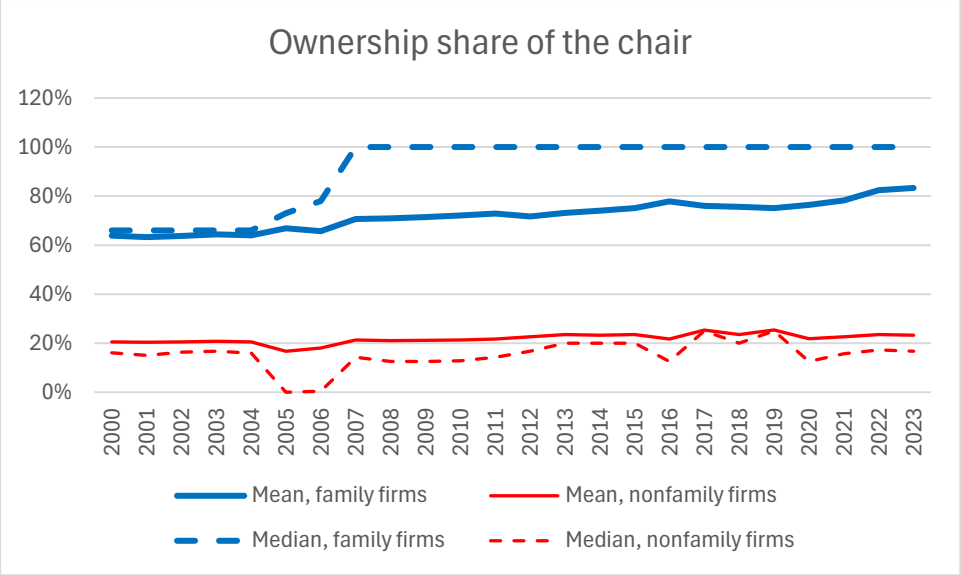
Family firms have on average smaller boards compared to nonfamily firms. There has been a parallel downward trend in the mean board size for family and nonfamily firms.

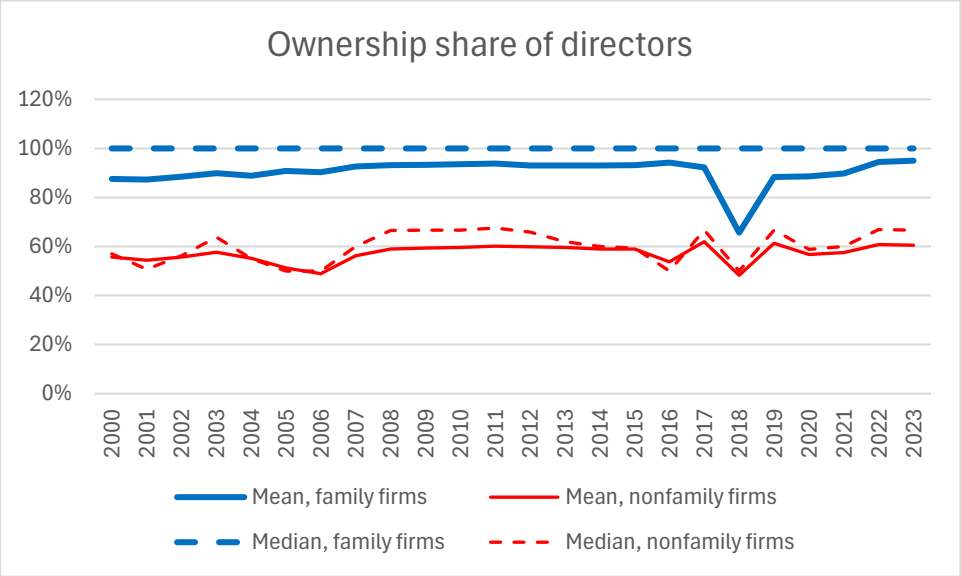


Board turnover rates are higher for nonfamily firms than for family firms.

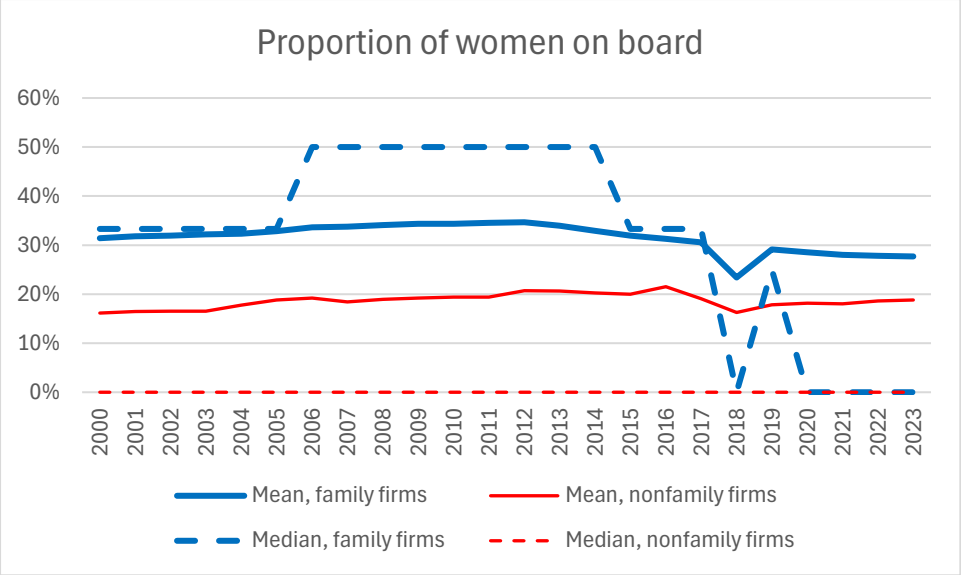


The mean ownership share of the chair is around 20% in nonfamily firms – and a much higher 80% in family firms. In both family and nonfamily firms, directors hold on average a majority of the shares.

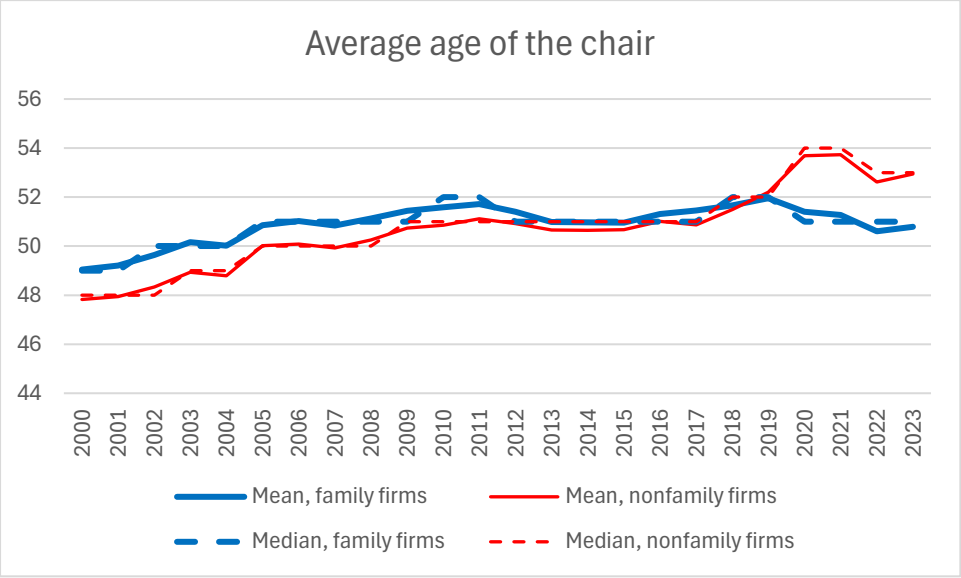


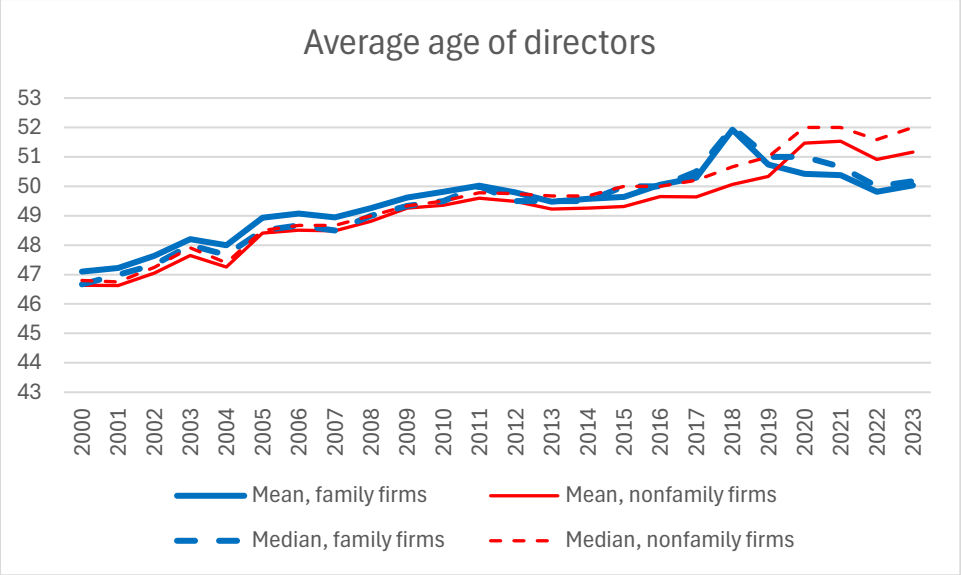


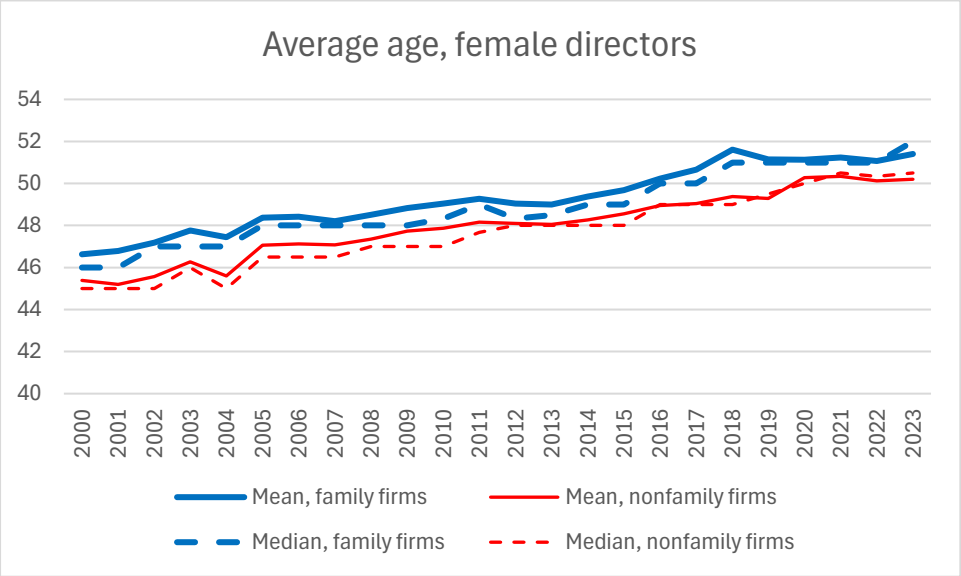
The proportion of women on board is higher in family than in nonfamily firms.



The average age of directors and chair has gradually increased over time, and in recent years the average age of nonfamily firm directors is higher in nonfamily than in family firms, driven mainly by male directors. The median standard deviation of director ages for family firms is much lower than the mean, pointing to the existence of a set of boards with directors from different generations.




Average age of directors
53
52
51
50
49
48
47
46
45
44
43
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms


Average age, female directors
54
52
50
48
46
44
42
40
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
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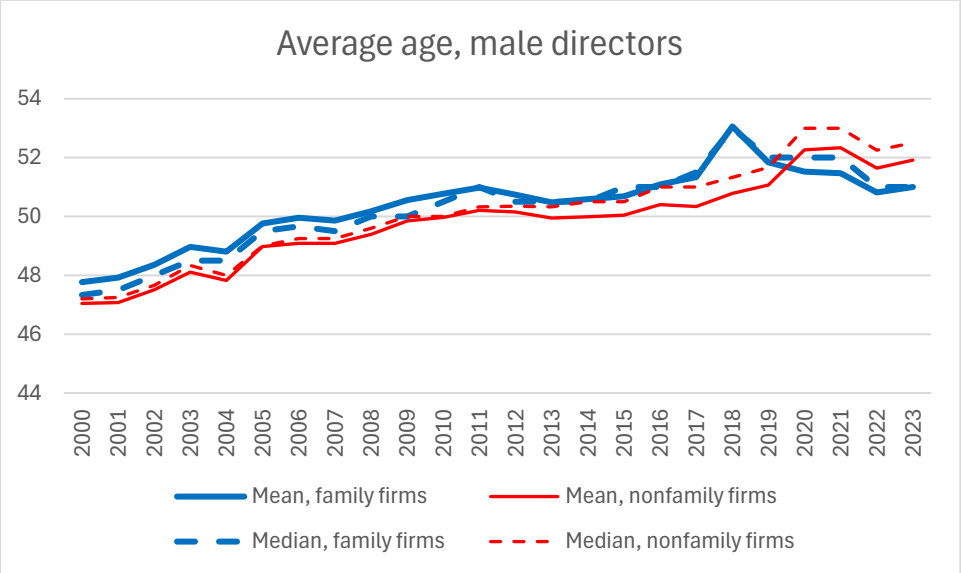
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms


Average age, male directors
54
52
50
48
46
44
2000
2001
2002
2003
2004
2005
2006
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2008
2009
2010
2011
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2013
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2018
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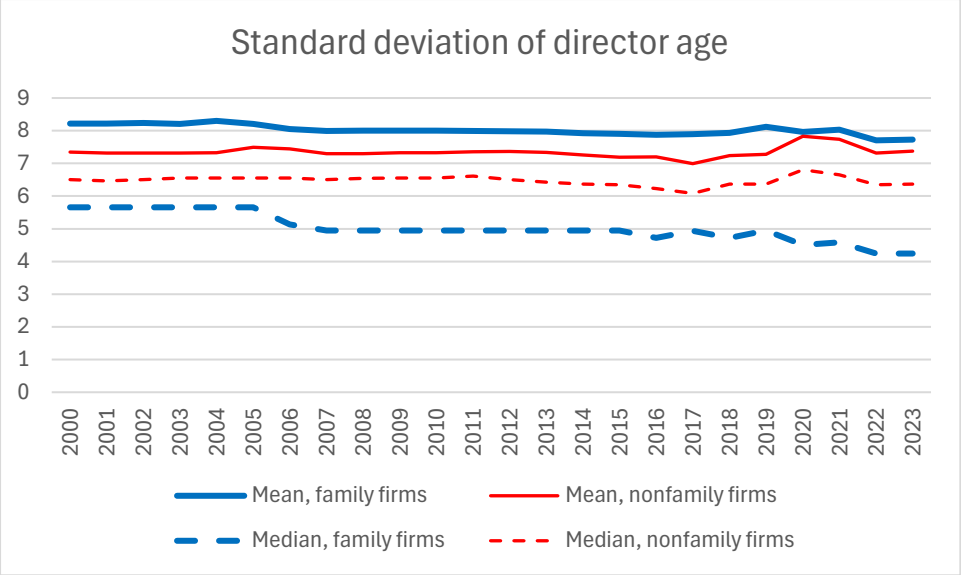
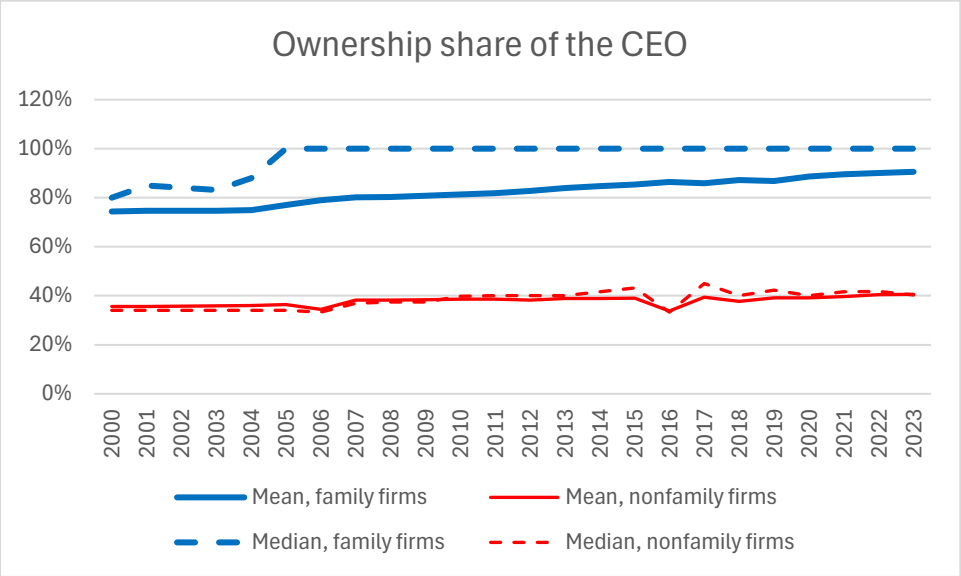
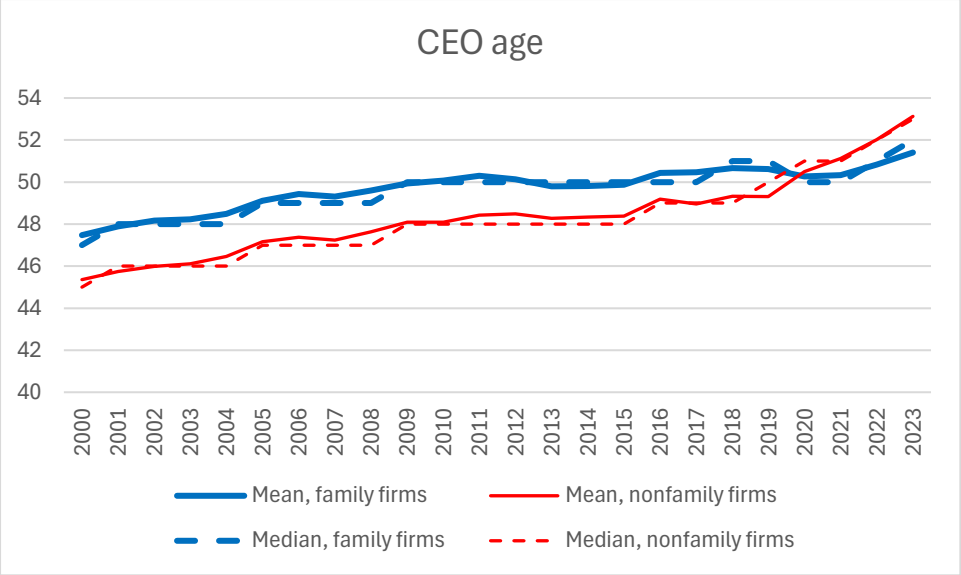
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms



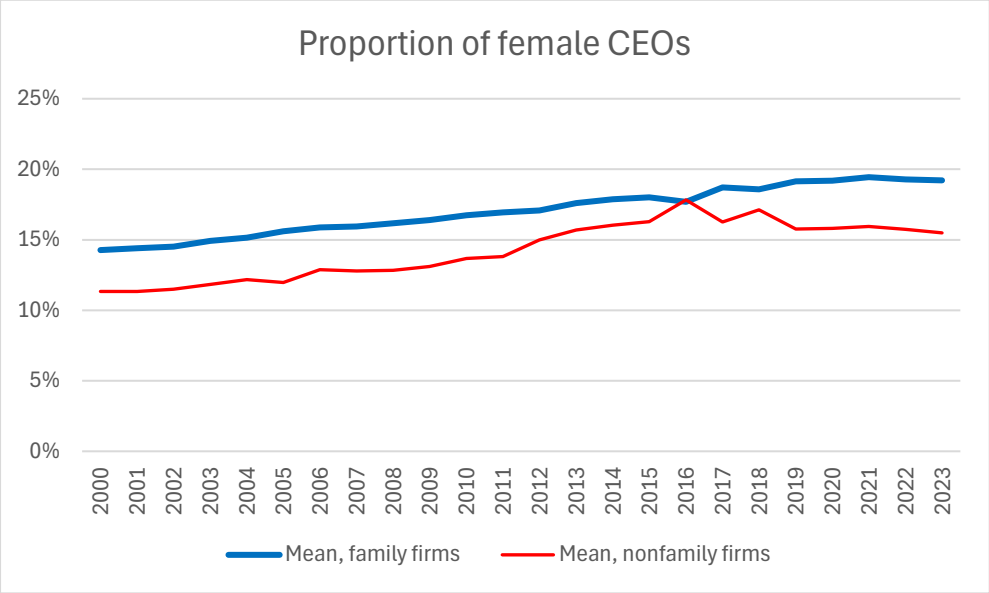
12.4. CEOs

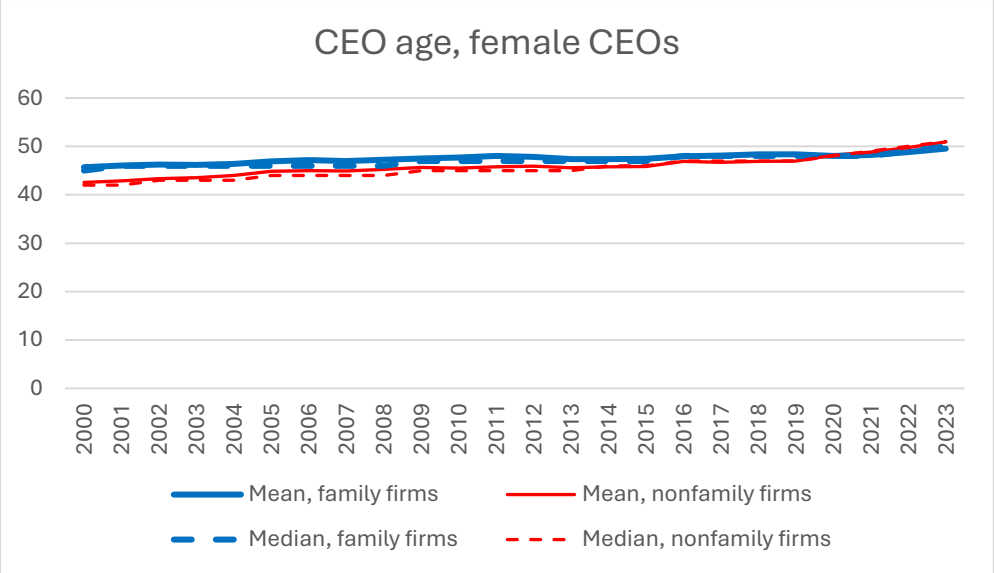
The typical CEO ownership share is much larger in family firms. The typical age of CEOs is slightly lower than that of directors, and it has been increasing slightly over time, especially in nonfamily firms.





The proportion of female CEOs has been gradually increasing over time, and it is higher in family firms (around 20%) compared to nonfamily firms (around 15%). Female CEOs tend to be younger on average than male CEOs.




CEO age, female CEOs
60
50
40
30
20
10
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
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2017
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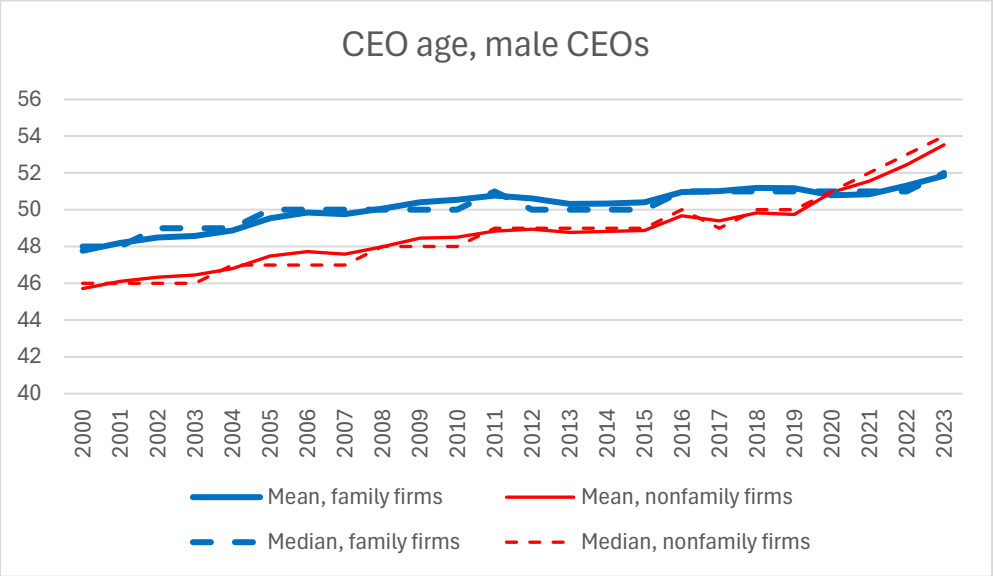
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms


CEO age, male CEOs
56
54
52
50
48
46
44
42
40
2000
2001
2002
2003
2004
2005
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2008
2009
2010
2011
2012
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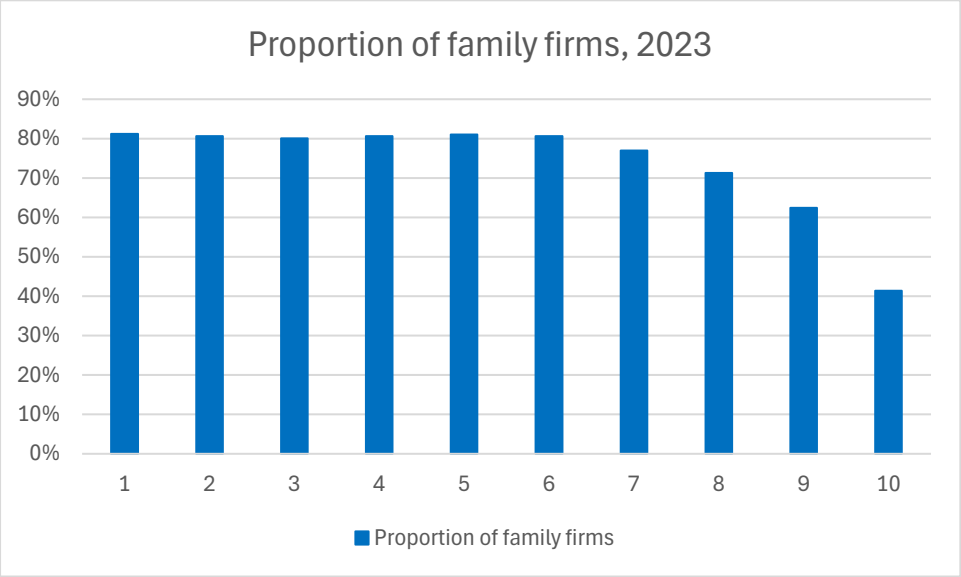
2017
2018
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms

13. Governance and firm size

Small firms tend to have more concentrated ownership, fewer owners, and controlling CEOs. Family firms also tend to have these features, and they also tend to be smaller than nonfamily firms. Some of the governance characteristics of family firms identified in previous sections may therefore be due to their size rather than their ownership. It may therefore be useful to look at family and nonfamily firms of various sizes to separate the influence of size from that of ownership.

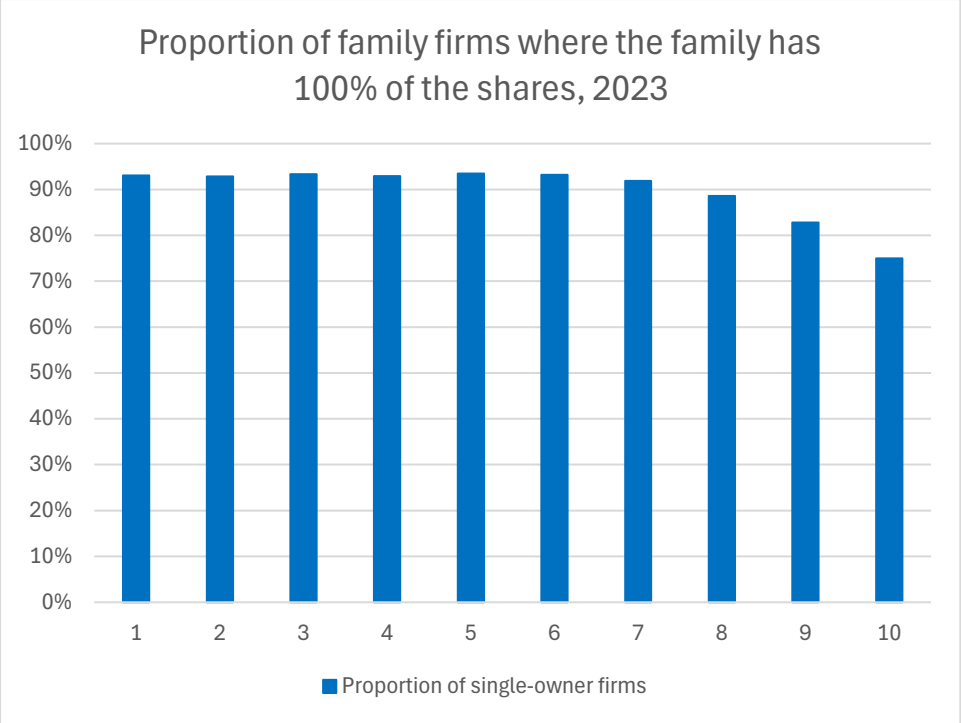
In the following analysis, we classify firms into deciles based on their 2023 revenues. We then present governance characteristics for family and nonfamily firms in each size decile.

Four out of five firms are family firms in the smallest 6 size deciles are family firms. The proportion is gradually decreasing in larger size deciles, but family firms still form a majority except the largest decile, where they still represent 40%.

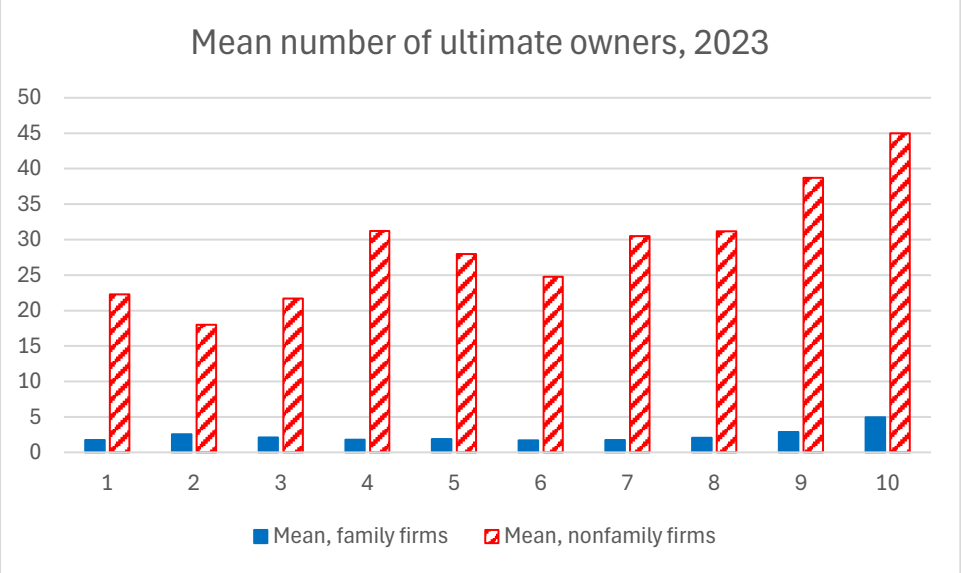


13.2. Ownership

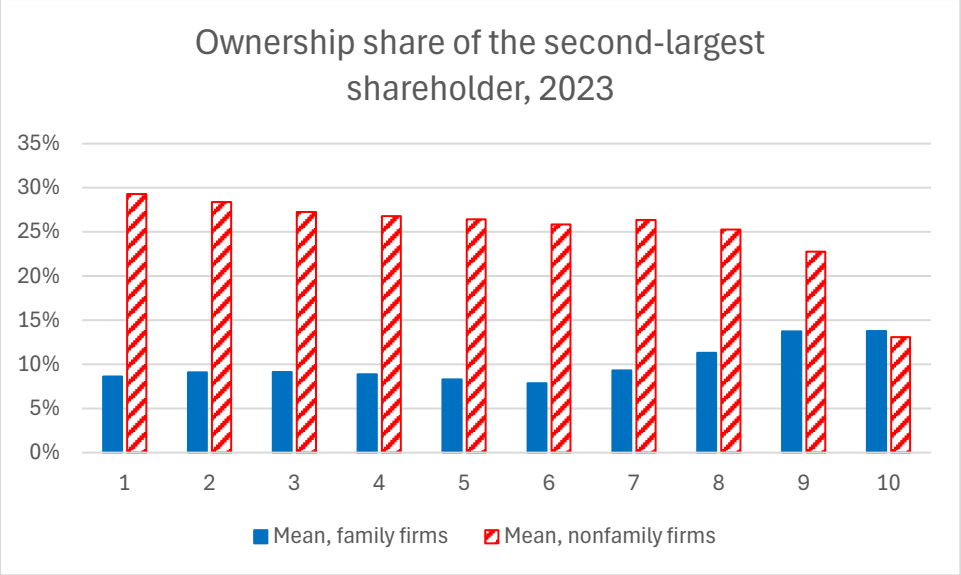
Among family firms, around 90% are single-owner firms except in the top two size deciles. Even among family firms that are in the top size decile, three quarters have 100% of their shares owned by the family.



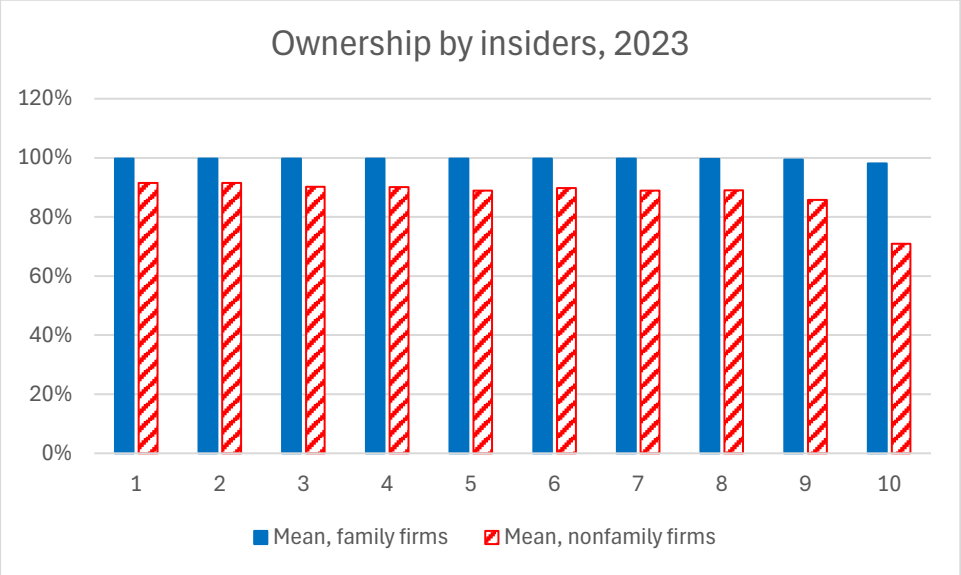
The number of owners increased with firm size. However, within each size decile, family firms have significantly fewer owners. In the top size decile, nonfamily firms have 45 ultimate owners on average, while family firms have 5.



The ownership share of the second-largest shareholder increases with firm size in family firms, and it decreases for nonfamily firms. For family firms, this is linked to the decreasing average share of the controlling family, while for nonfamily firms the average ownership share in the firm in decreasing.

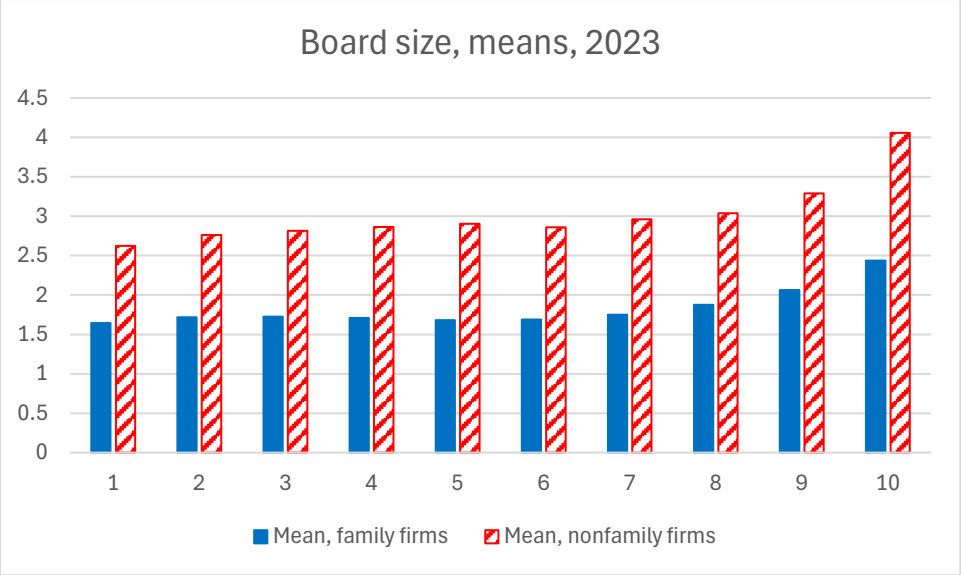


The ownership share of insiders (CEOs and directors) is higher for family than for nonfamily firms in all size deciles, but it is quite high across the board. Even in the largest nonfamily firms, insiders have on average a two-thirds majority.

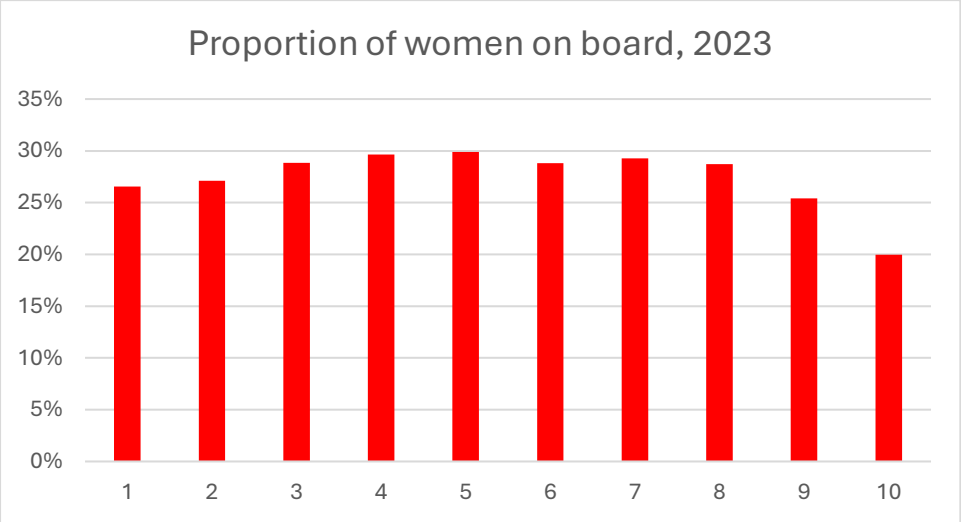


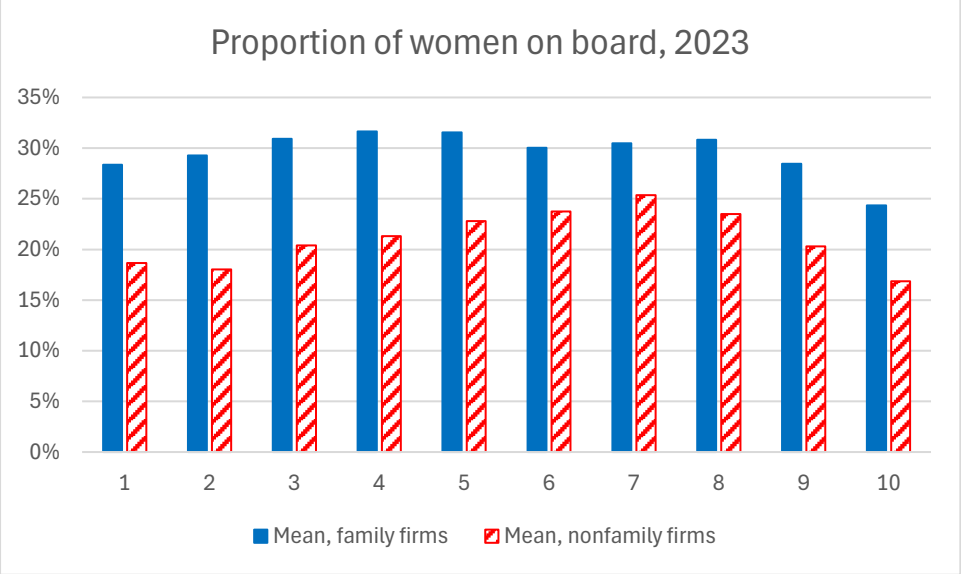
13.3. The board of directors

The number of directors on the board is increasing with firm size, but it is always higher for nonfamily than for family firms.

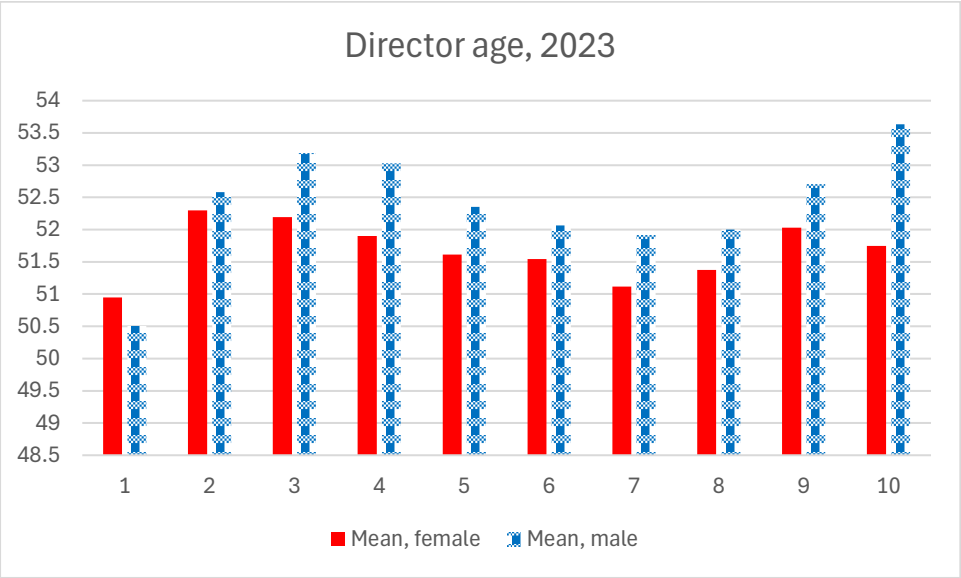


The proportion of women on board is lower in the smallest and the largest firms. It is also higher in family than in nonfamily firms across the size distribution.

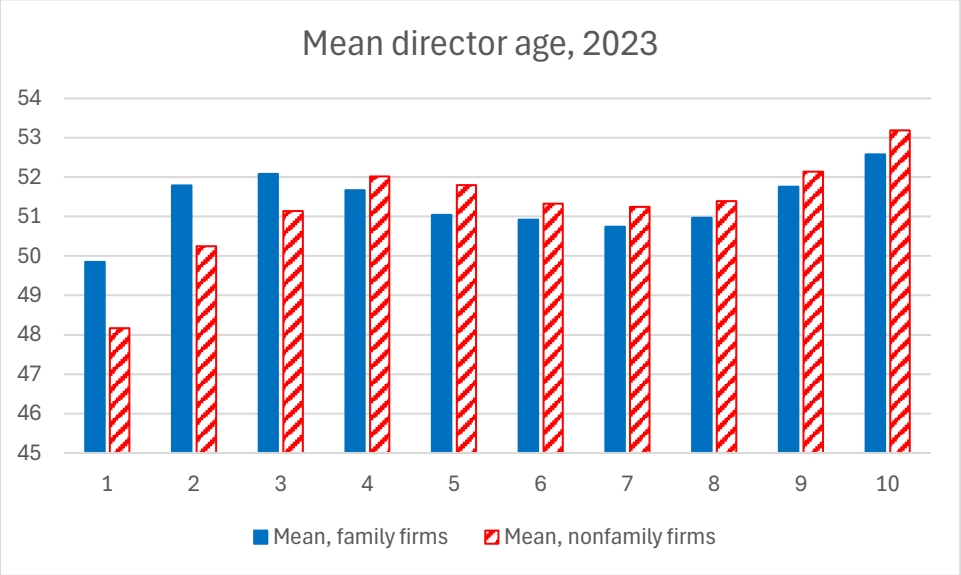


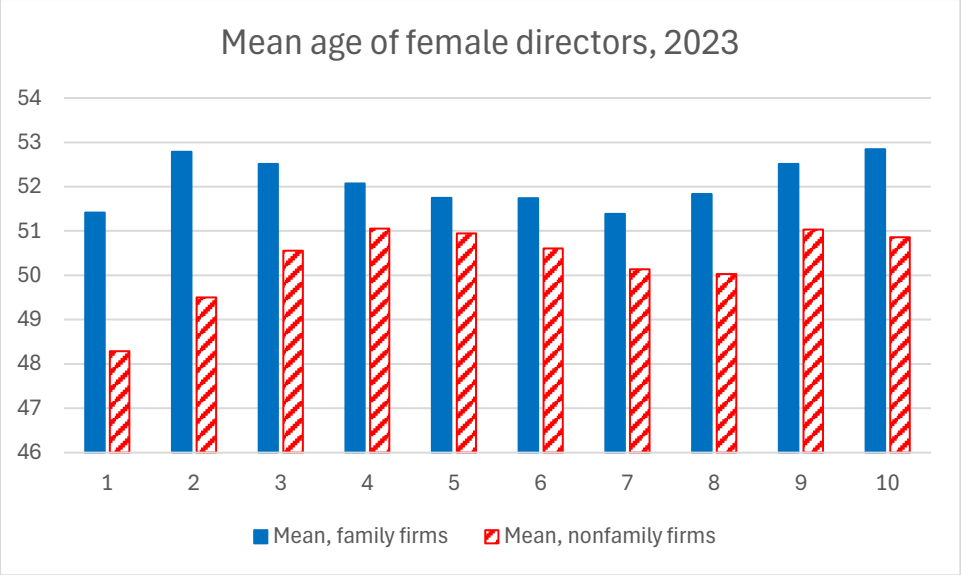


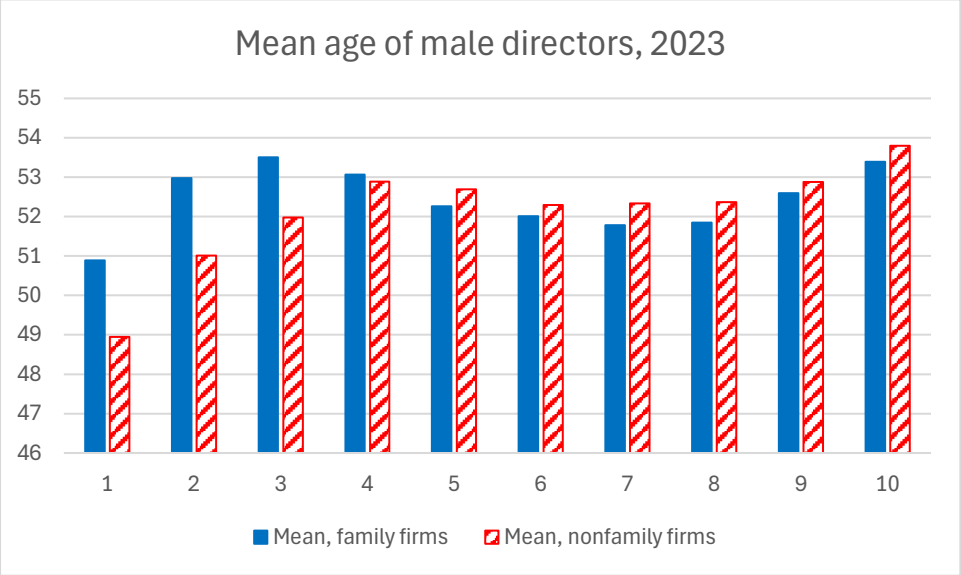
On average, female directors are younger than male directors, and the difference is highest is among the largest firms.



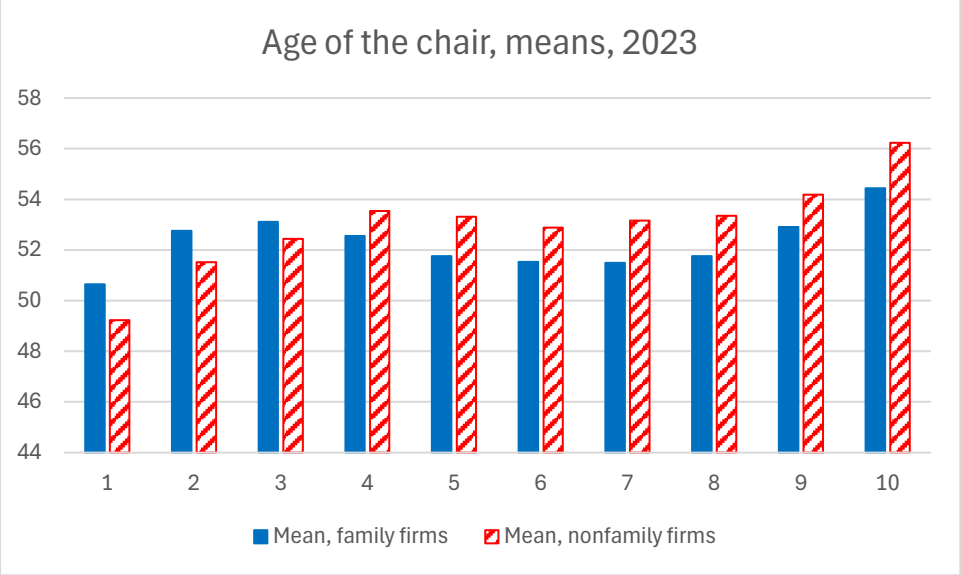
The average director age is similar in family and nonfamily firms, except for the smallest firms, where family firm directors tend to be older. Female directors in family firms tend to be older than female directors in nonfamily firms, especially in the largest and smallest firms.



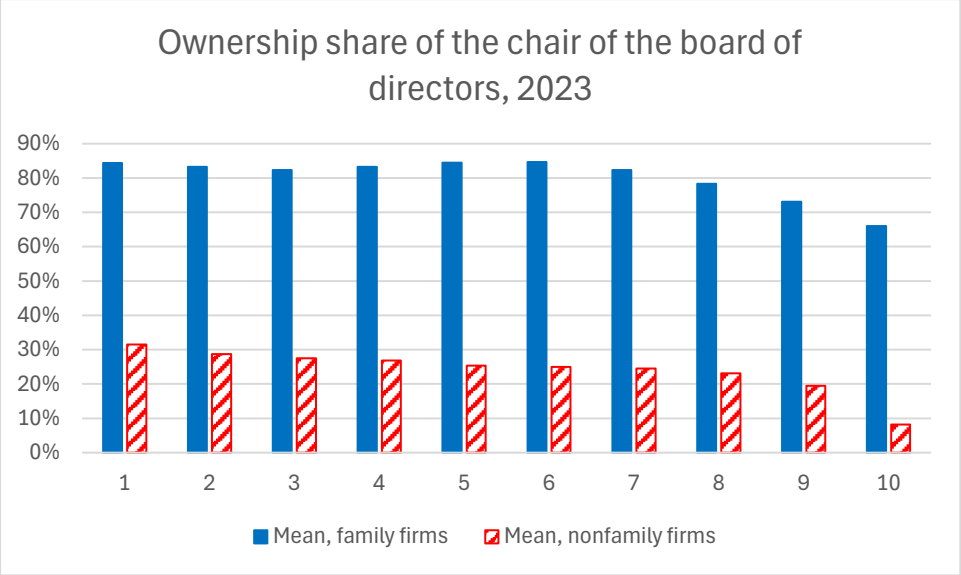




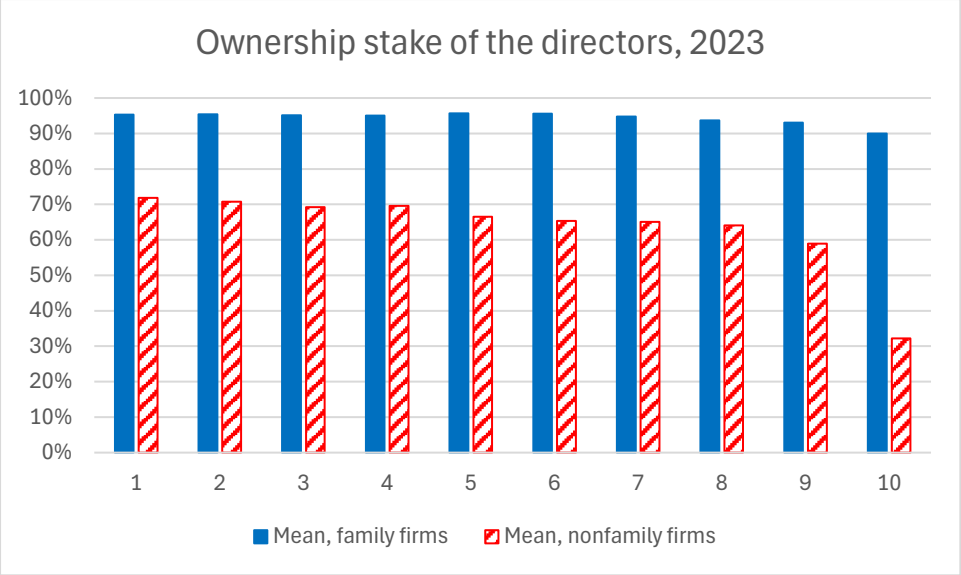
The age of the chair of the board is higher in nonfamily than in family firms, except in the smallest firms.



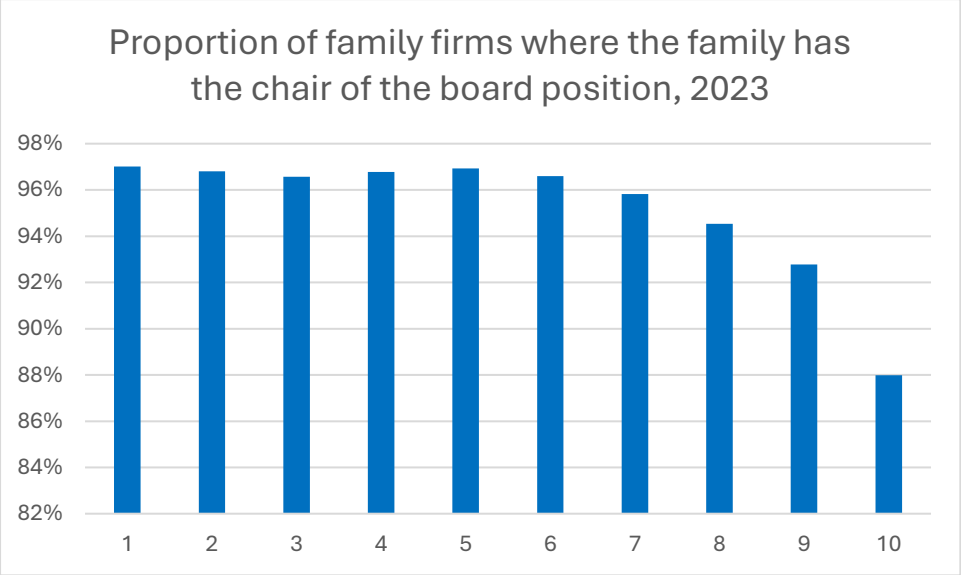
The ownership share of the chair is much larger in family than in nonfamily firms across the size distribution.



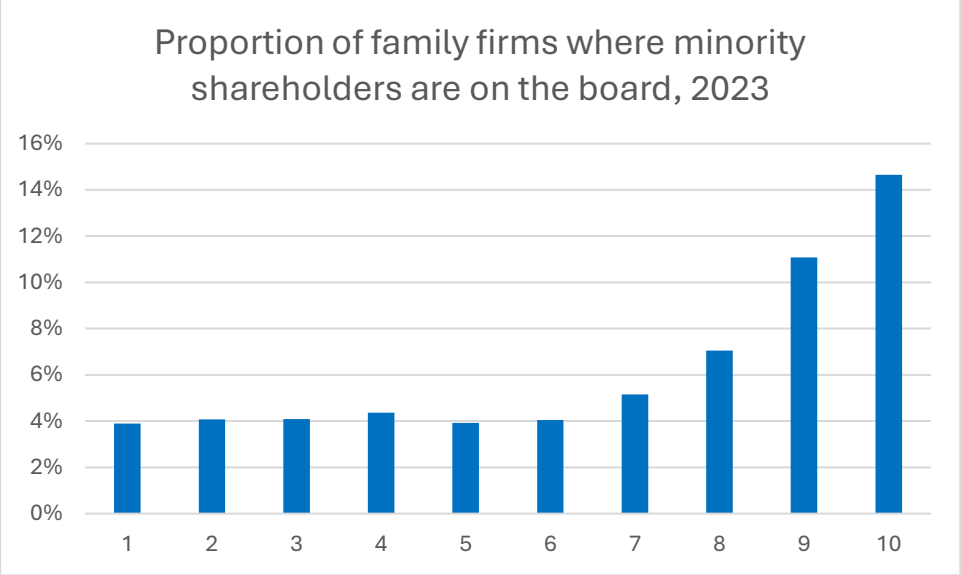
The ownership share of directors is much larger than just the chair's holdings in nonfamily firms. Directors in family firm own a higher share compared to directors in nonfamily firms, and the difference is the largest in the top size decile.



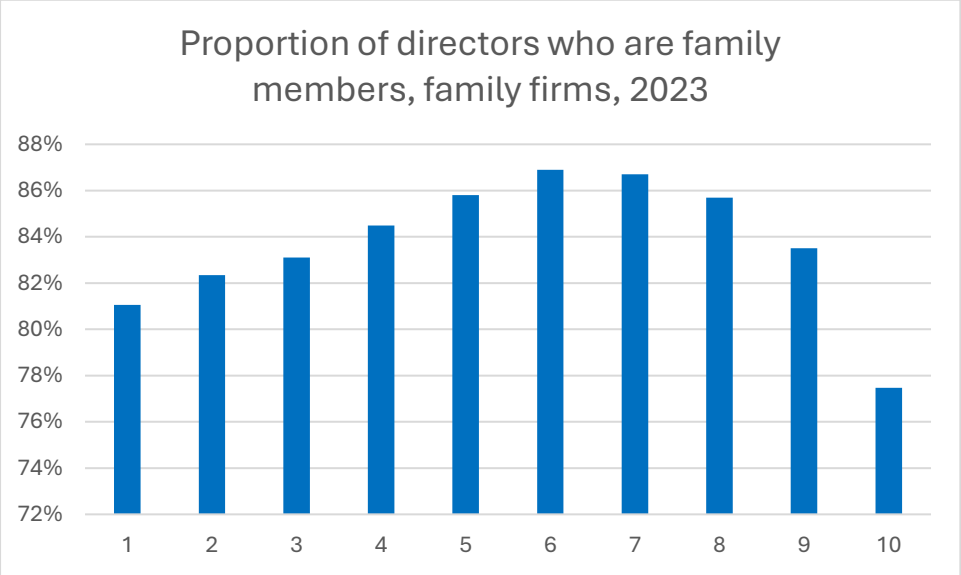
In family firms, the chair of the board is a family member in most cases. The proportion is only slightly lower among the largest firms.



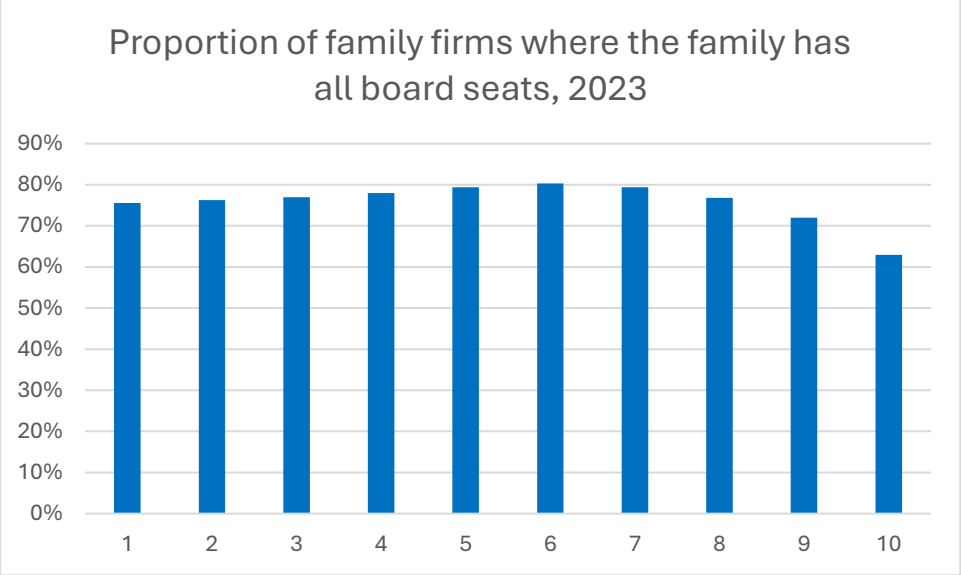
Apart from monitoring the management and advising the firm on its strategy, the board can also serve to coordinate and manage potential conflicts between shareholders (Burkart et al. 2023). It is therefore interesting to examine the board participation of minority shareholders. Nonfamily shareholders are more likely to be represented on the board in larger family firms.



The average proportion of directors who are family members is above three quarters in all size deciles. It is lowest in the top decile, where minority shareholders are more likely to be present on the board.

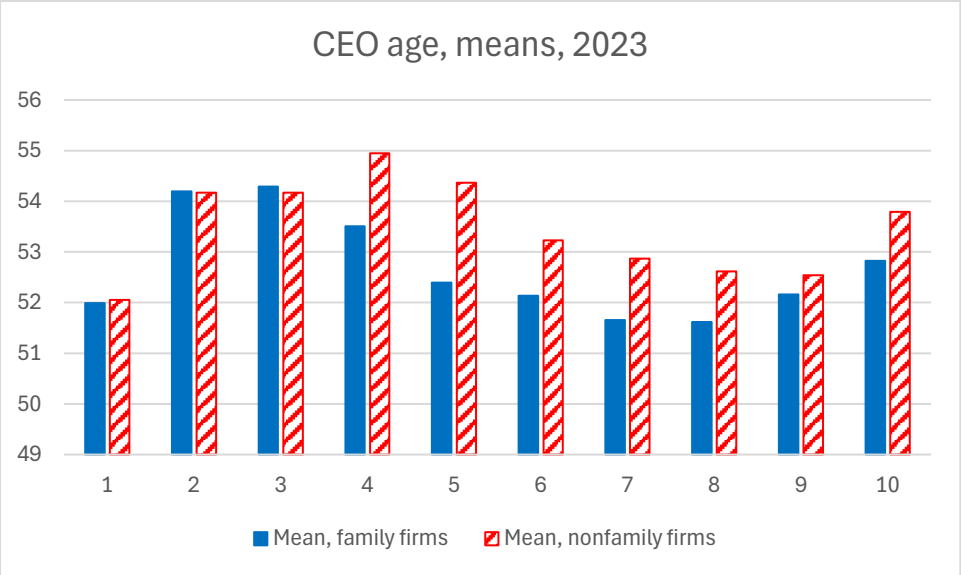


In a majority of family firms, all board members are family members. That applies across the size distribution – the proportion is above 60% even in the largest size decile.

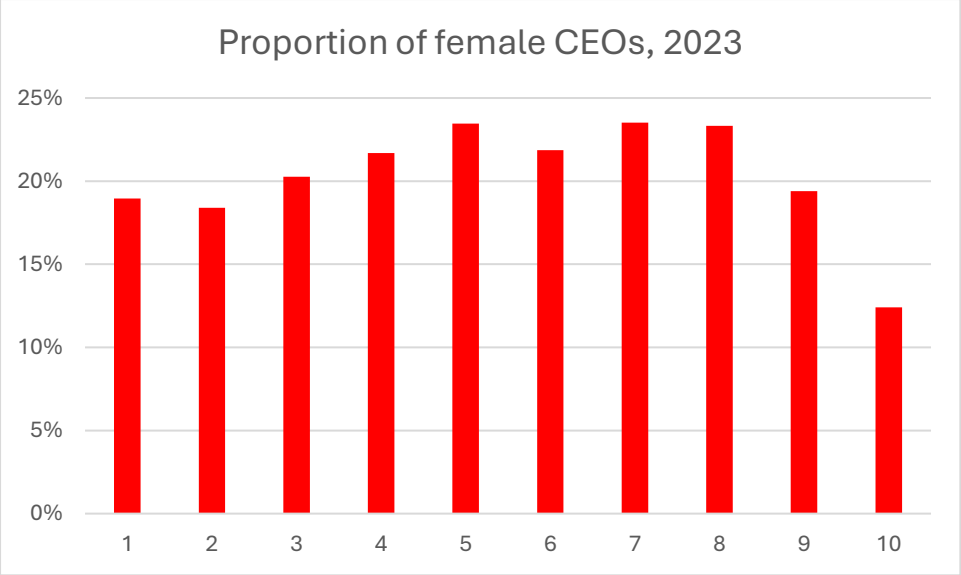


13.4. CEOs

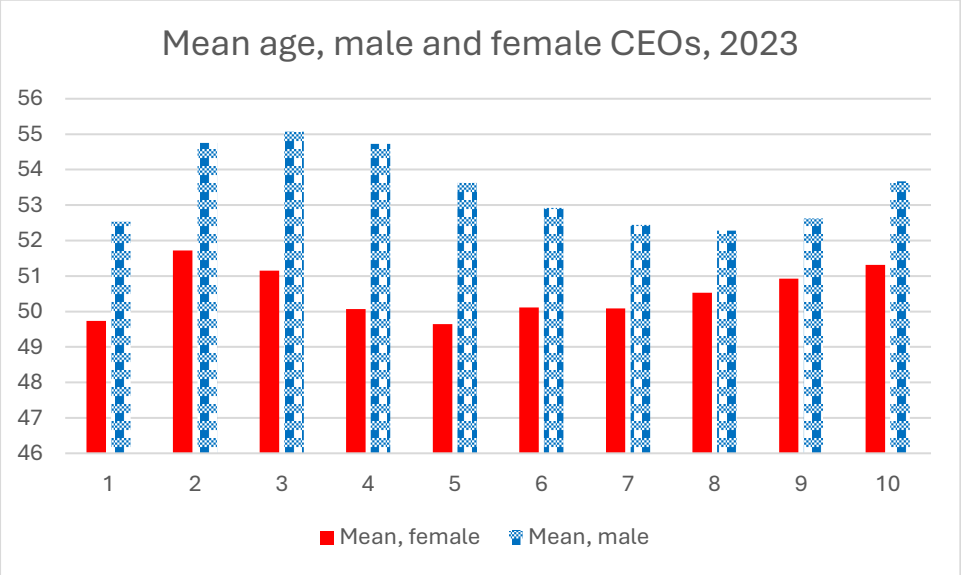
The CEOs of nonfamily firms are slightly older than the CEOs of family firms, but the difference is small. The CEOs of small and medium enterprises tend to be slightly older on average.

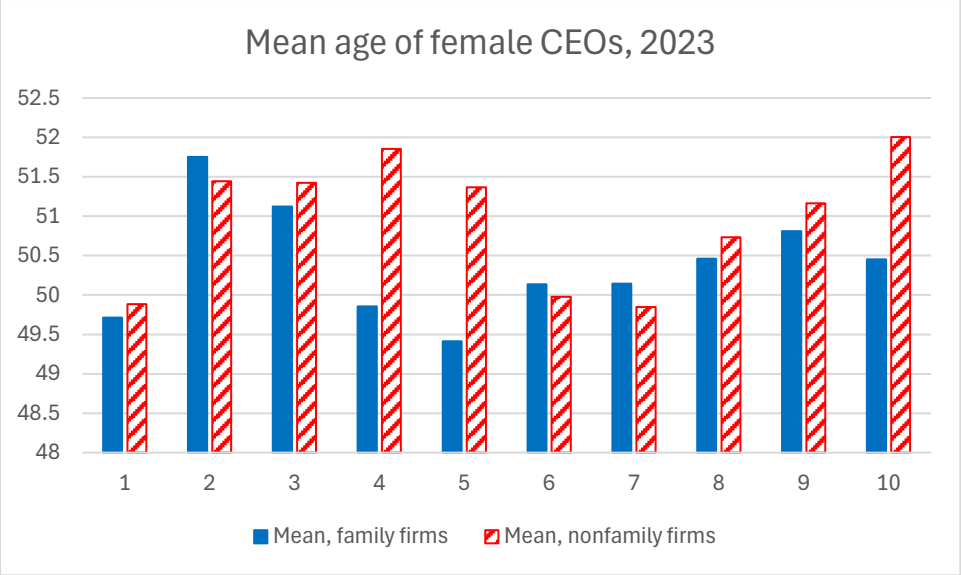


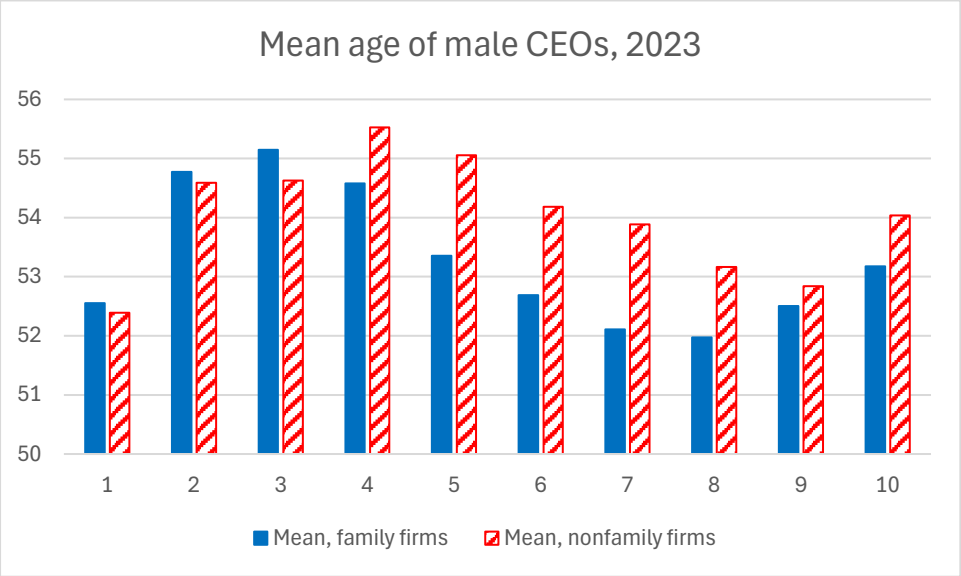
The proportion of female CEOs is around 20% across most size deciles – but it is lower in the top decile.



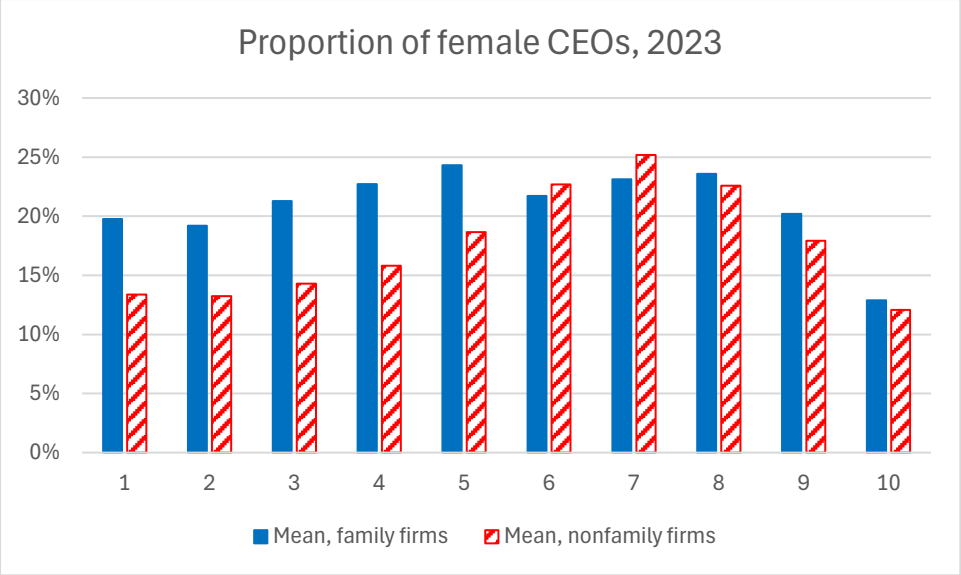
Female CEOs tend to be younger than male CEOs across the size distribution, with a larger difference in small firms. There do not seem to be systematic differences between family and nonfamily firm CEOs.



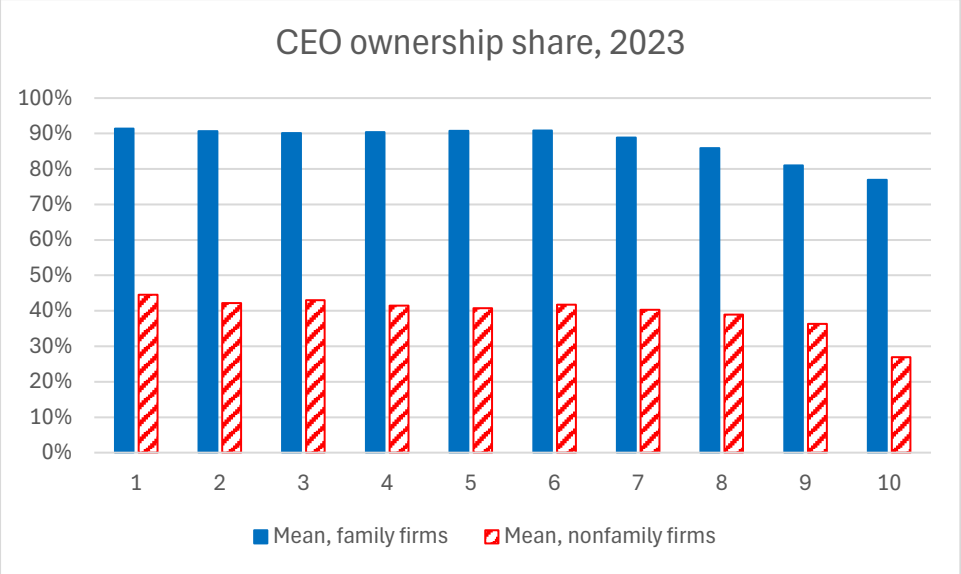




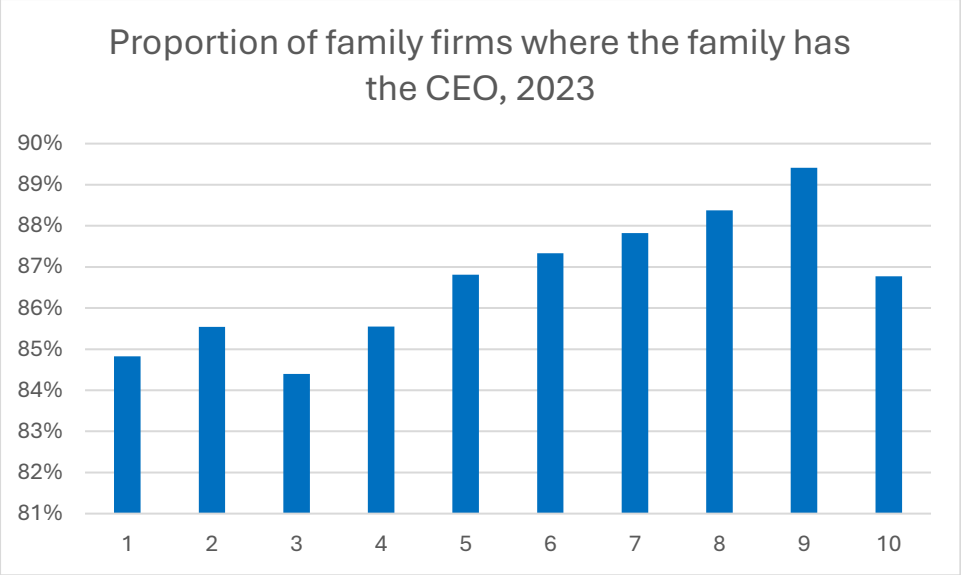
The proportion of female CEOs is higher among family firms in the smallest 5 size deciles, and quite similar in the larger ones.



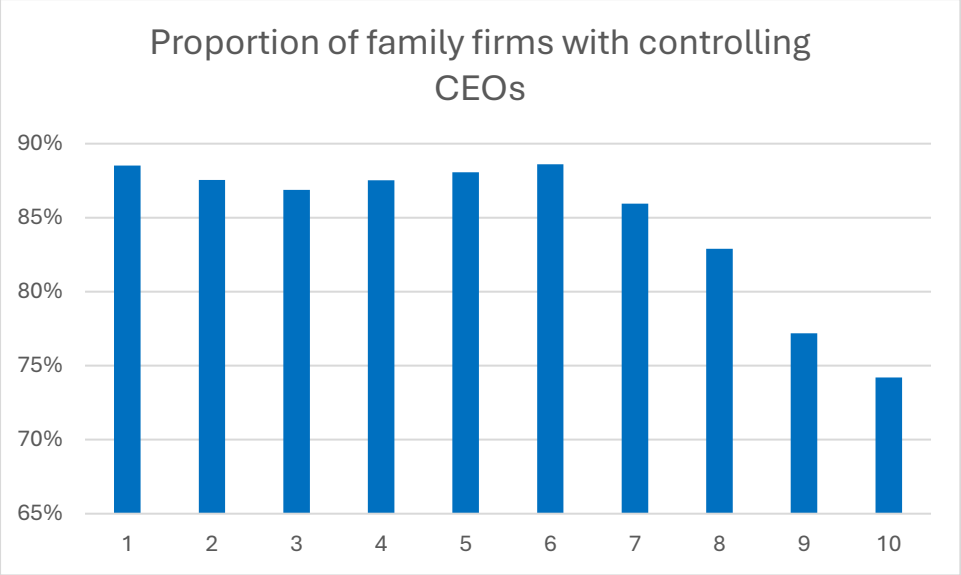
The ownership share of the CEO is much larger in family than in nonfamily firms across the size distribution. It is only slightly declining with firm size.



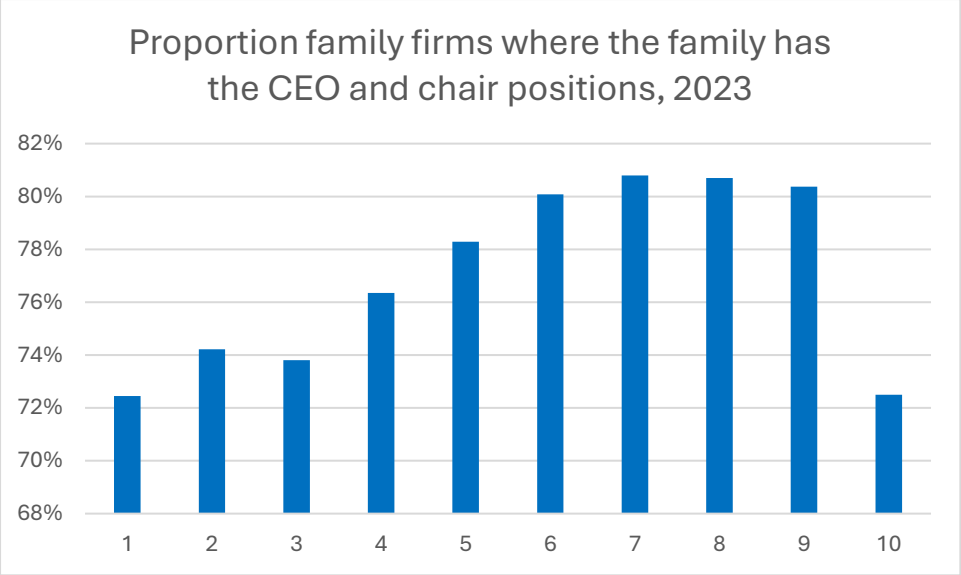
At least four out of five family firms have a family CEO across the size distribution. The proportion is relatively lower among the smallest and the largest firms.



In a majority of family firms, the family CEO is the controlling shareholder. The proportion is lowest (74%) in the top size decile.



Indeed, the family has both the chair and the CEO position in more than two thirds of family firms across the size distribution. The proportion is slightly smaller among tha smallest and largest firms.

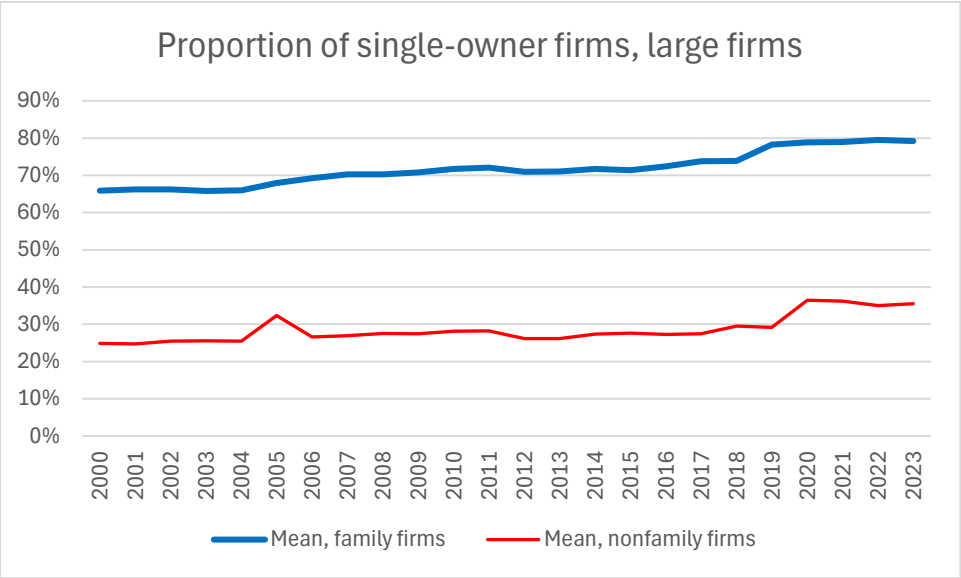

Proportion family firms where the family has the CEO and chair positions, 2023
82%
80%
78%
76%
74%
72%
70%
68%
1
2
3
4
5
6
7
8
9
10

14. Governance: Large family and nonfamily firms

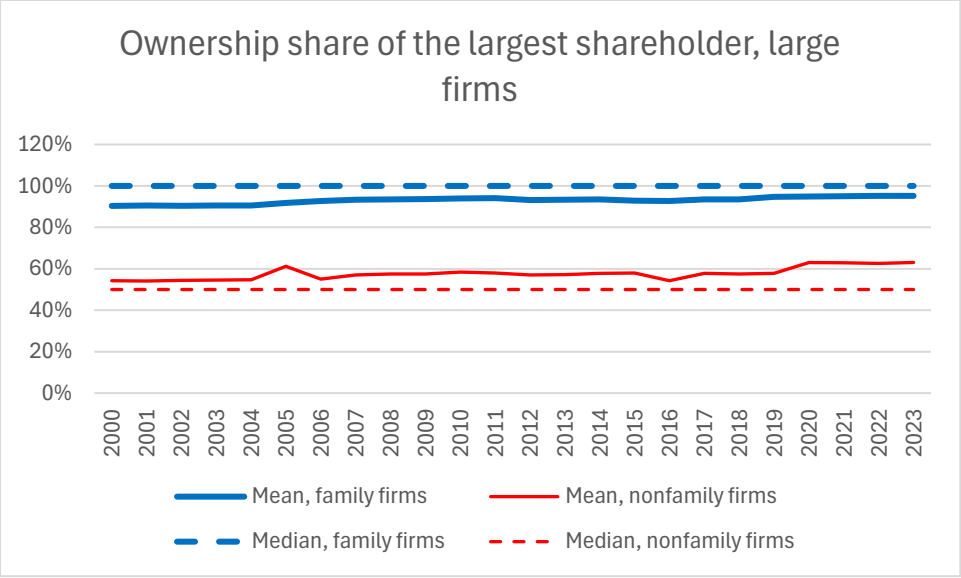
In this section, we take a closer look at large family and nonfamily firms. Large firms are defined as firms with at least 100 employees and 100 million (2023) kroner in sales.

14.2. Ownership

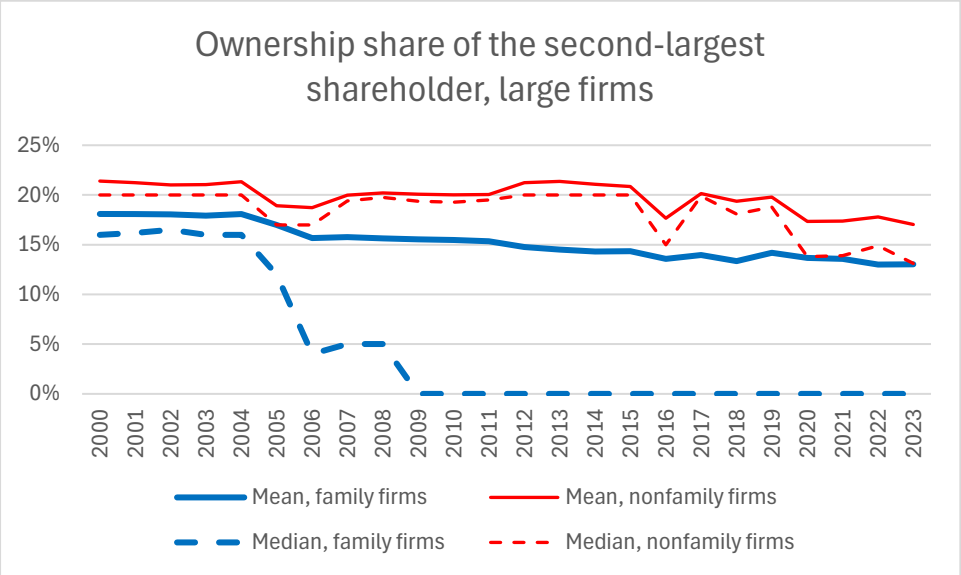
Ownership concentration is high even among large family firms. The proportion of single-owner firms is significantly higher among large family firms than among large nonfamily firms, and the proportion has slightly increased in recent years to around 80%.



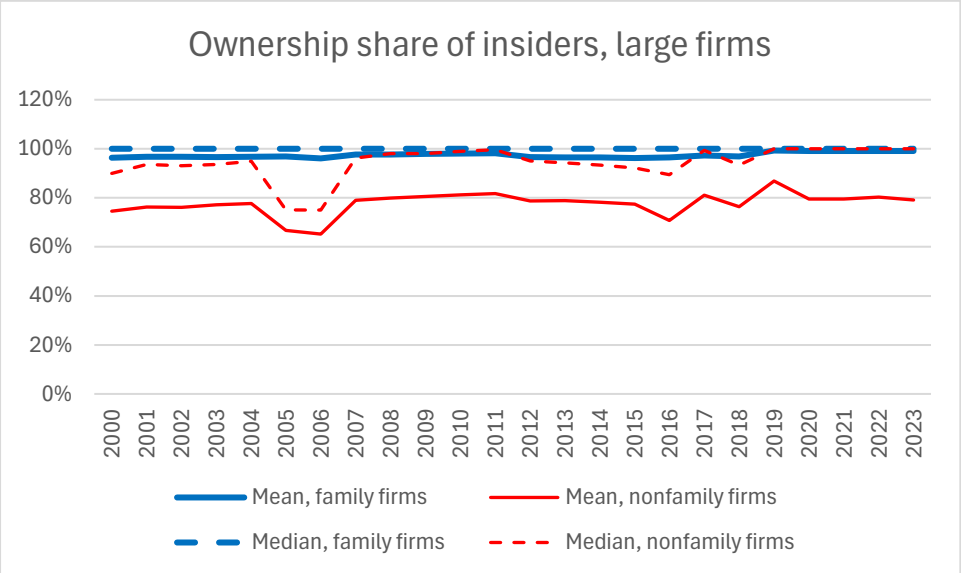
The ownership share of the largest owner (individual or family) in family firms is around 90% on average.



The mean share of the second-largest shareholder in large family firms is at around 15% and it has declined slightly over time.

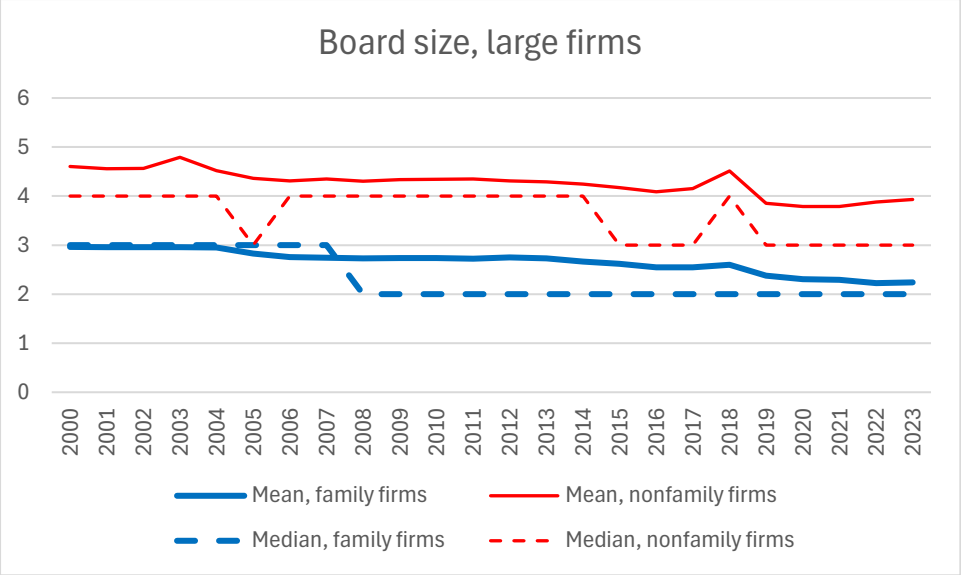


The ownership share of insiders (CEOs and directors) is above two-thirds in both large family and large nonfamily firms. It is still significantly higher for large nonfamily firms.

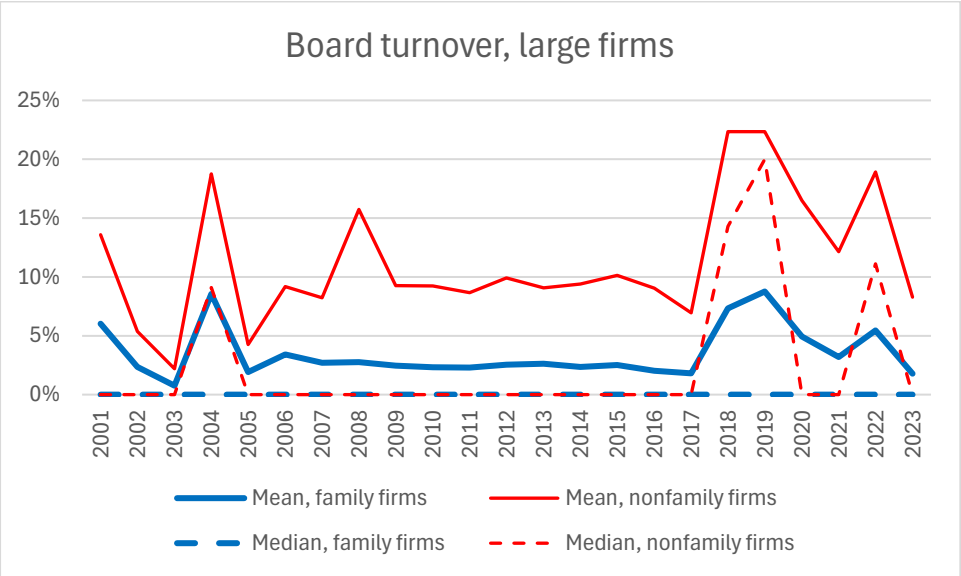


14.3. The board of directors

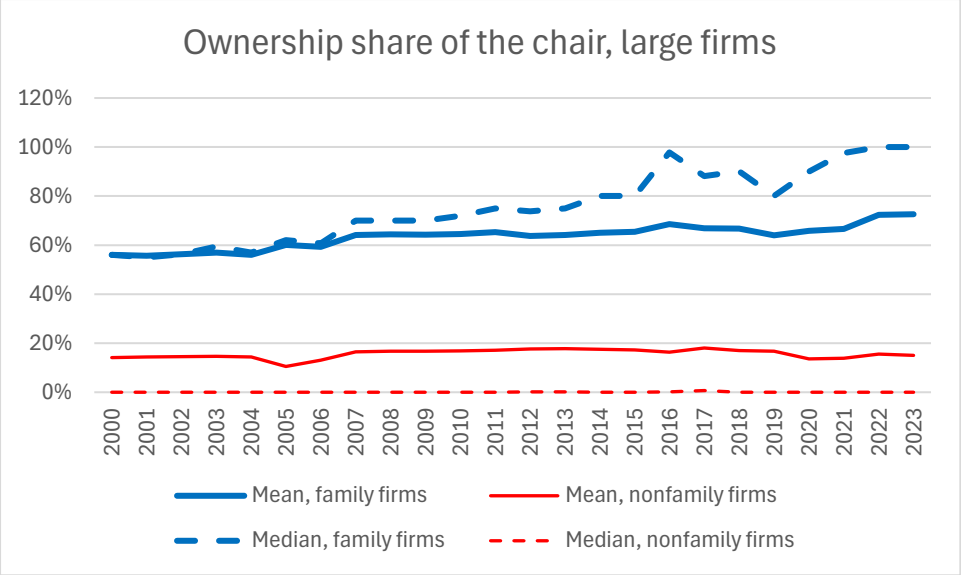
The typical board size of large family firms is smaller than that of large nonfamily firms.

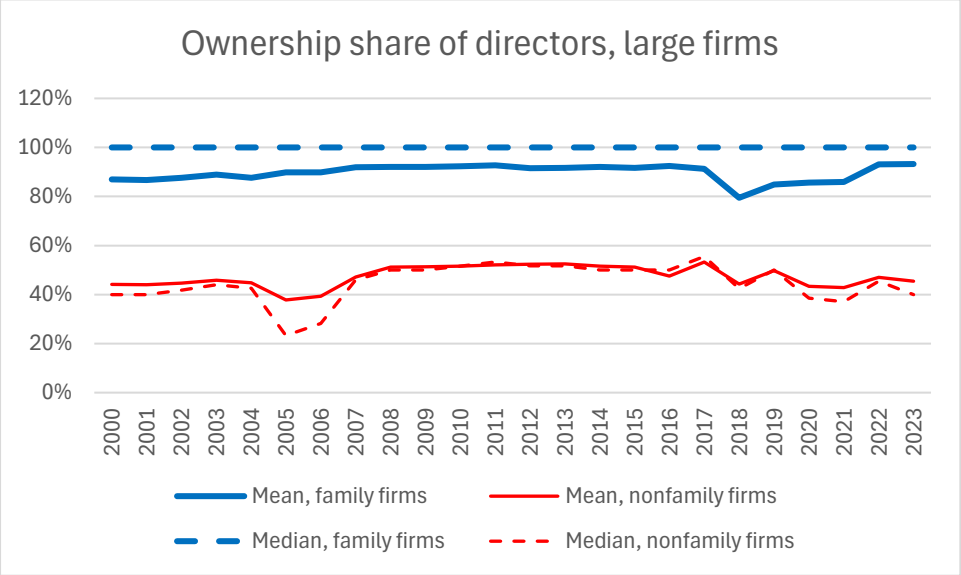


Board turnover is lower in large family firms than in large nonfamily firms.

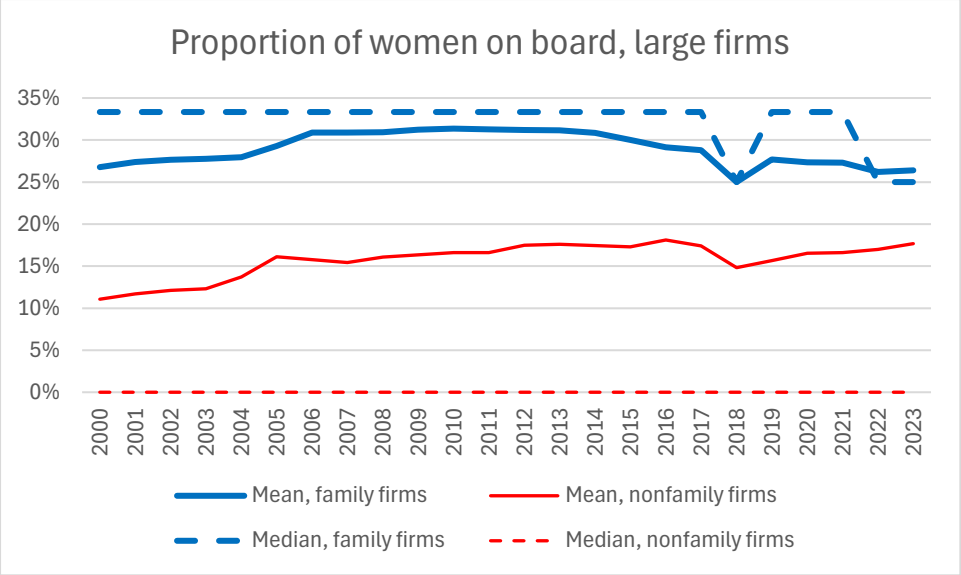


The ownership share of chairs and directors is much higher in large family firms than in large nonfamily firms.

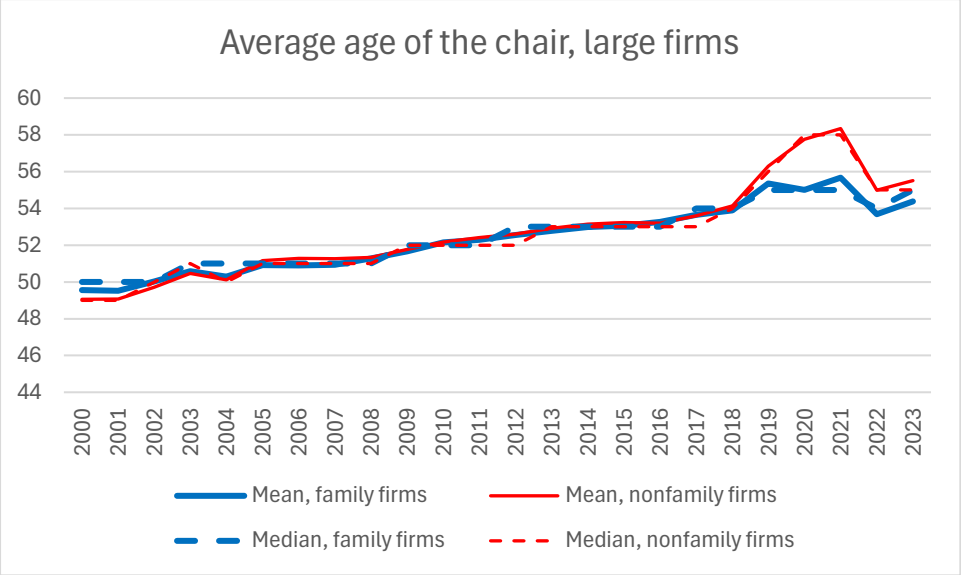


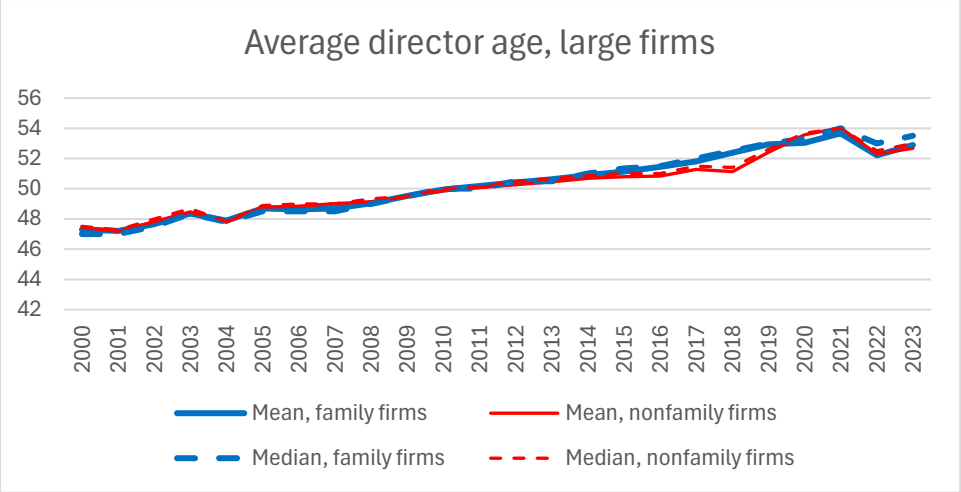


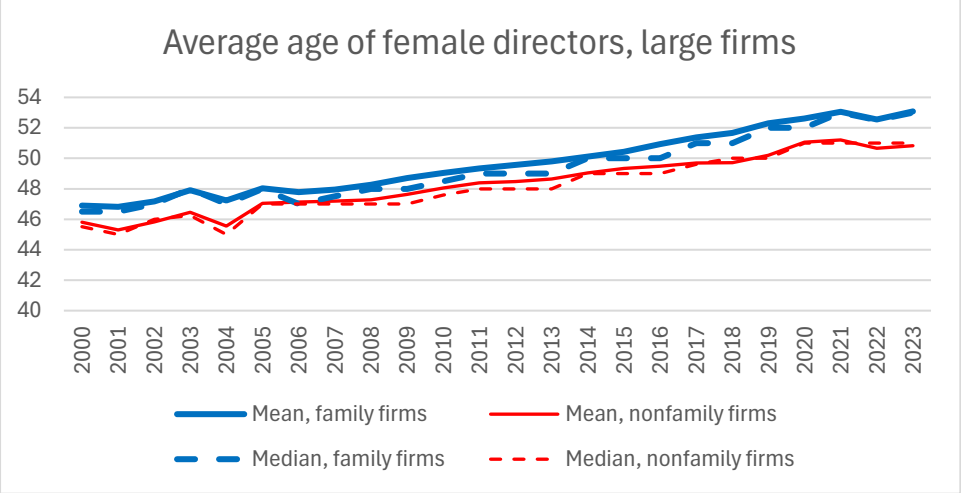
The proportion of women on board is higher – at above 25% - in large family firms than in large nonfamily firms, although the gap has narrowed somewhat in recent years..

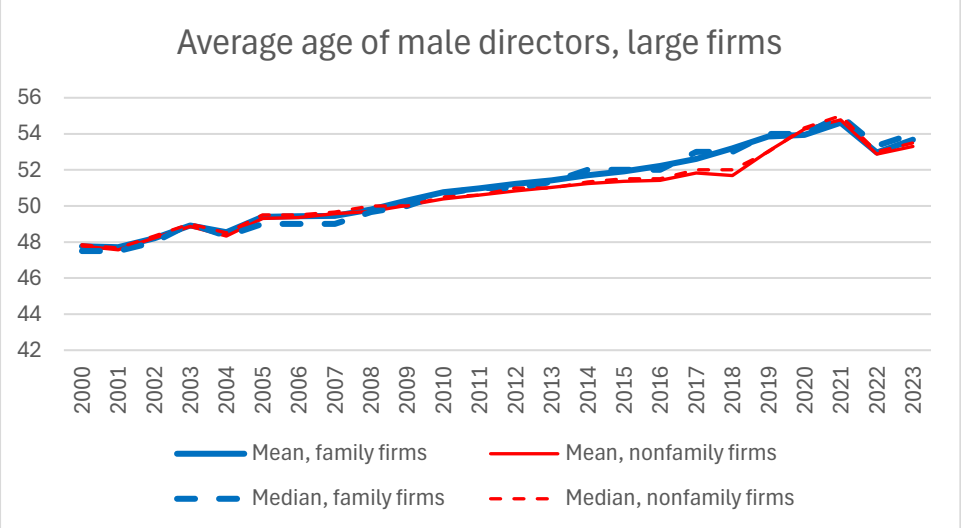


The typical ages of chairs and directors are very similar in large family and nonfamily firms. There has been a trend towards older directors in recent years.

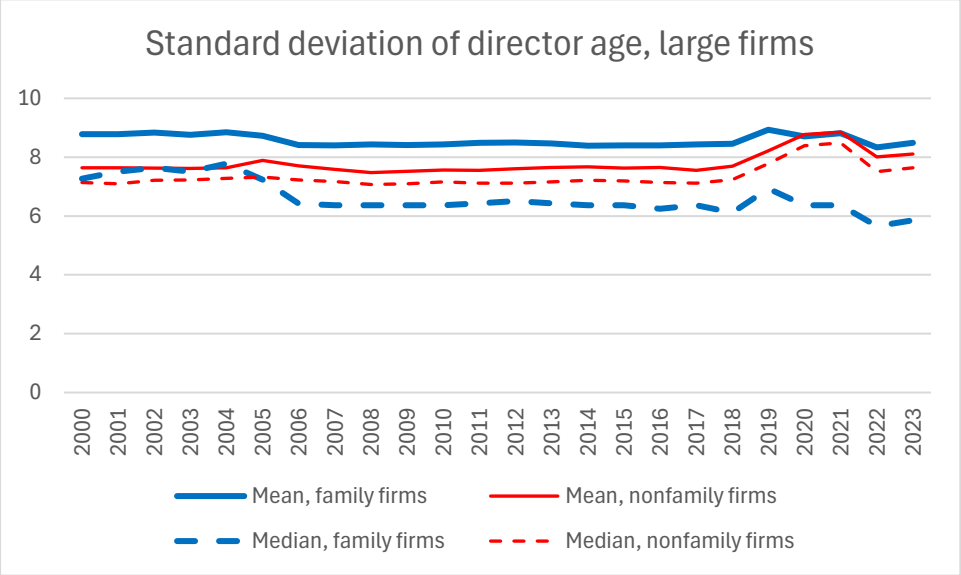



Average director age, large firms
56
54
52
50
48
46
44
42
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms

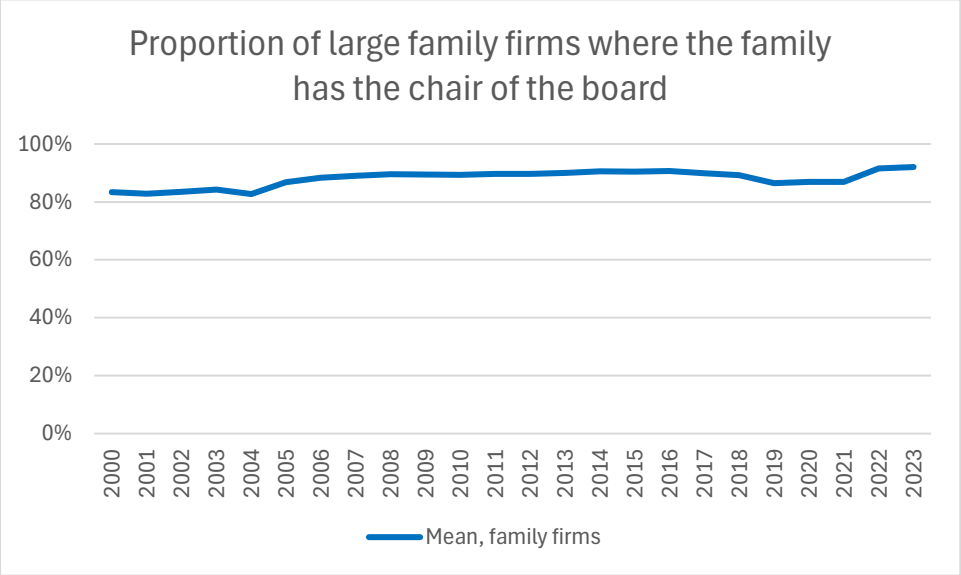

Average age of female directors, large firms
54
52
50
48
46
44
42
40
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms


Average age of male directors, large firms
56
54
52
50
48
46
44
42
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms

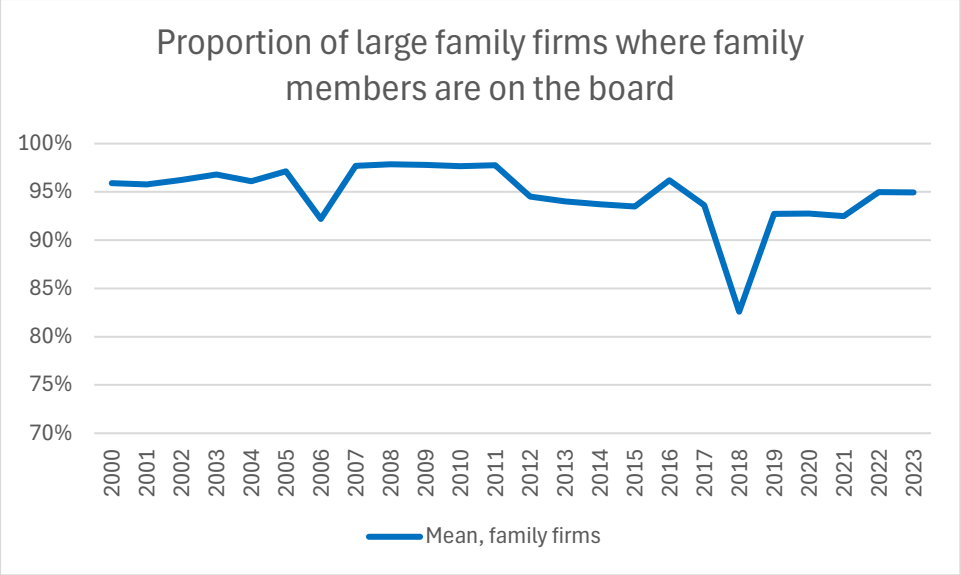
The standard deviation of director ages has been quite stable over time. The larger difference between the mean and the median for family firms comes from smaller boards and boards where different generations in the family are present on the board.

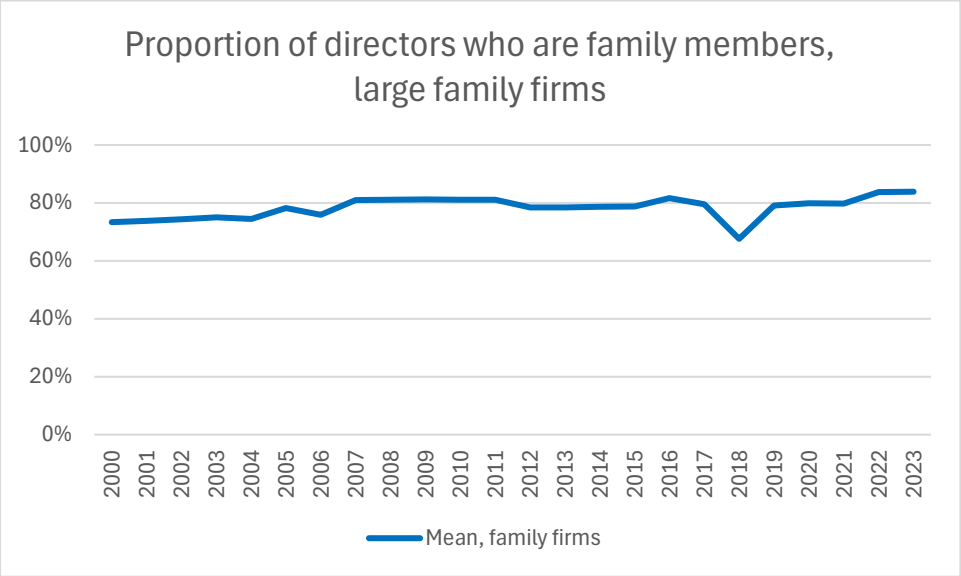


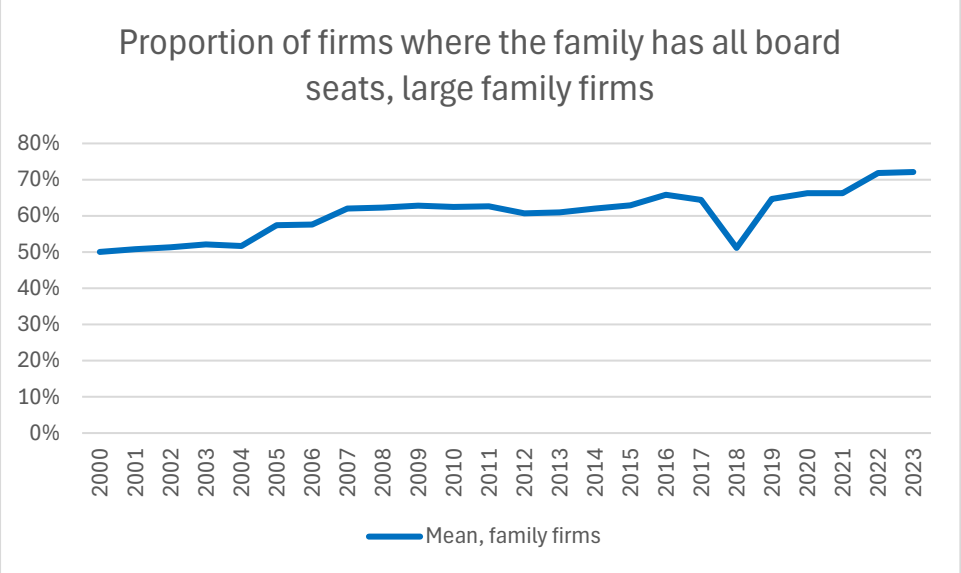
Looking at just large family firms, the proportion of firms where the family has chair position has been fairly stable over time at above 80%.



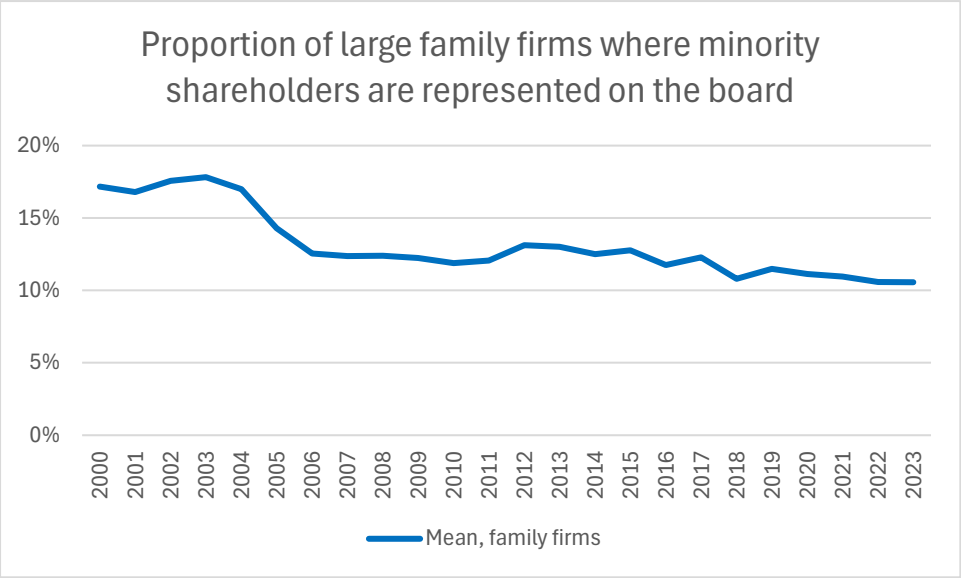
Family members sit on the board in around 95% of the cases, and on average four out of five directors are family members. The proportion of boards where the family has all board seats has increased from one half to more than two thirds.


Proportion of large family firms where family members are on the board
100%
95%
90%
85%
80%
75%
70%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms


Proportion of directors who are family members, large family firms
100%
80%
60%
40%
20%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms

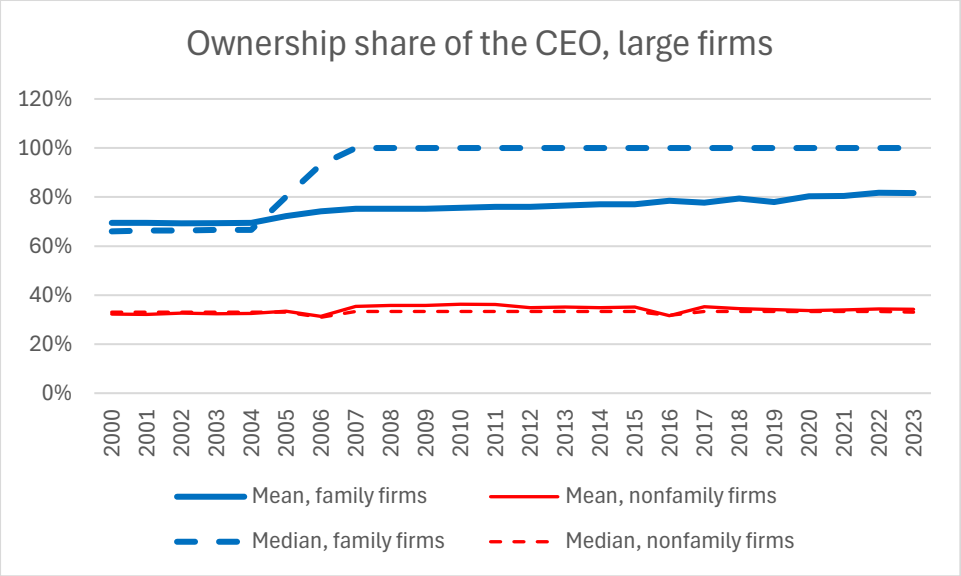

Proportion of firms where the family has all board seats, large family firms
80%
70%
60%
50%
40%
30%
20%
10%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms

Minority shareholders are represented on the board in 10% of large family firm boards.

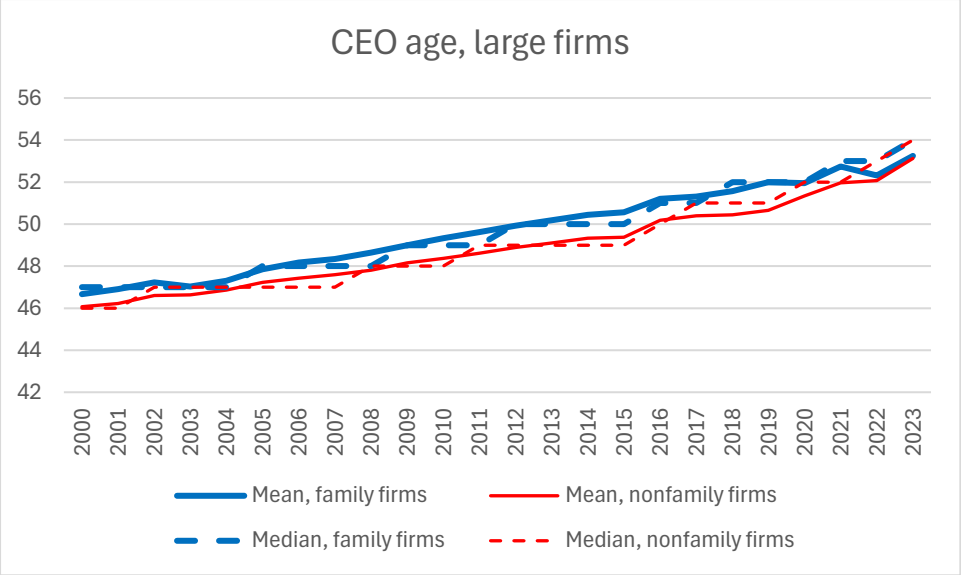


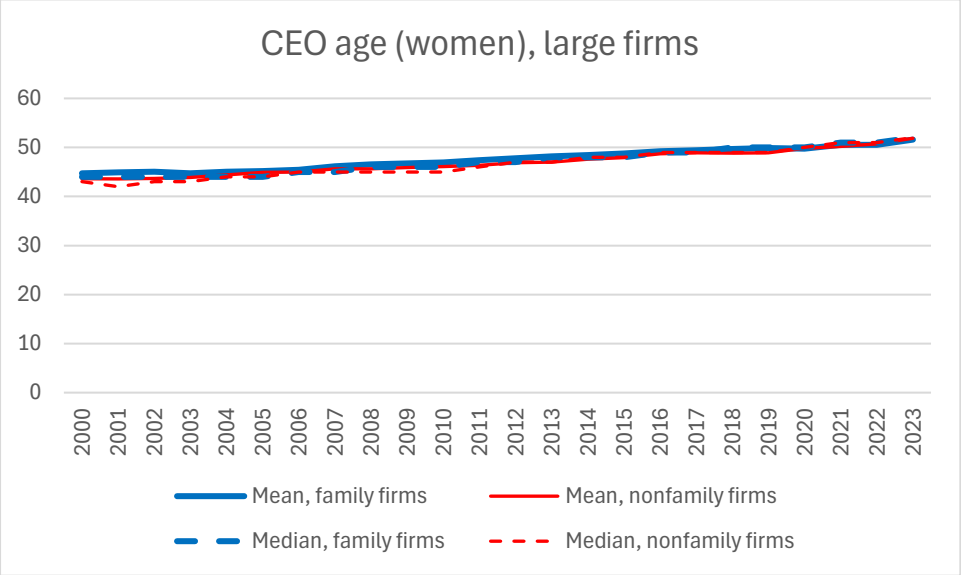
14.4. CEOs

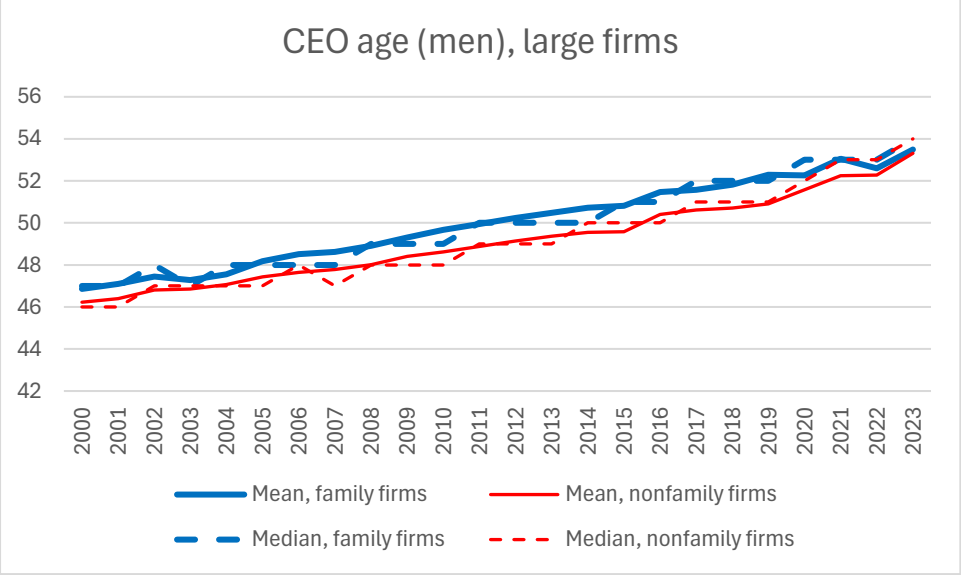
The ownership stake of the CEO is larger for family than for nonfamily firms. In most large family firms, the CEO controls 100% of the equity.



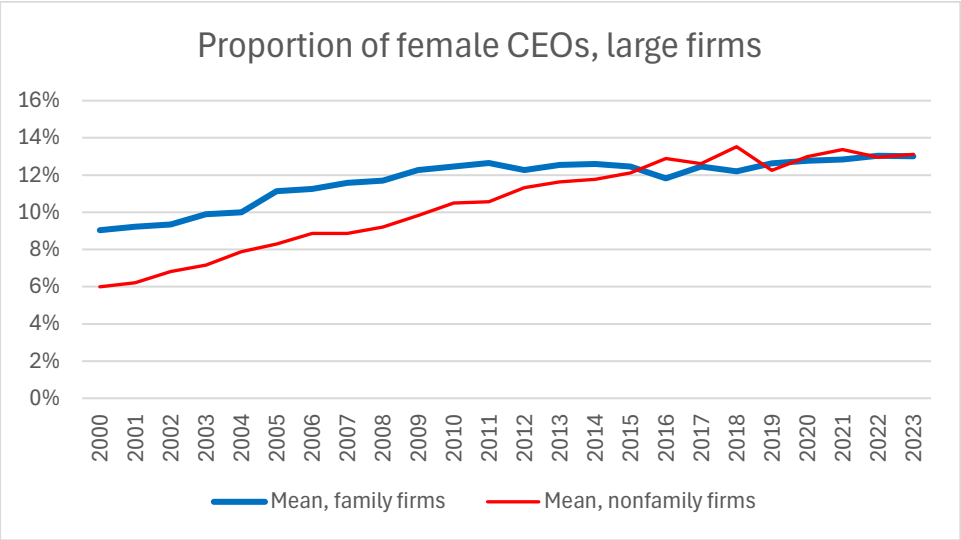
The average age of the CEO is very similar for family and nonfamily firms, and it has gradually increased over time.

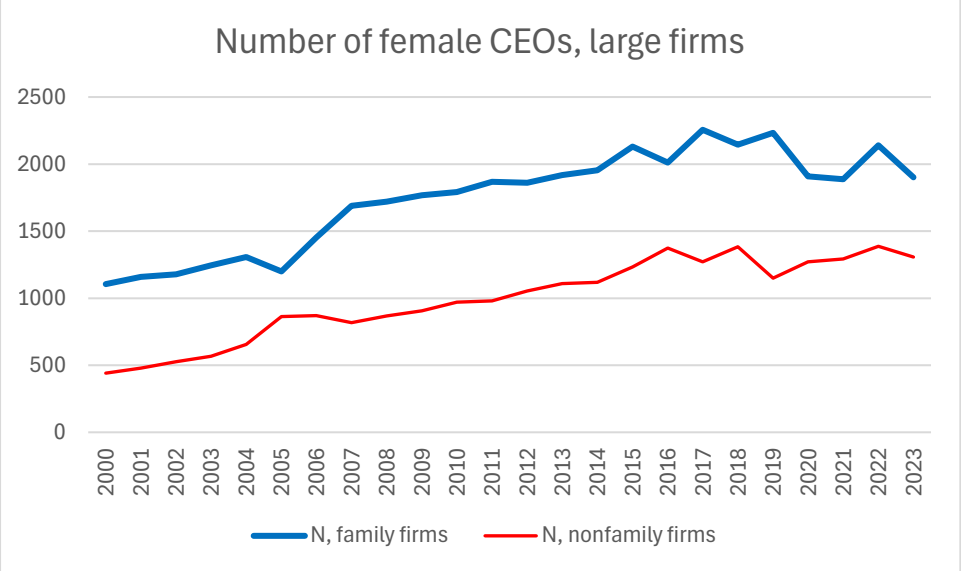

CEO age, large firms
56
54
52
50
48
46
44
42
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms

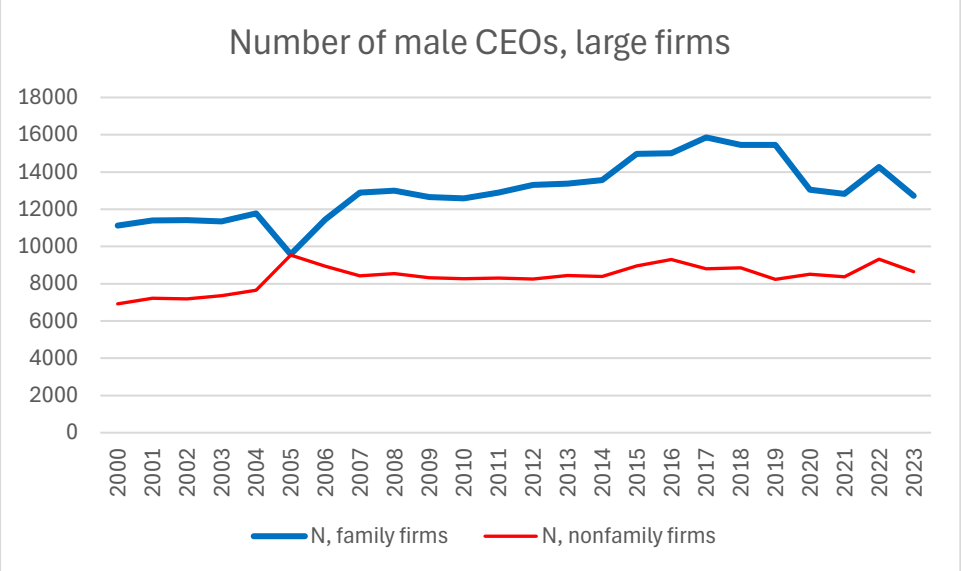

CEO age (women), large firms
60
50
40
30
20
10
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms


CEO age (men), large firms
56
54
52
50
48
46
44
42
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Mean, family firms
Mean, nonfamily firms
Median, family firms
Median, nonfamily firms

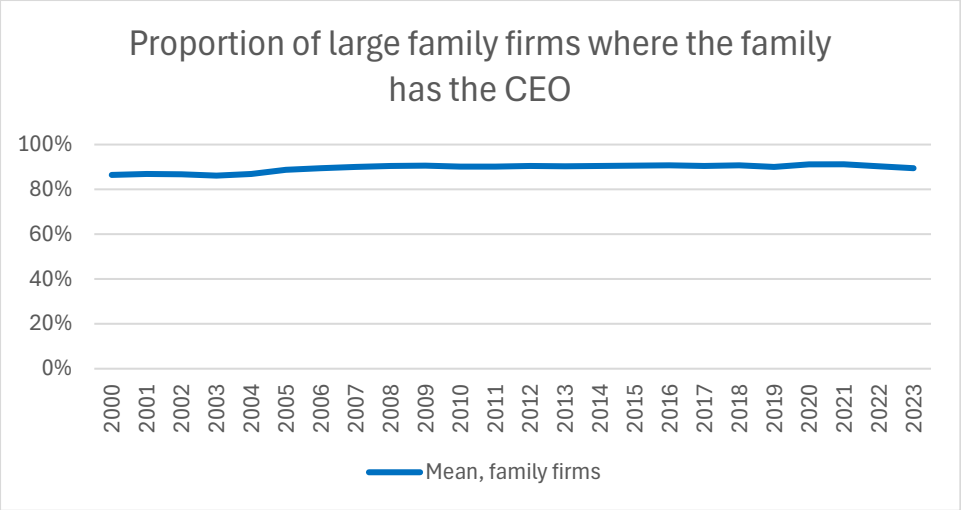
The proportion of female CEOs in large family and nonfamily firms has converged in recent years at around 12%.

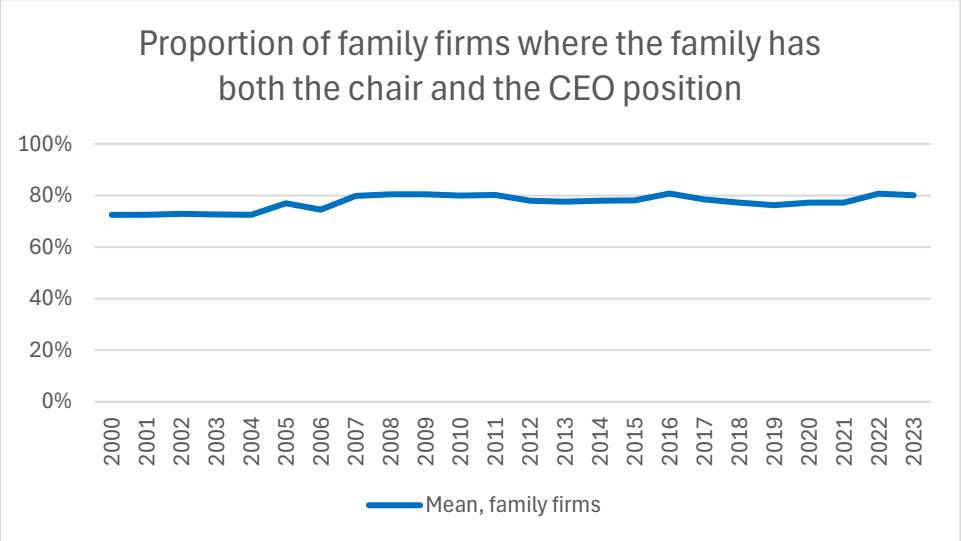


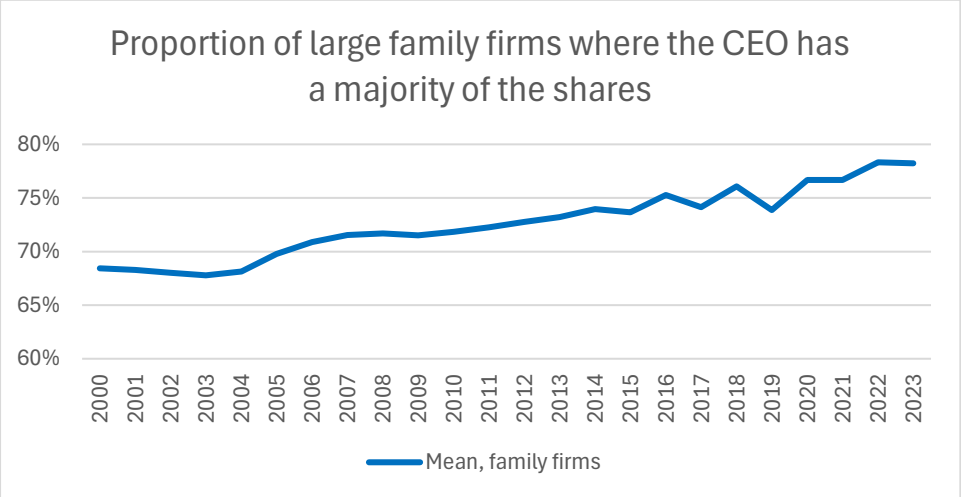




Looking at just the large family firms, the CEO is a family member in 9 out of 10 cases, and in 4 out of 5 the family has both the chair and the CEO position. The proportion of firms where the CEO controls a majority of the shares has increased from around two thirds to around three quarters.





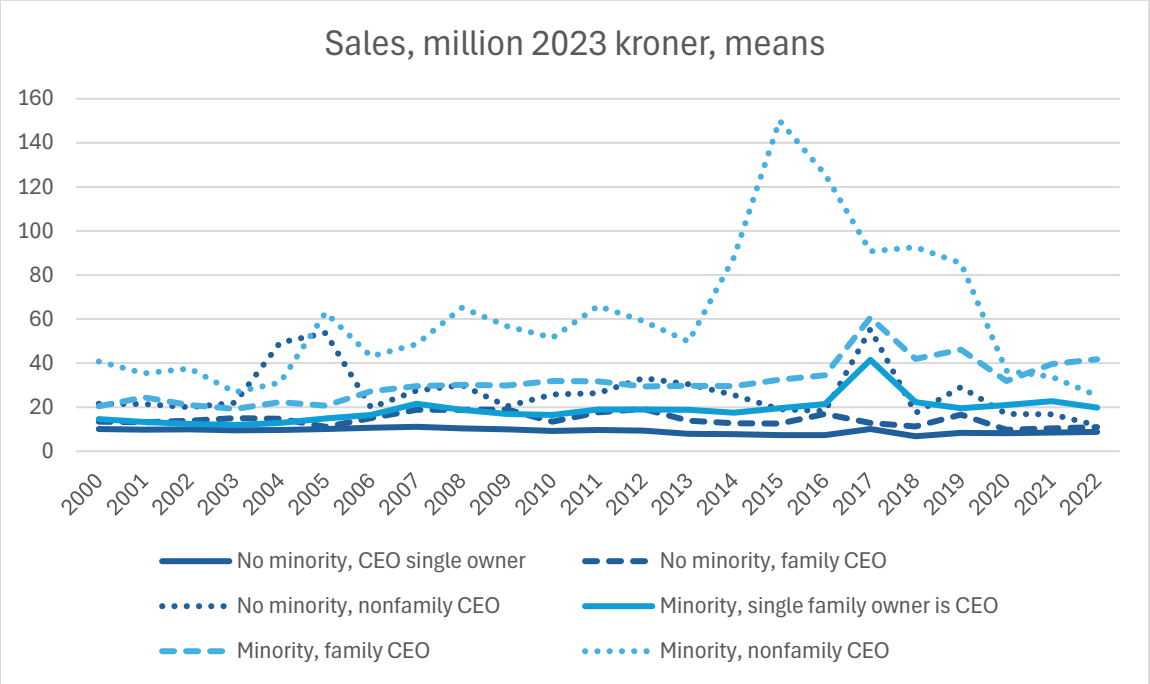


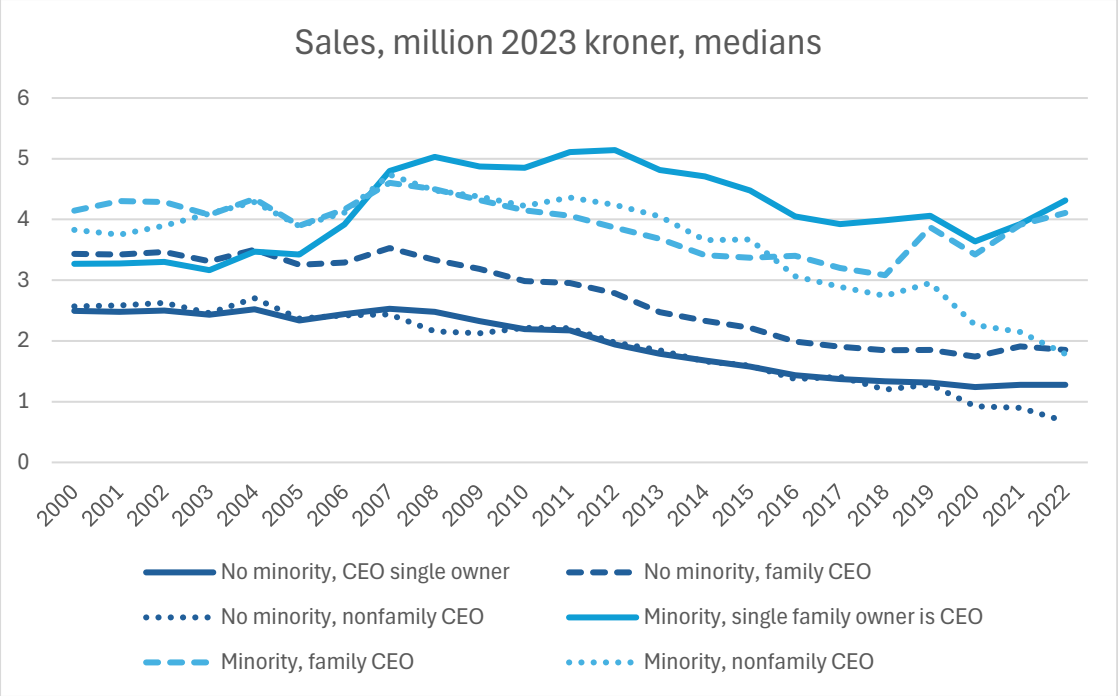
15. Family firms with/without minority investors and family CEOs

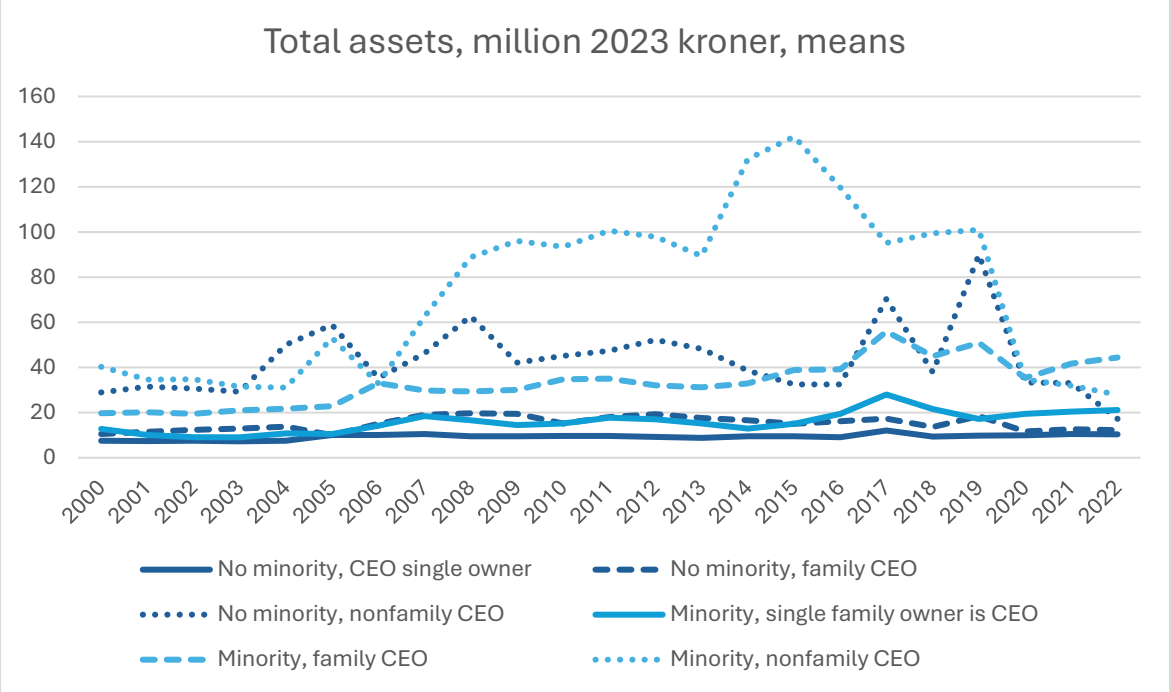
Large majorities of family firms have the family as the only shareholder and a CEO who is also a family member. It is therefore interesting to see whether family firms with nonfamily shareholders and nonfamily CEOs are different on important dimensions.

The graphs below present financial indicators for 6 subgroups of family firms:

- Firms which are entirely owned by their CEO (no minority, single-owner)
- Firms which are entirely owned by the family, have multiple family owners, and a family CEO (no minority, family CEO)
- Firms which are entirely owned by the family, have multiple family owners, and a nonfamily CEO (no minority, nonfamily CEO)
- Firms which are controlled by their CEO and which also have owners who are unrelated to the CEO (minority, single family owner is CEO)
- Family firms with multiple family owners which also have nonfamily owners, and have a CEO that belongs to the controlling family (minority, family CEO)
- Family firms which also have nonfamily owners, and have a nonfamily CEO (minority, nonfamily CEO)




Sales, million 2023 kroner, medians
6
5
4
3
2
1
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
No minority, CEO single owner
No minority, family CEO
No minority, nonfamily CEO
Minority, single family owner is CEO
Minority, family CEO
Minority, nonfamily CEO


Total assets, million 2023 kroner, means
160
140
120
100
80
60
40
20
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
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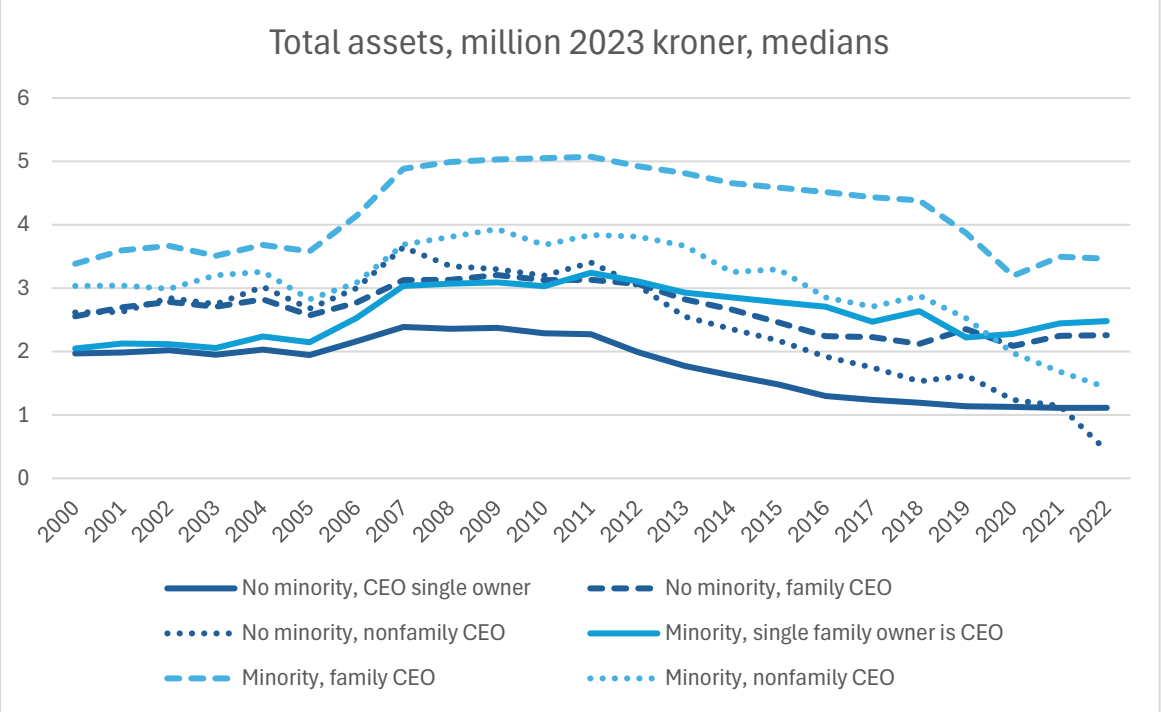
Total assets, million 2023 kroner, medians
6
5
4
3
2
1
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
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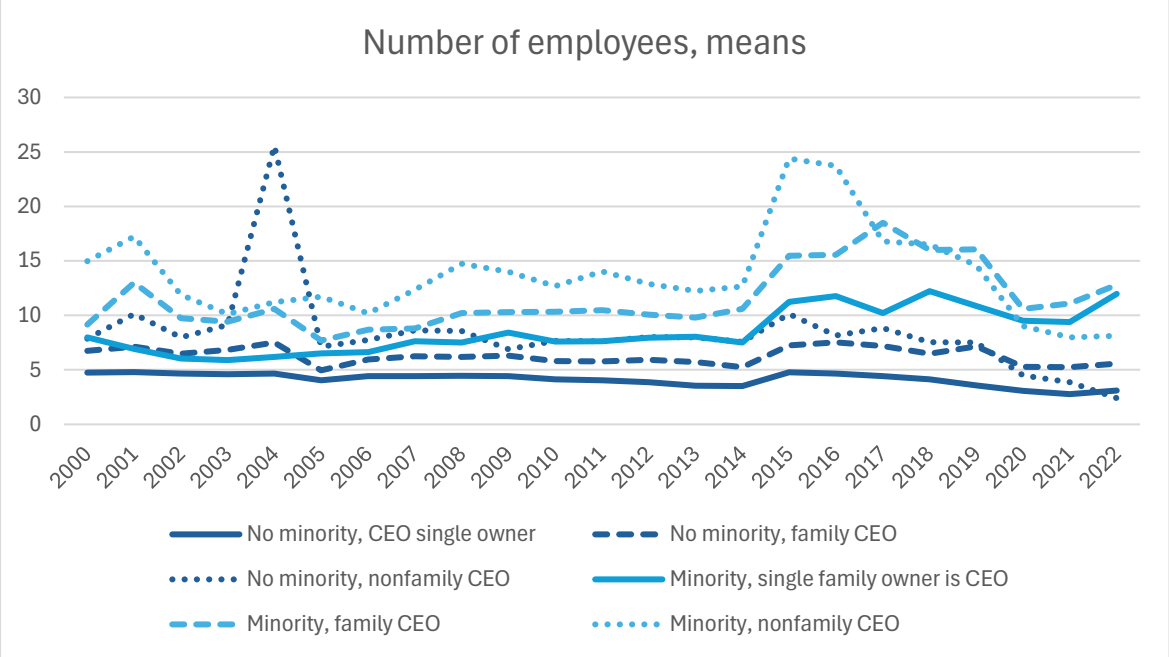
Number of employees, means
30
25
20
15
10
5
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
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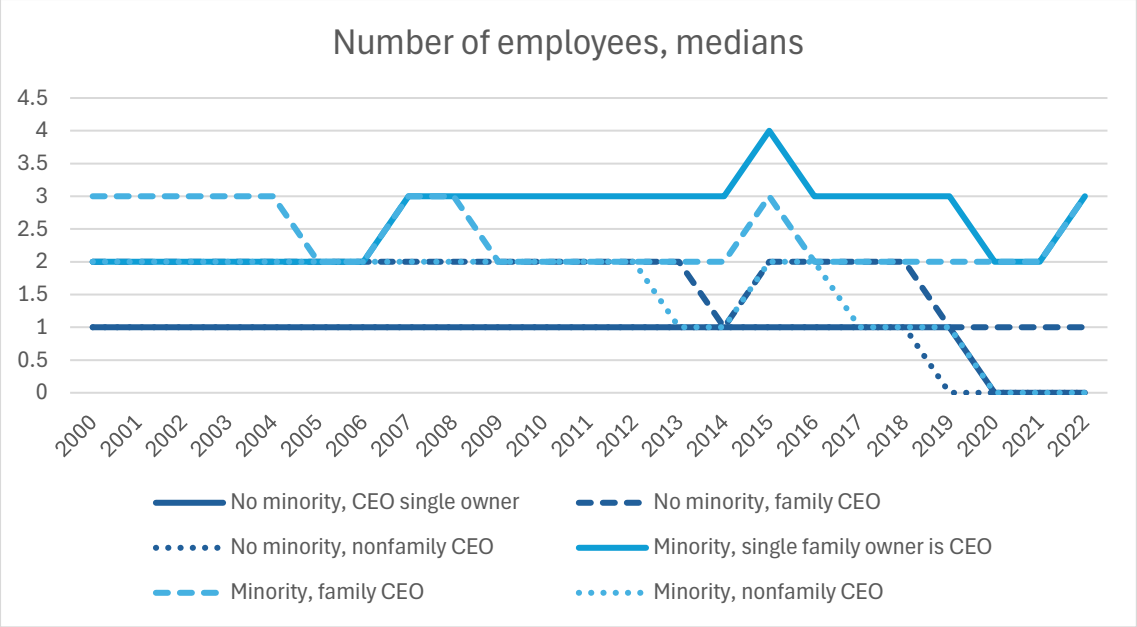
Number of employees, medians
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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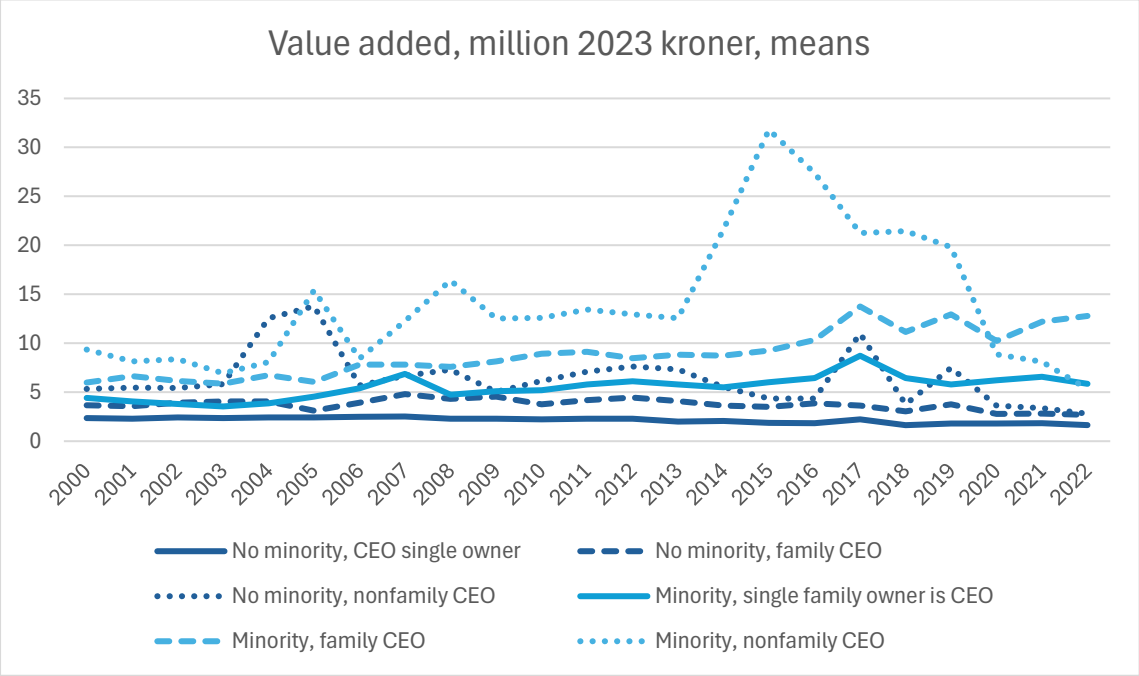
Value added, million 2023 kroner, means
35
30
25
20
15
10
5
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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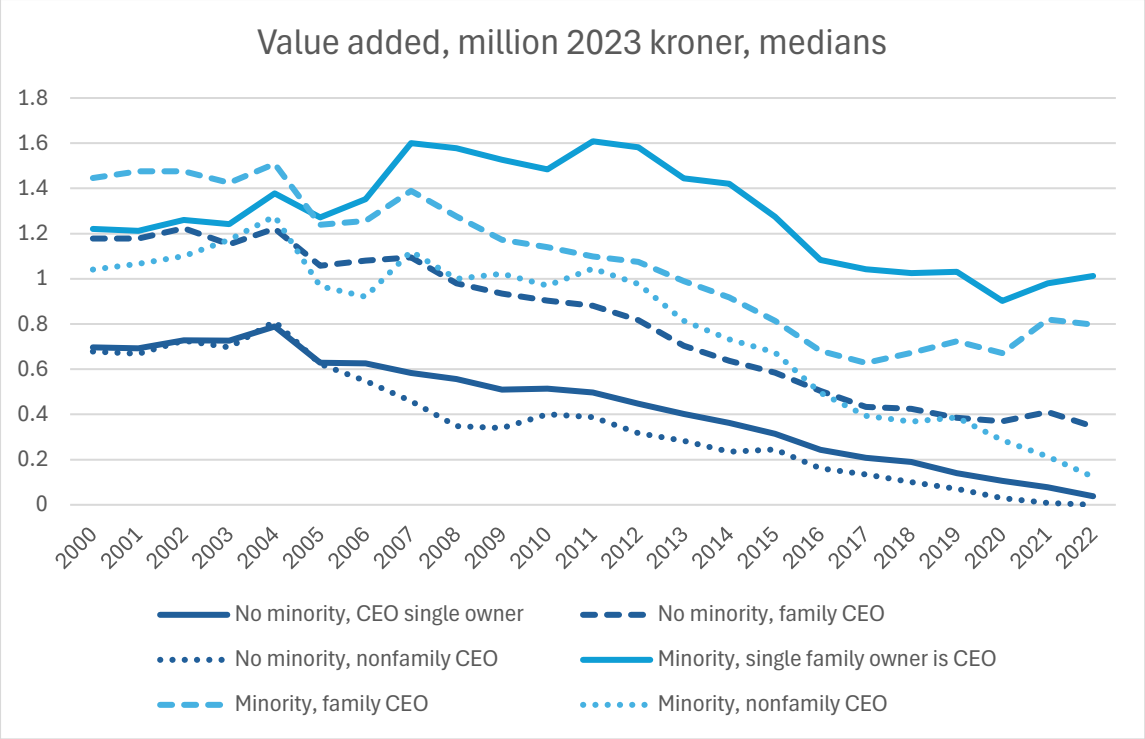
Minority, nonfamily CEO


Value added, million 2023 kroner, medians
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
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2017
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2022
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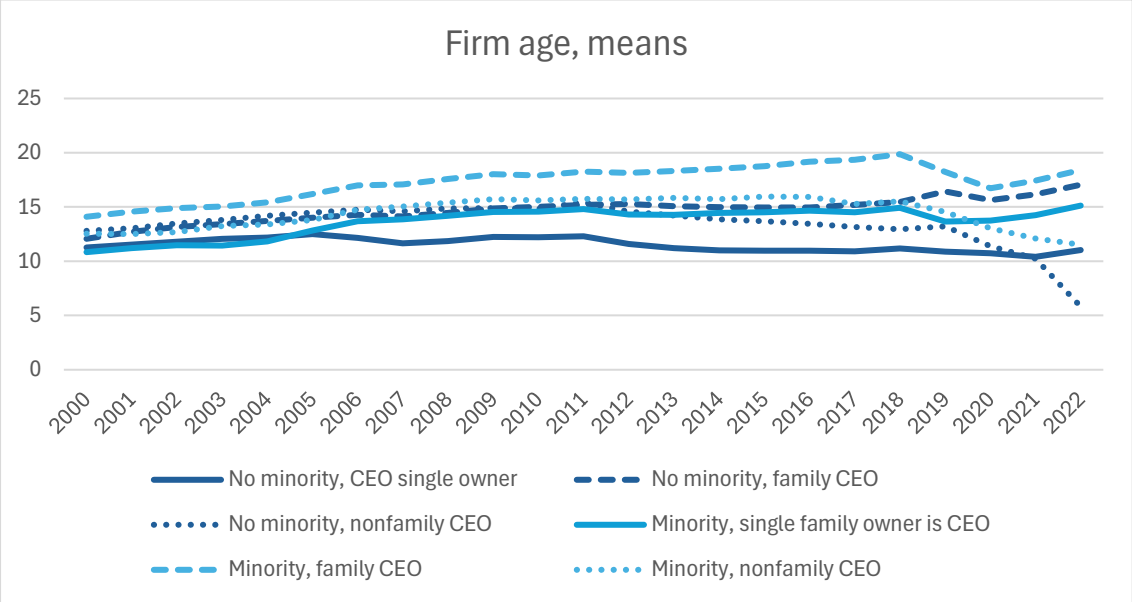
Firm age, means
25
20
15
10
5
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
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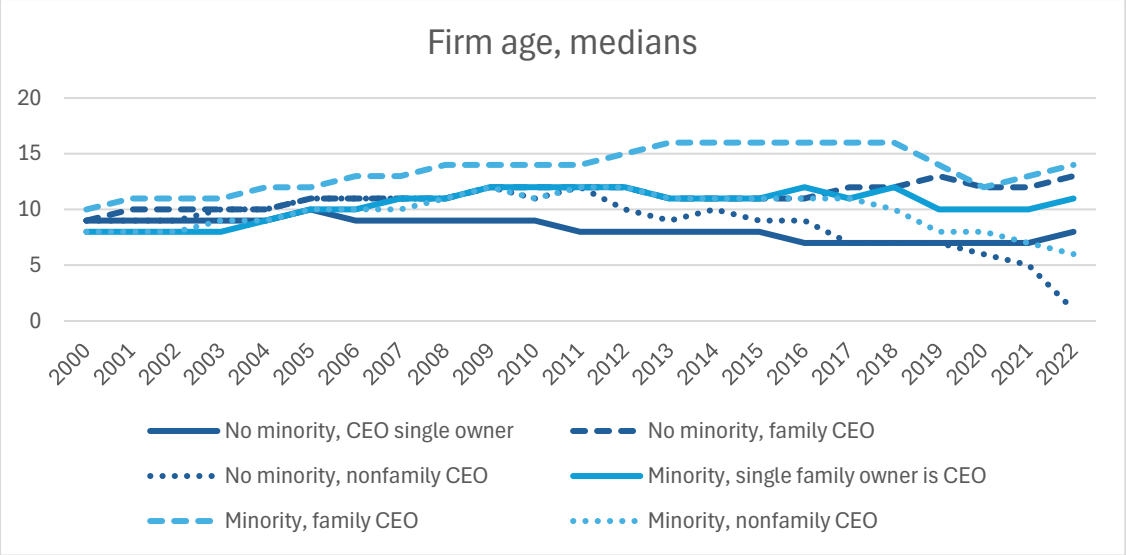
Firm age, medians
20
15
10
5
0
2000
2001
2002
2003
2004
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2008
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2013
2014
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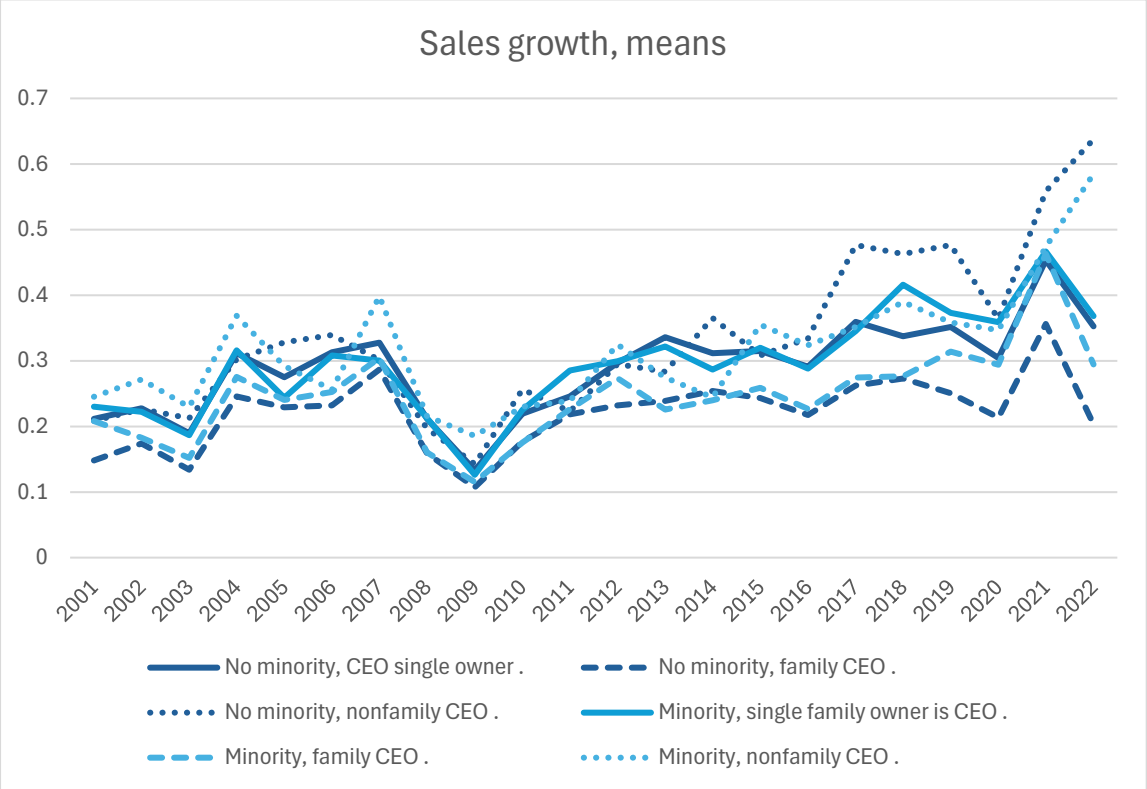
Sales growth, means
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
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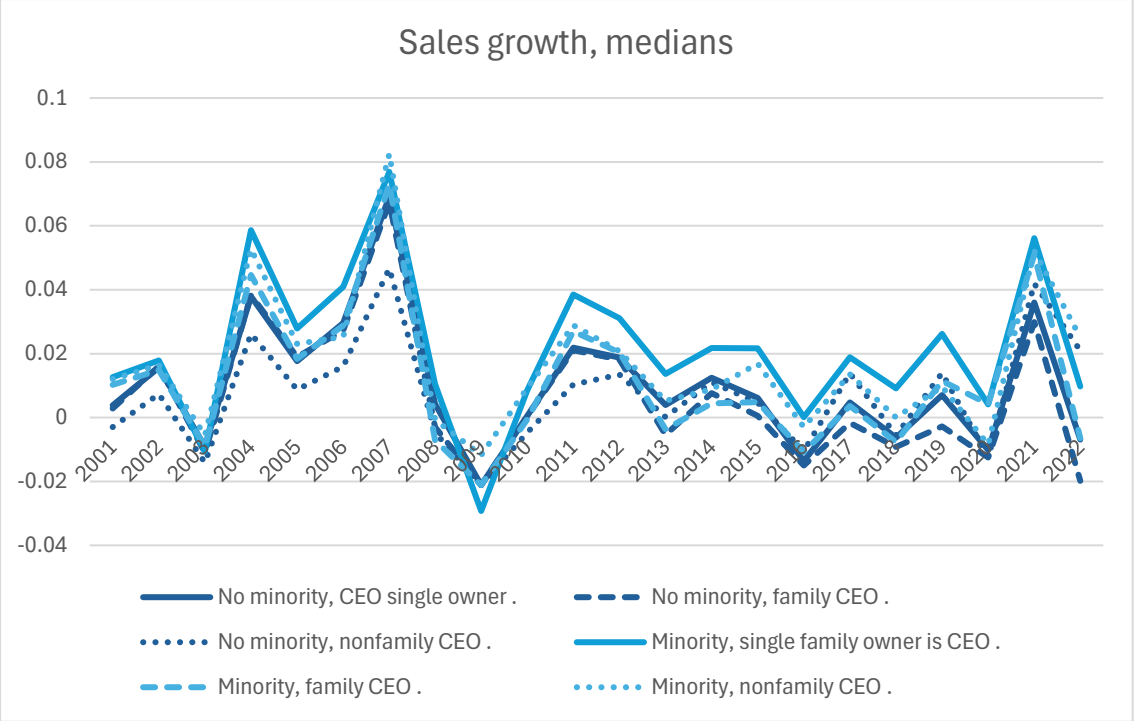
Sales growth, medians
0.1
0.08
0.06
0.04
0.02
0
-0.02
-0.04
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
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2016
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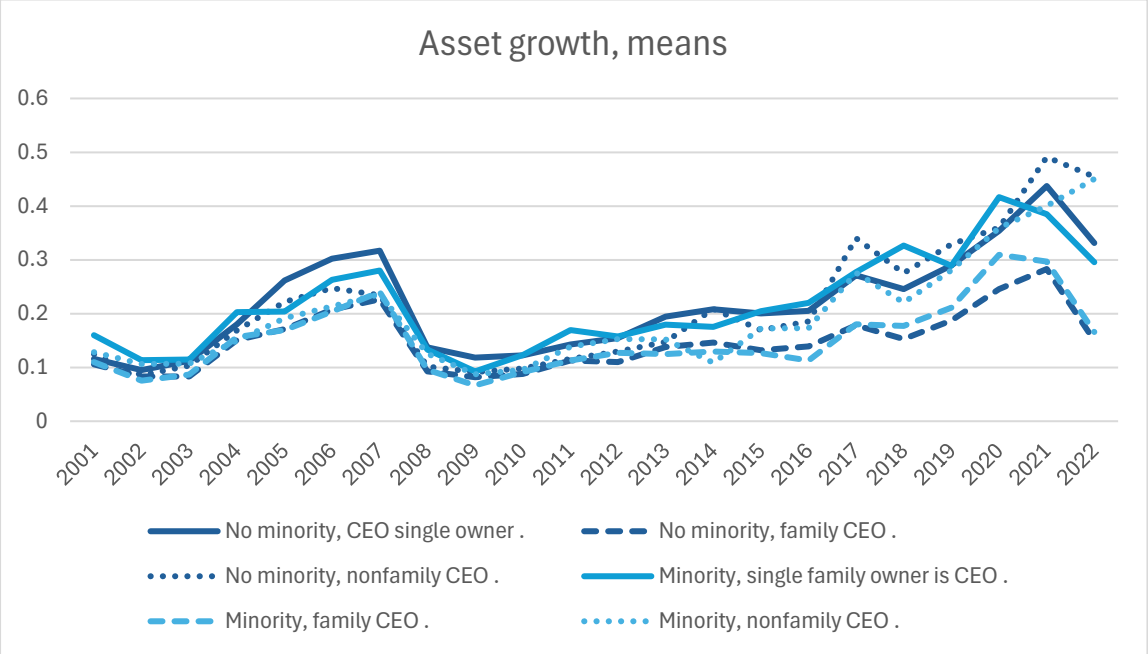
Asset growth, means
0.6
0.5
0.4
0.3
0.2
0.1
0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
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2019
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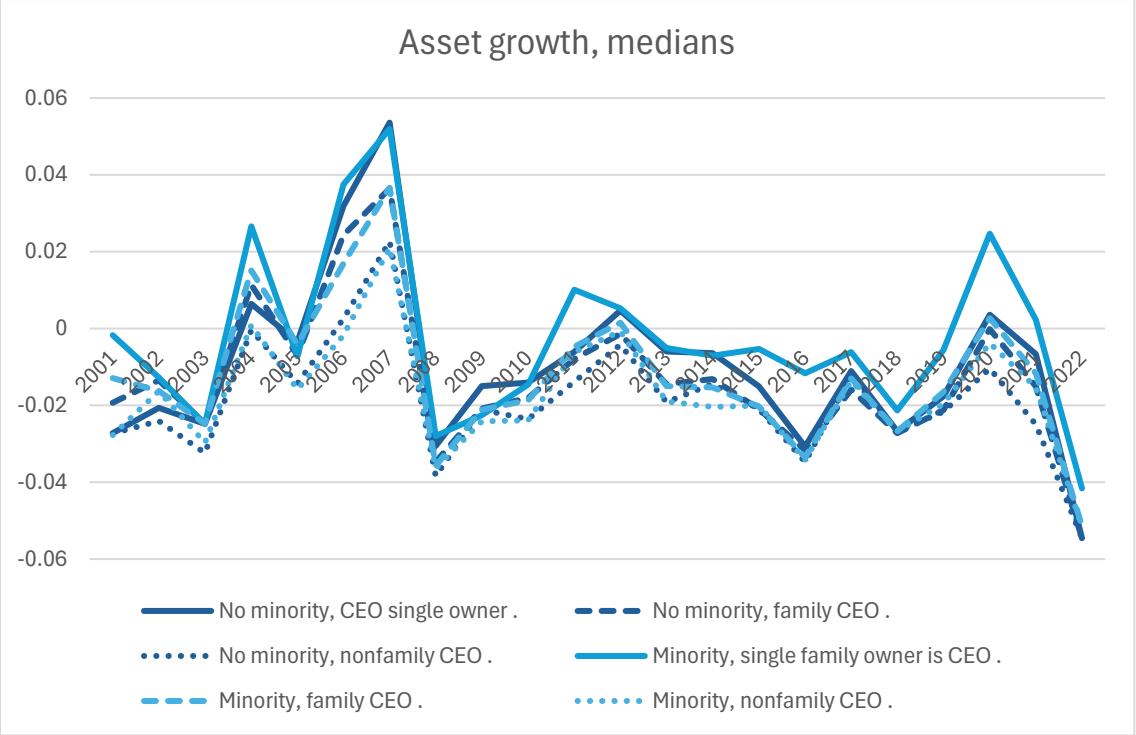
Asset growth, medians
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
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2014
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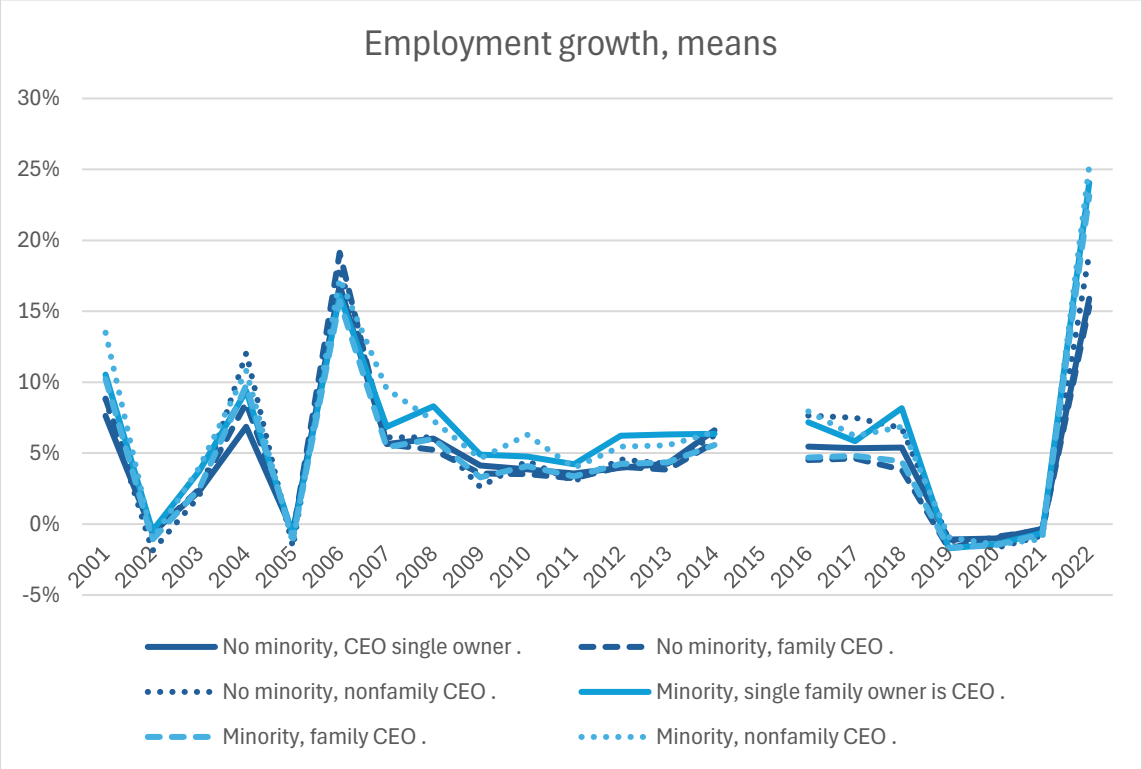
Employment growth, means
30%
25%
20%
15%
10%
5%
0%
-5%
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
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2021
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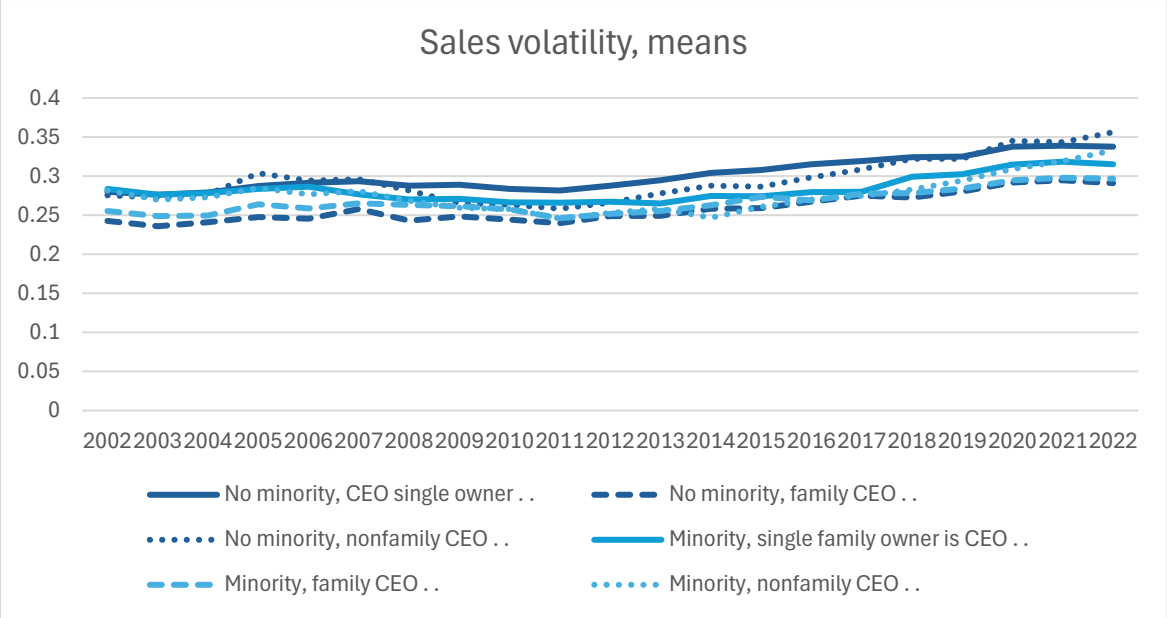
Sales volatility, means
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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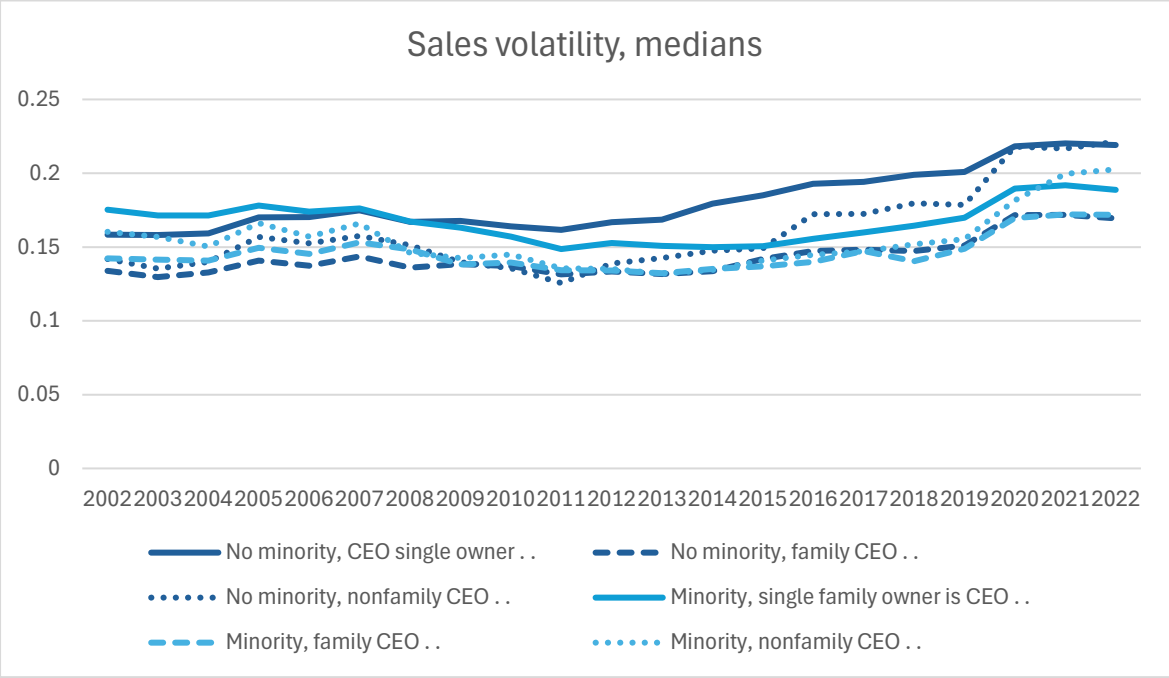
Sales volatility, medians
0.25
0.2
0.15
0.1
0.05
0
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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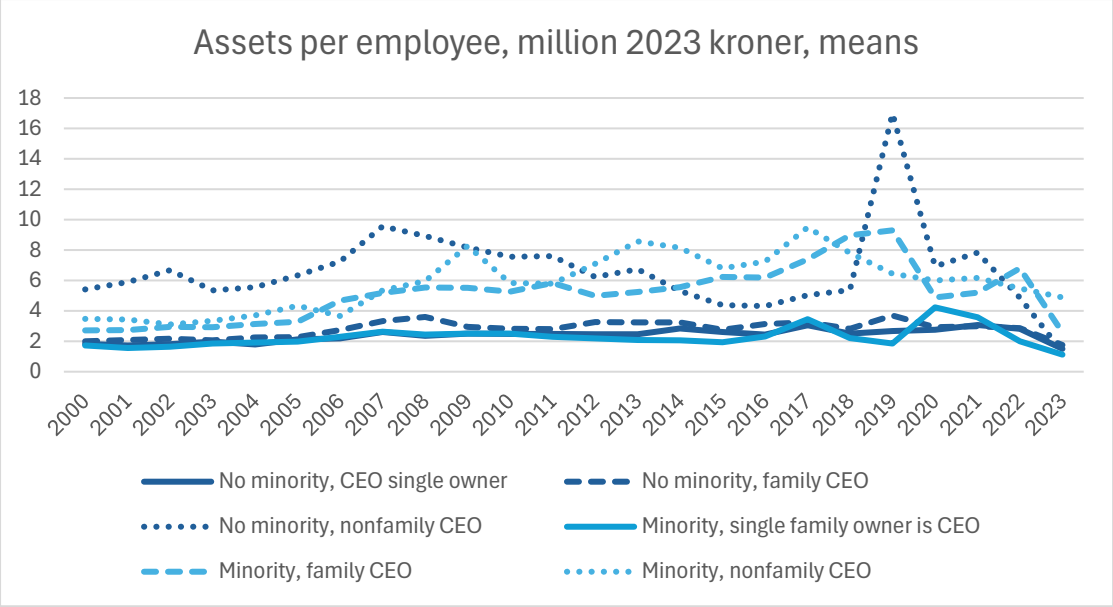
Assets per employee, million 2023 kroner, means
18
16
14
12
10
8
6
4
2
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
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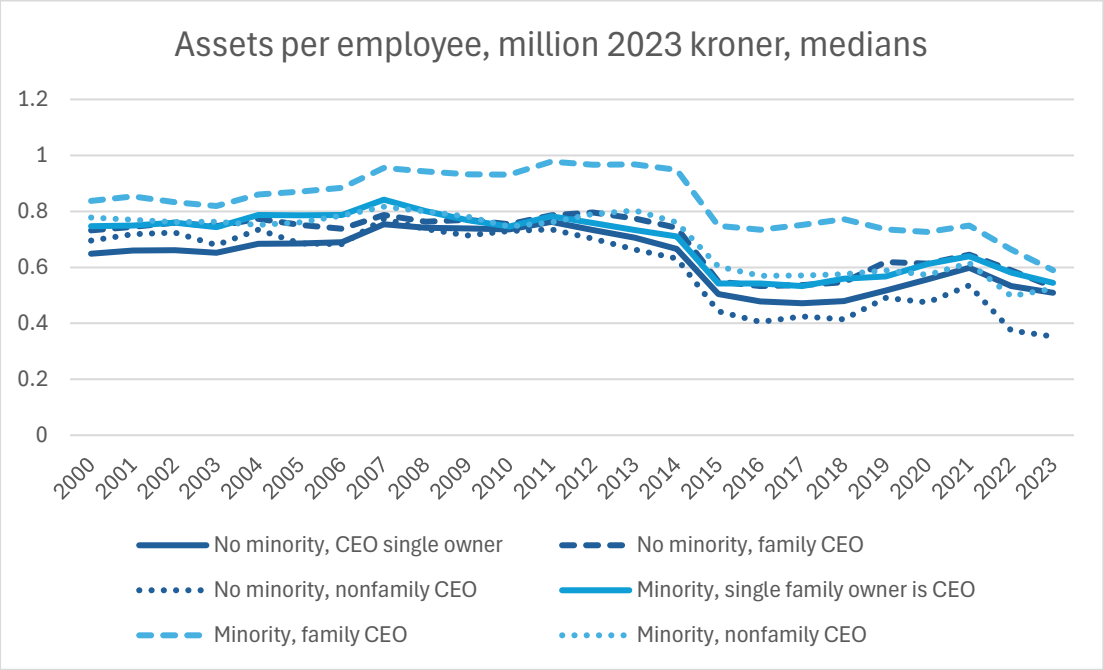
Assets per employee, million 2023 kroner, medians
1.2
1
0.8
0.6
0.4
0.2
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
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2015
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2017
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2023
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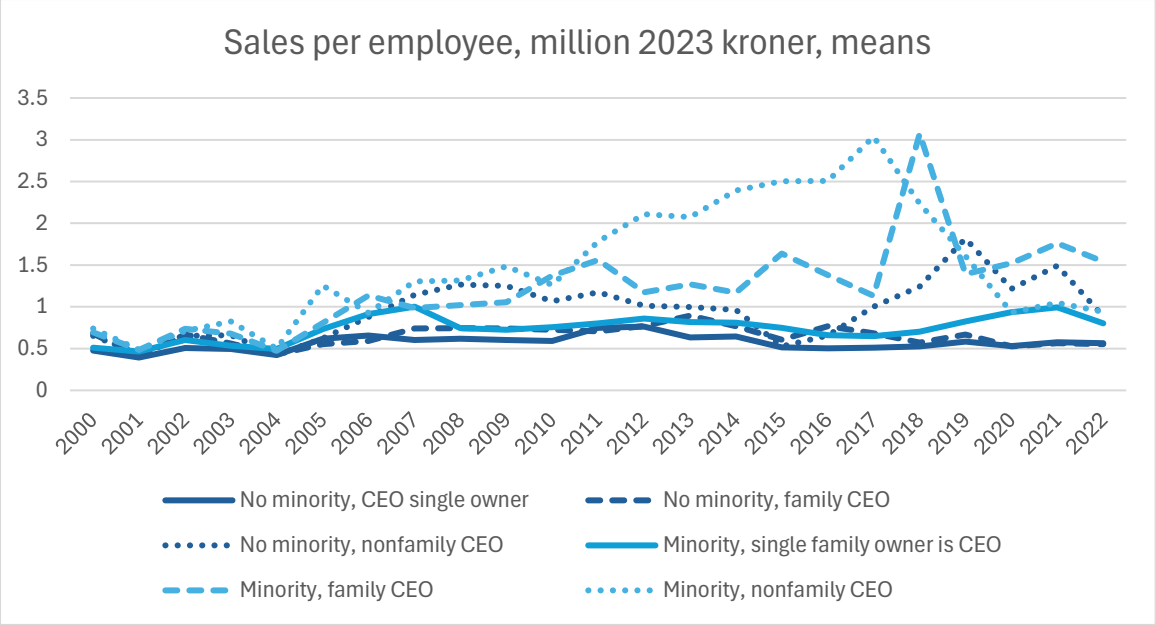
Sales per employee, million 2023 kroner, means
3.5
3
2.5
2
1.5
1
0.5
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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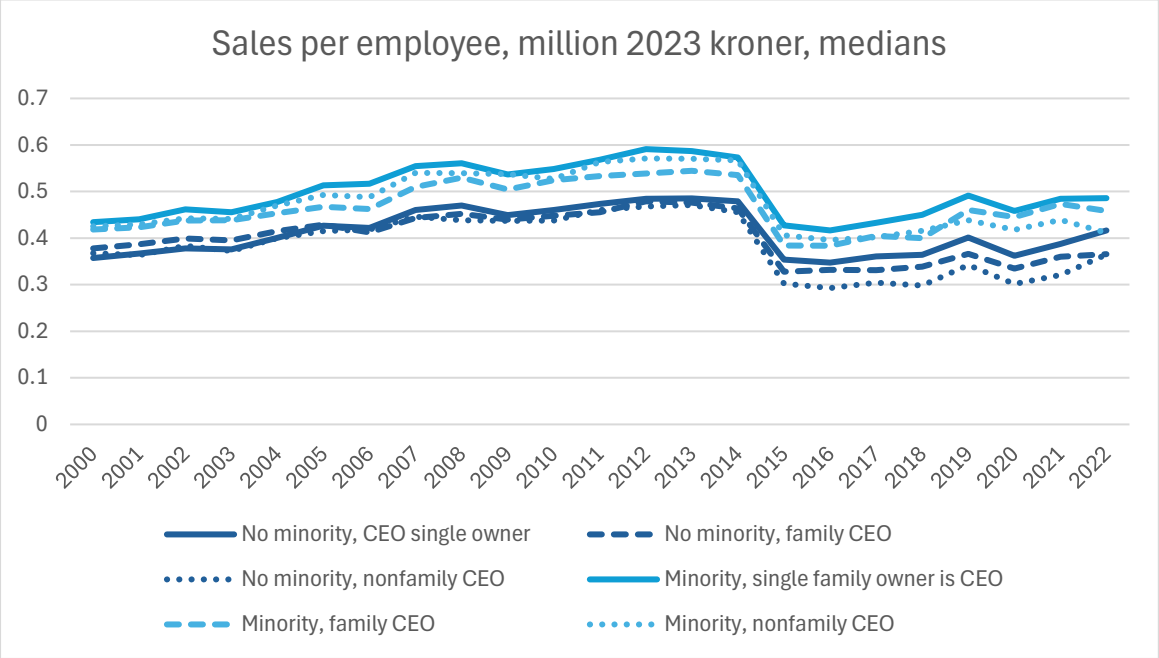
Sales per employee, million 2023 kroner, medians
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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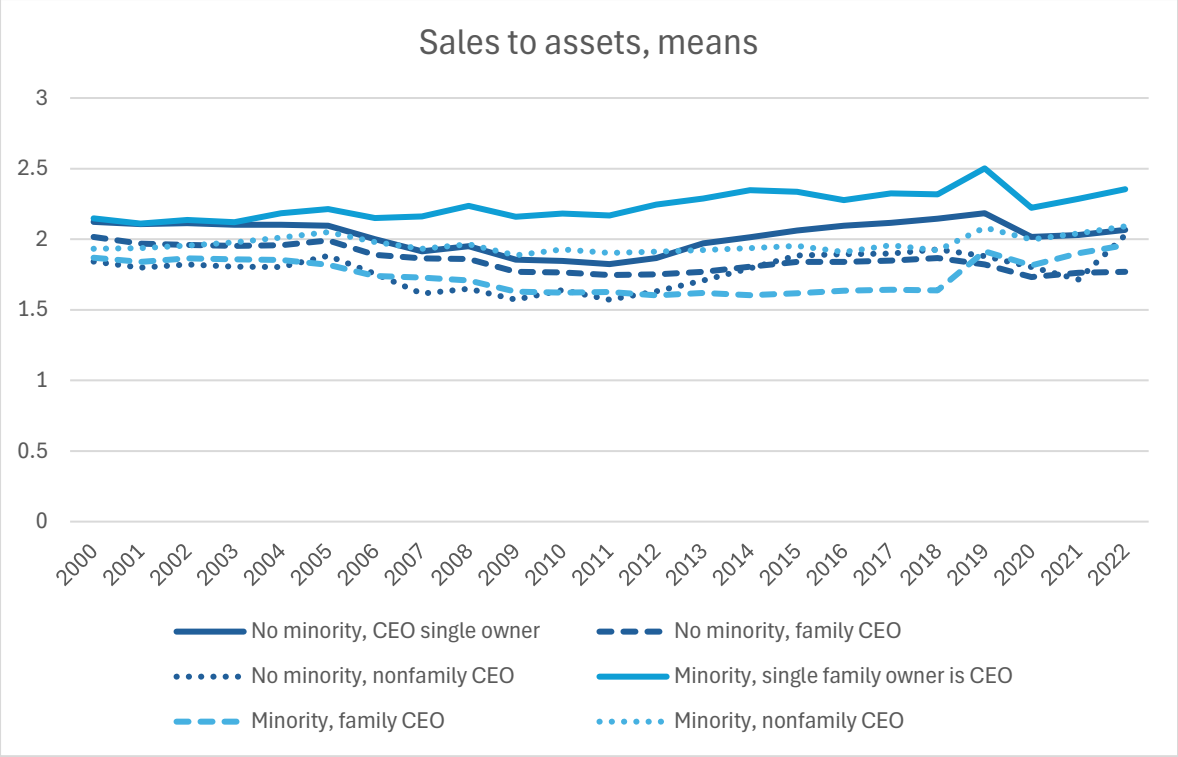
Sales to assets, means
3
2.5
2
1.5
1
0.5
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
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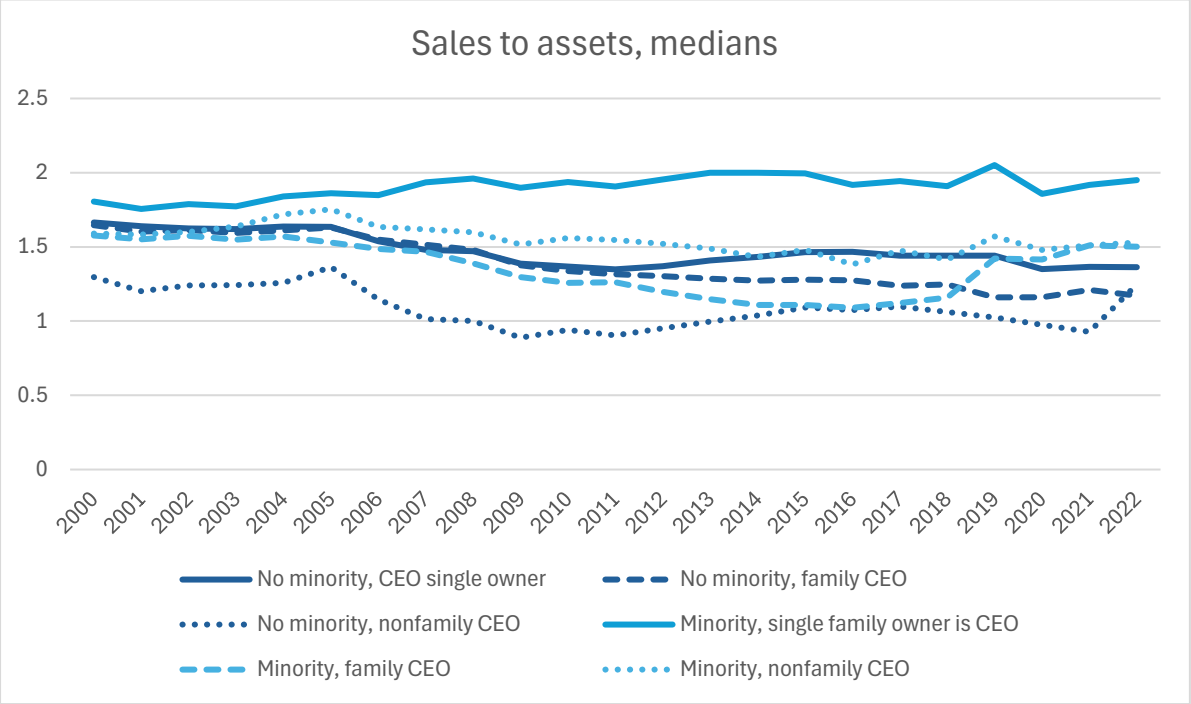
Sales to assets, medians
2.5
2
1.5
1
0.5
0
2000
2001
2002
2003
2004
2005
2006
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2008
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2010
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2012
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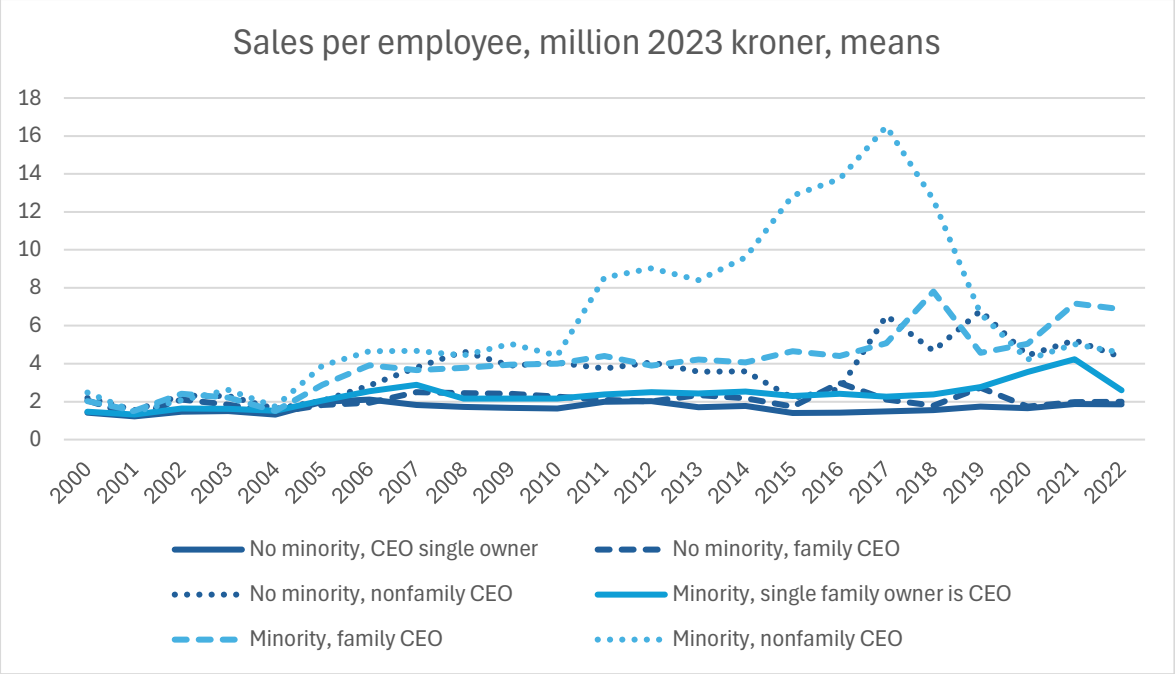
Sales per employee, million 2023 kroner, means
18
16
14
12
10
8
6
4
2
0
2000
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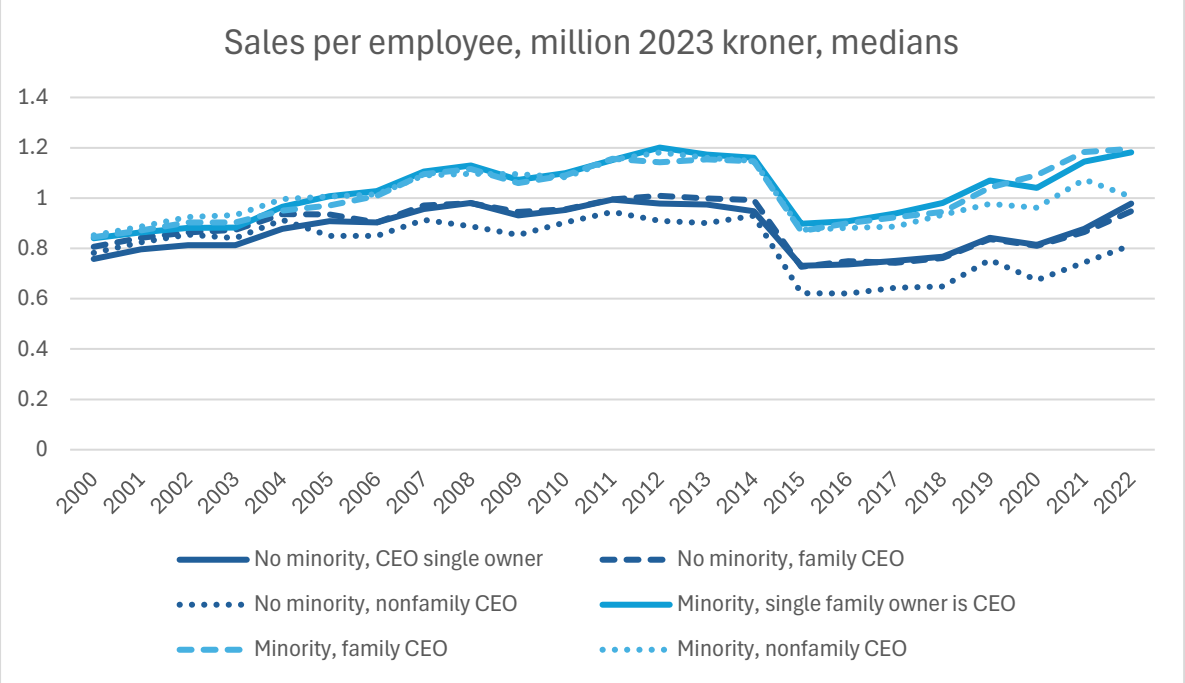
Sales per employee, million 2023 kroner, medians
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
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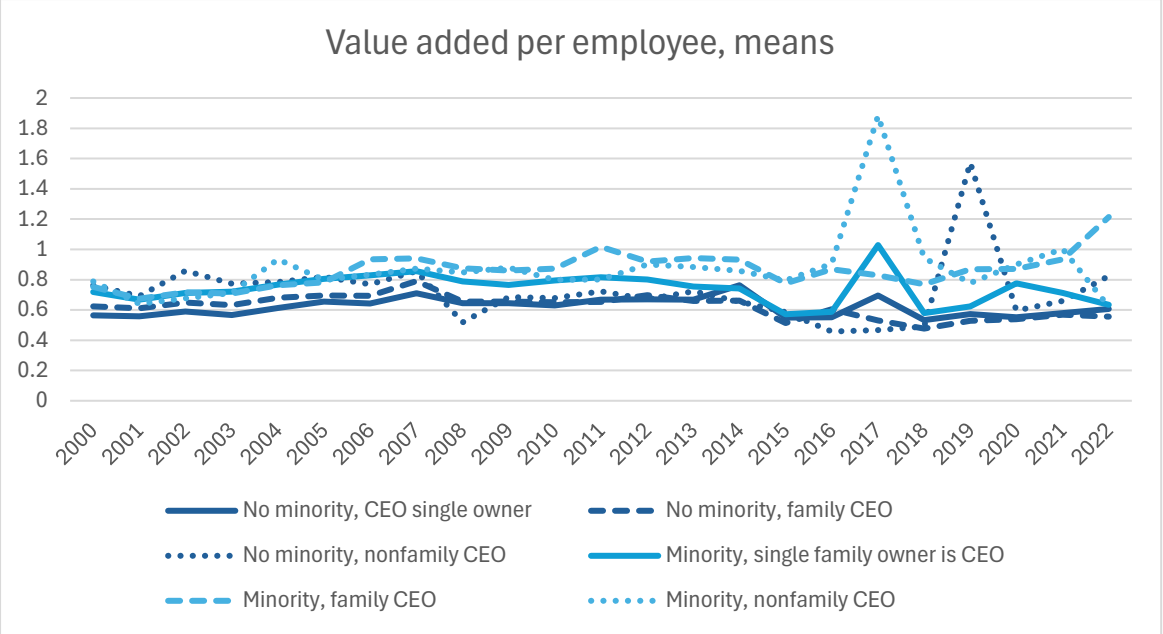
Value added per employee, means
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2000
2001
2002
2003
2004
2005
2006
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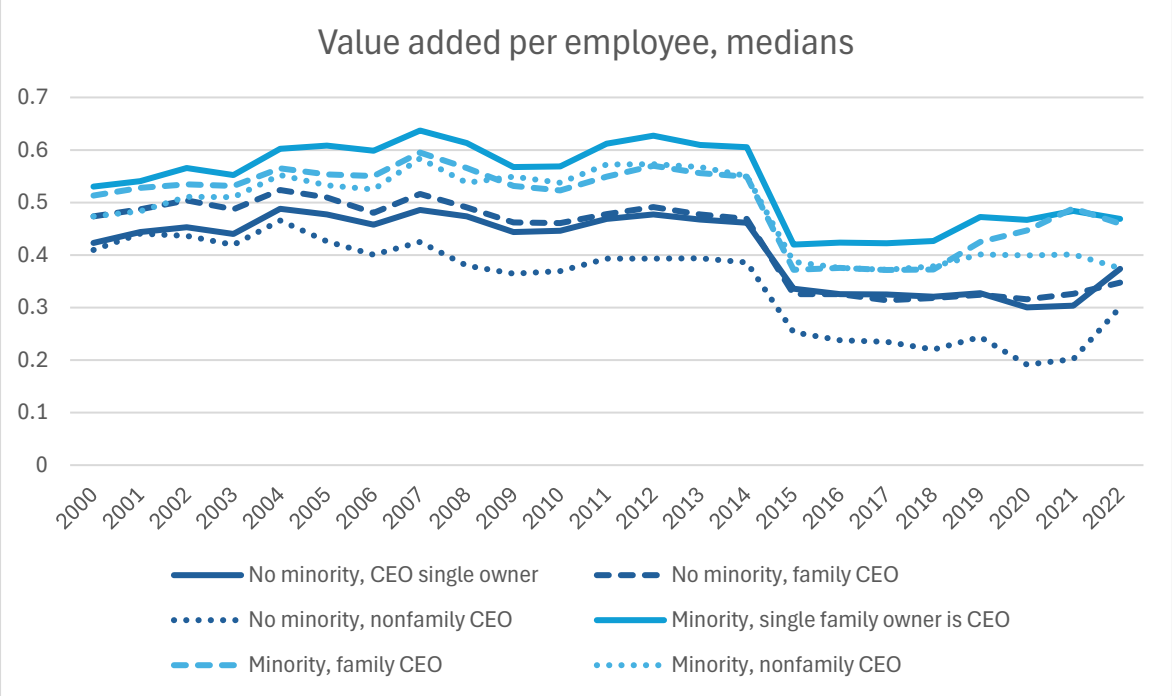
Value added per employee, medians
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2000
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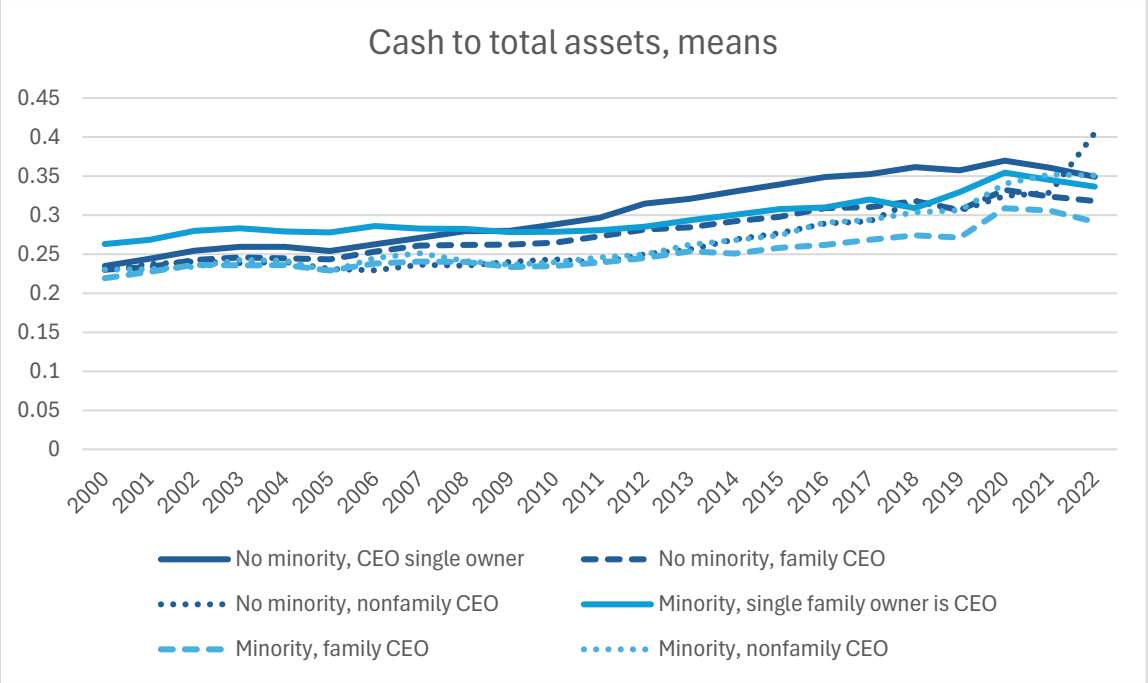
Cash to total assets, means
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2000
2001
2002
2003
2004
2005
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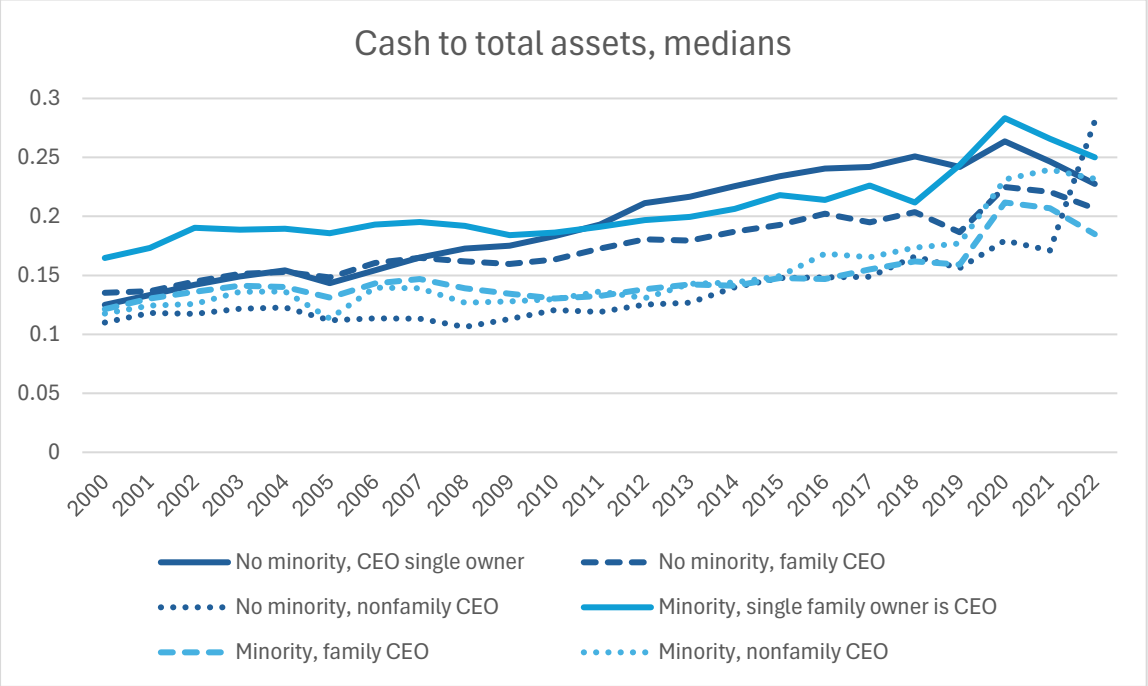
Cash to total assets, medians
0.3
0.25
0.2
0.15
0.1
0.05
0
2000
2001
2002
2003
2004
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2008
2009
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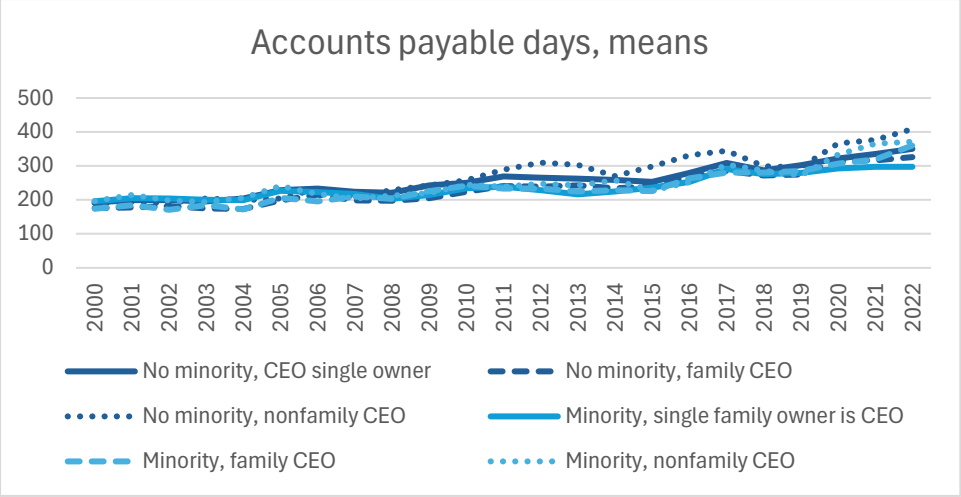
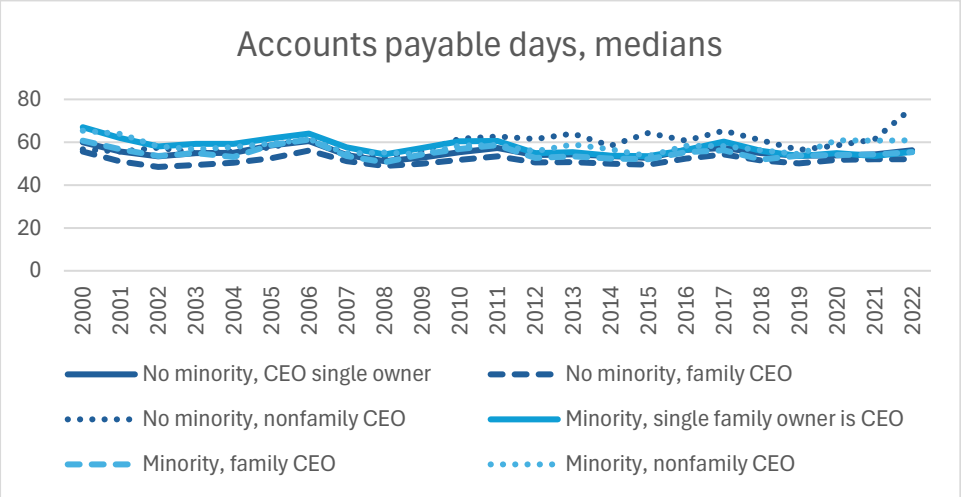
Minority, family CEO
Minority, nonfamily CEO


Accounts payable days, means
500
400
300
200
100
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
No minority, CEO single owner
No minority, family CEO
No minority, nonfamily CEO
Minority, single family owner is CEO
Minority, family CEO
Minority, nonfamily CEO


Accounts payable days, medians
80
60
40
20
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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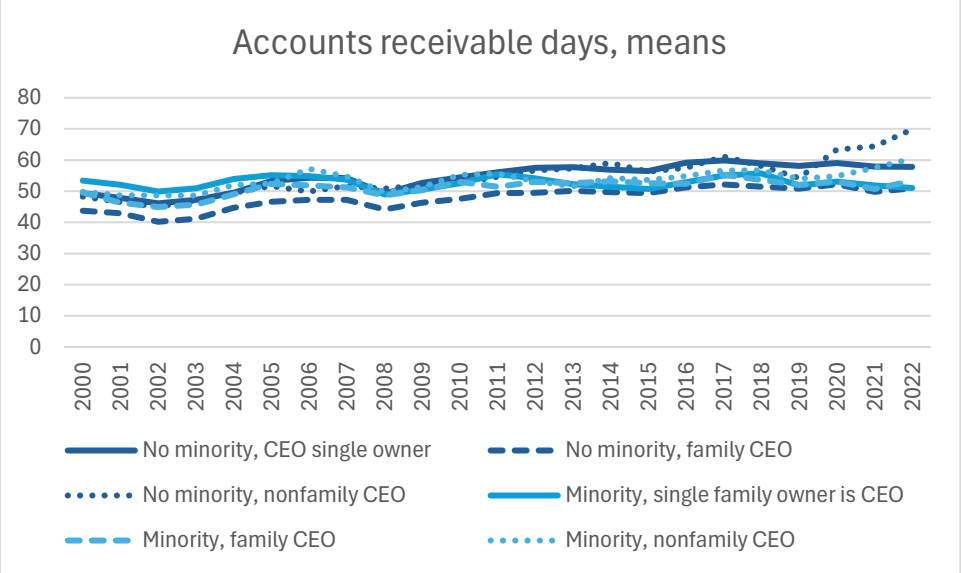
Accounts receivable days, means
80
70
60
50
40
30
20
10
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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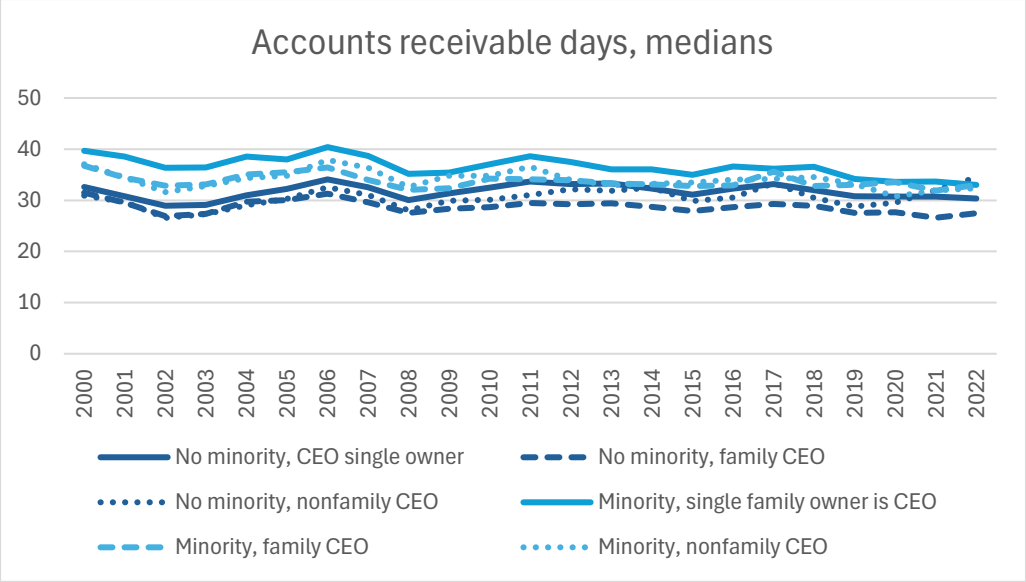
Accounts receivable days, medians
50
40
30
20
10
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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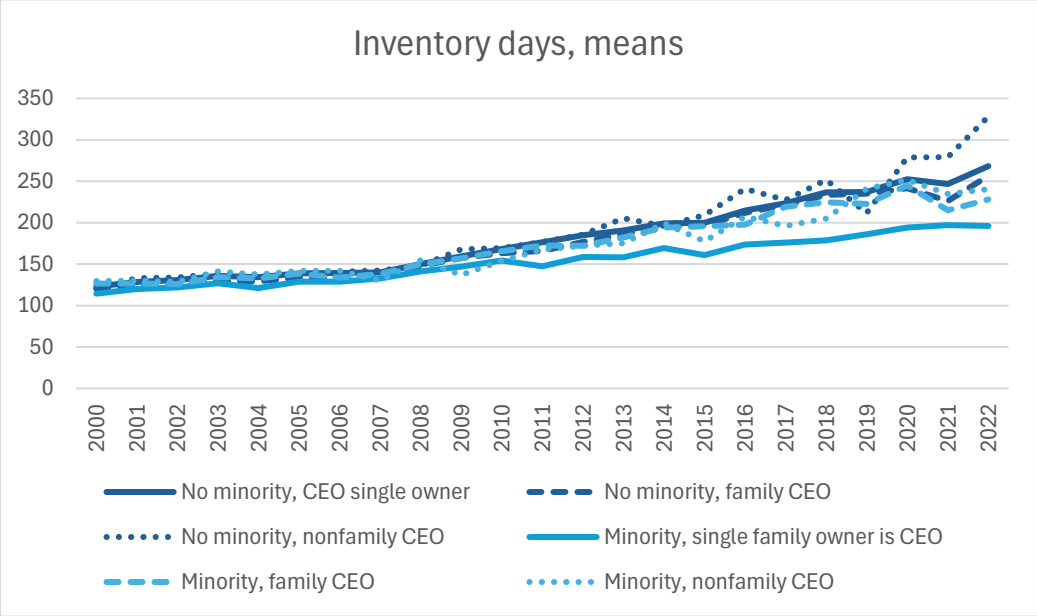
Inventory days, means
350
300
250
200
150
100
50
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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No minority, family CEO
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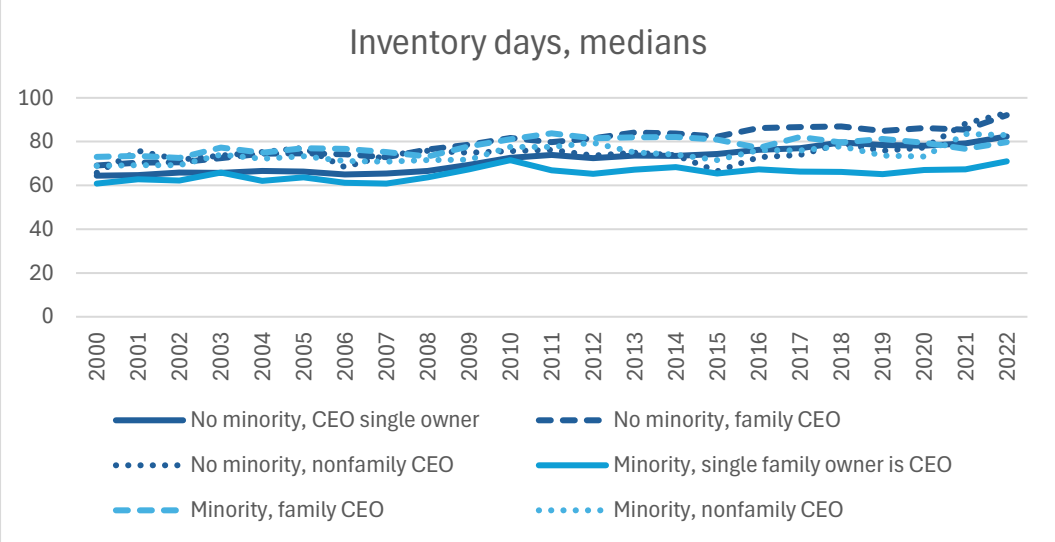
Inventory days, medians
100
80
60
40
20
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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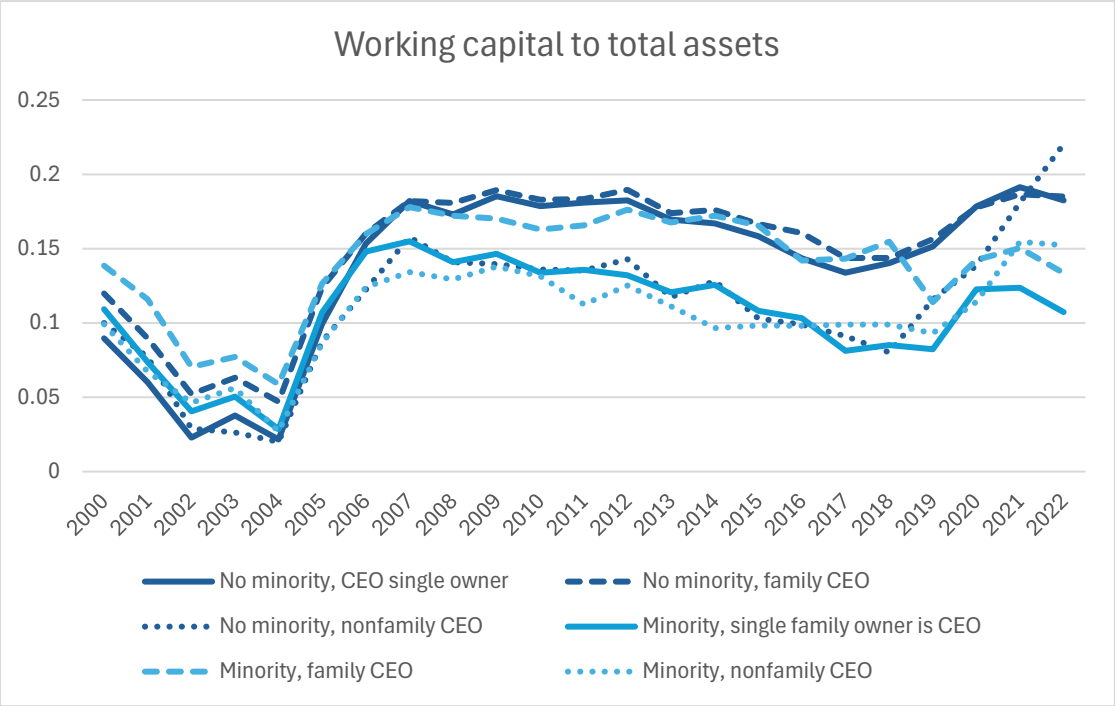
Working capital to total assets
0.25
0.2
0.15
0.1
0.05
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
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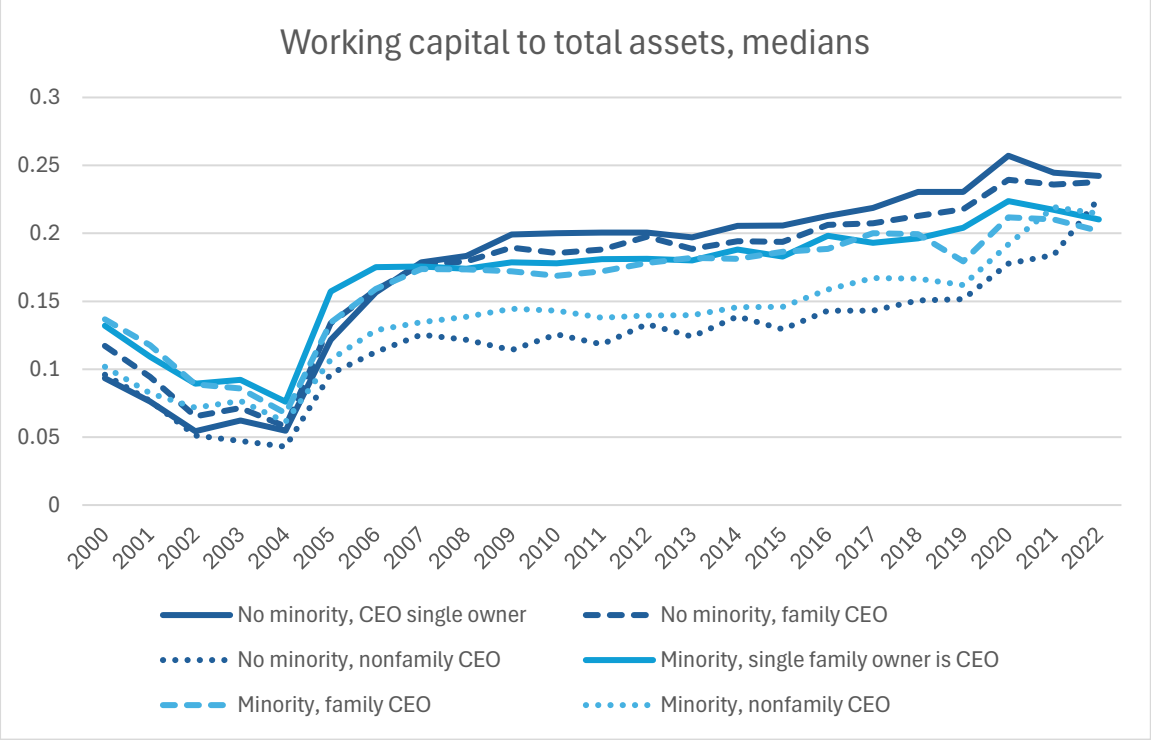
Working capital to total assets, medians
0.3
0.25
0.2
0.15
0.1
0.05
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
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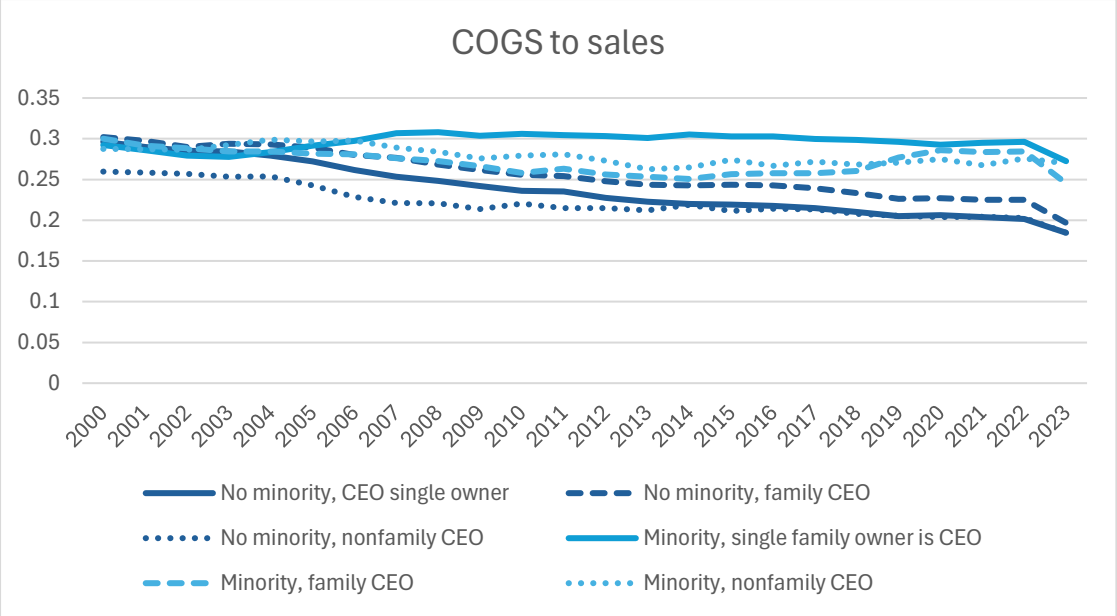
COGS to sales
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023
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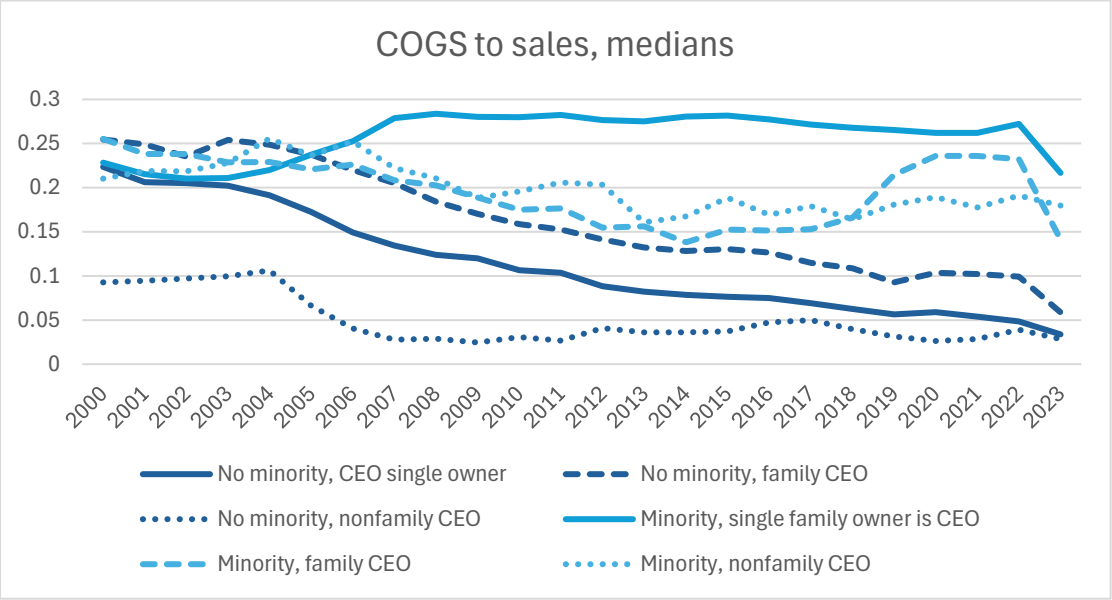
COGS to sales, medians
0.3
0.25
0.2
0.15
0.1
0.05
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023
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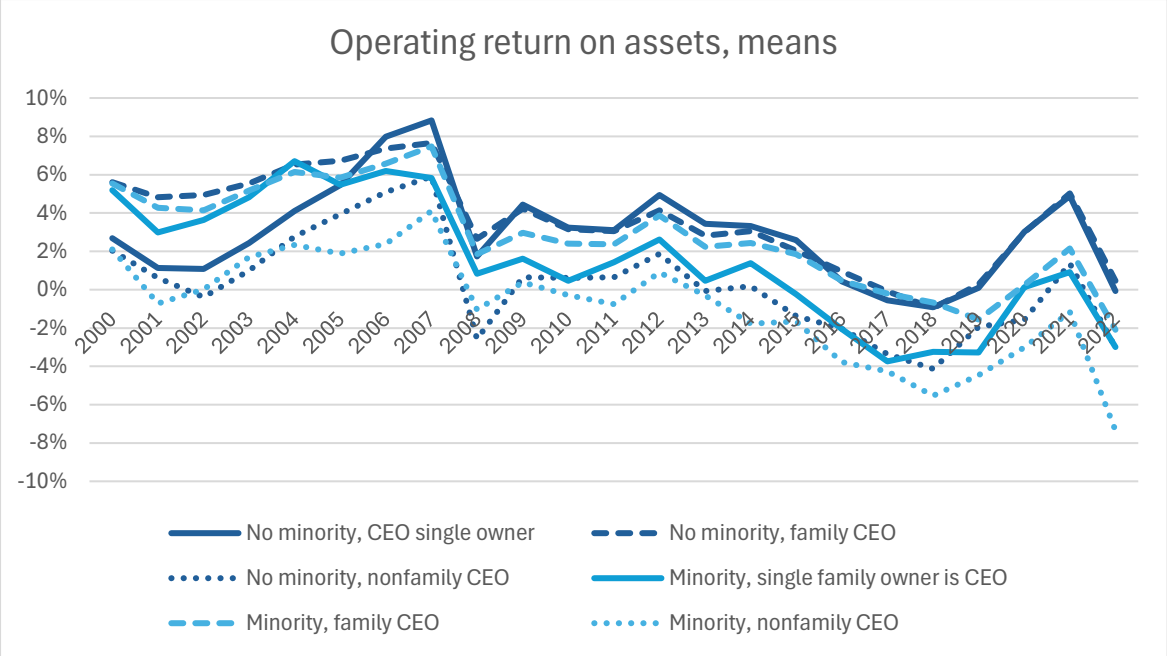
Operating return on assets, means
10%
8%
6%
4%
2%
0%
-2%
-4%
-6%
-8%
-10%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
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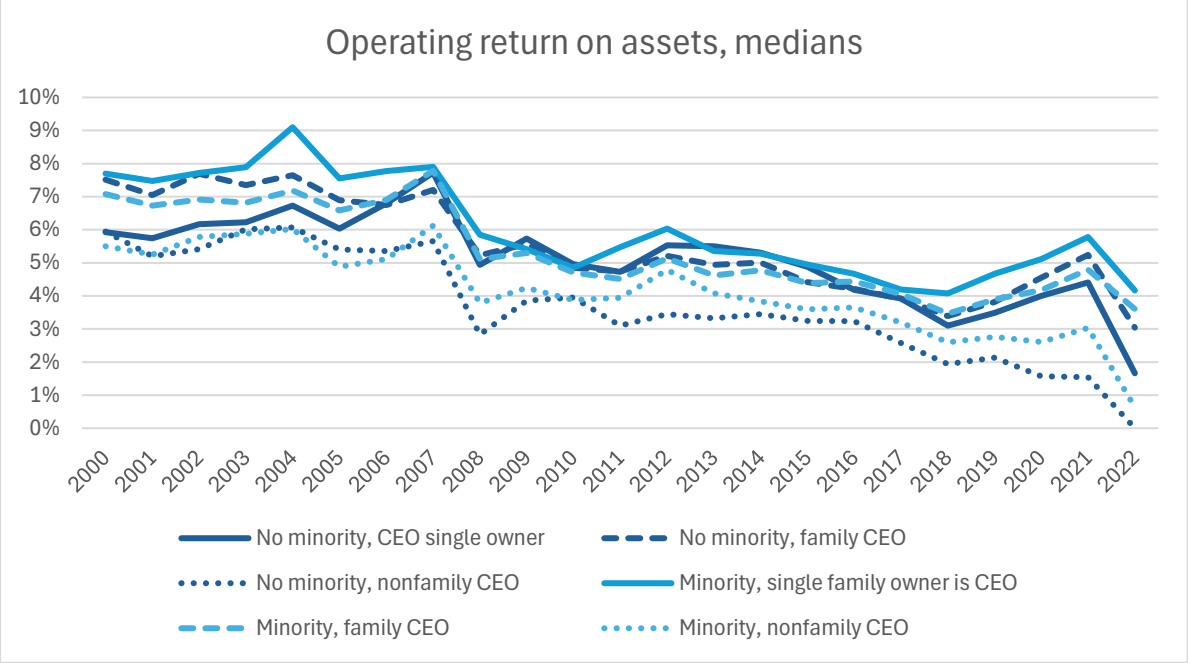
Operating return on assets, medians
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
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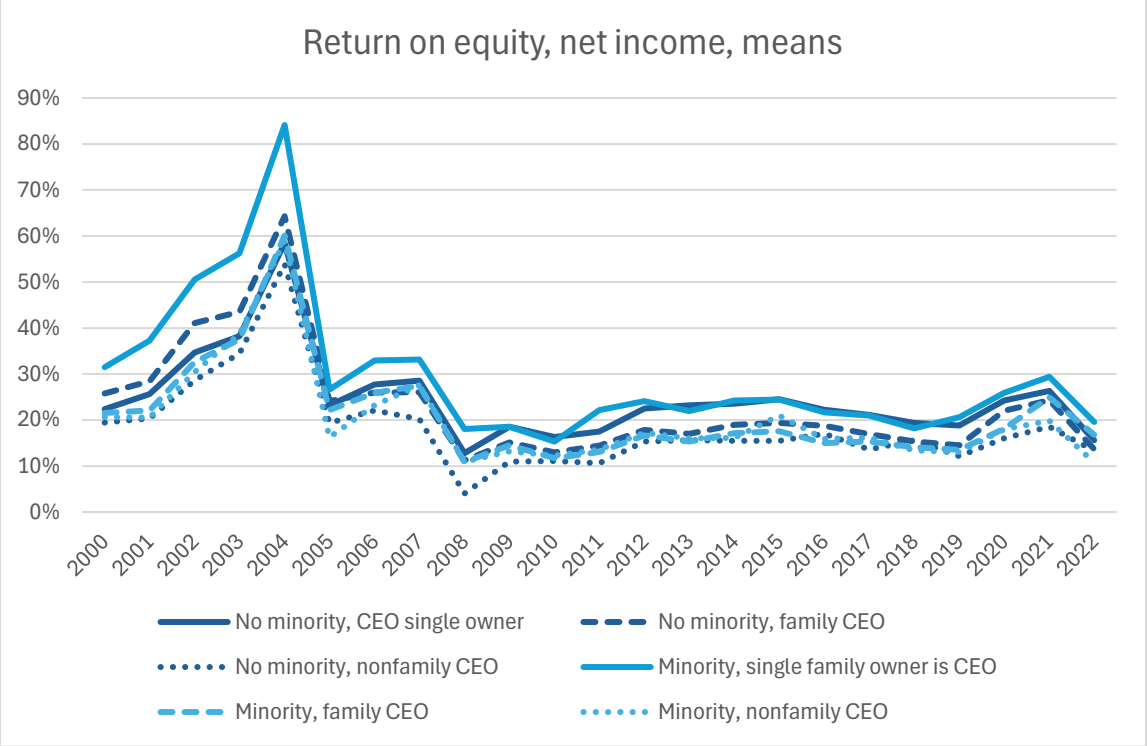
Return on equity, net income, means
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
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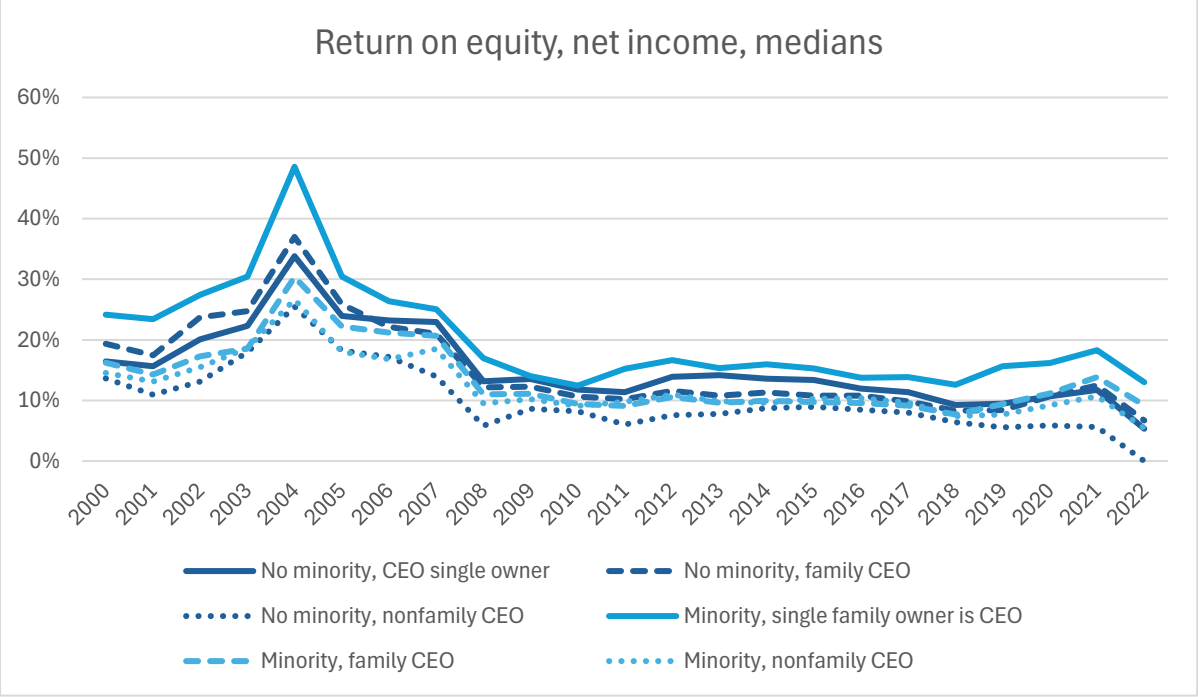
Return on equity, net income, medians
60%
50%
40%
30%
20%
10%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
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2016
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2018
2019
2020
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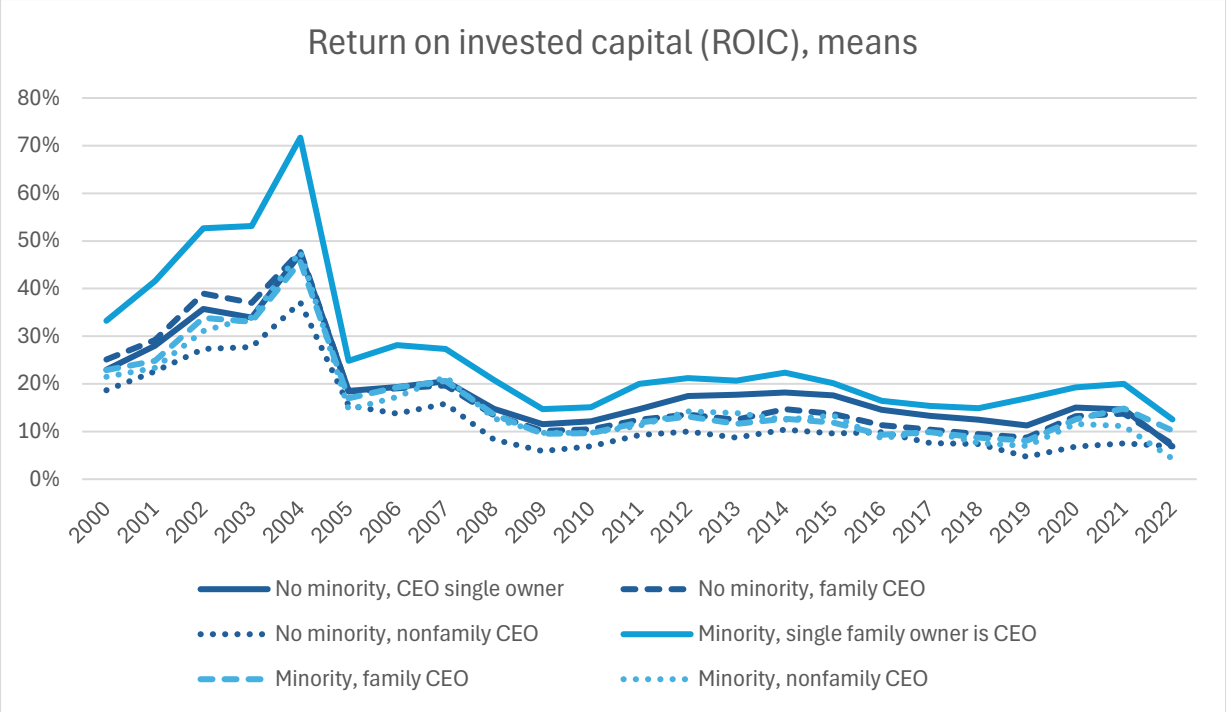
Return on invested capital (ROIC), means
80%
70%
60%
50%
40%
30%
20%
10%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
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2018
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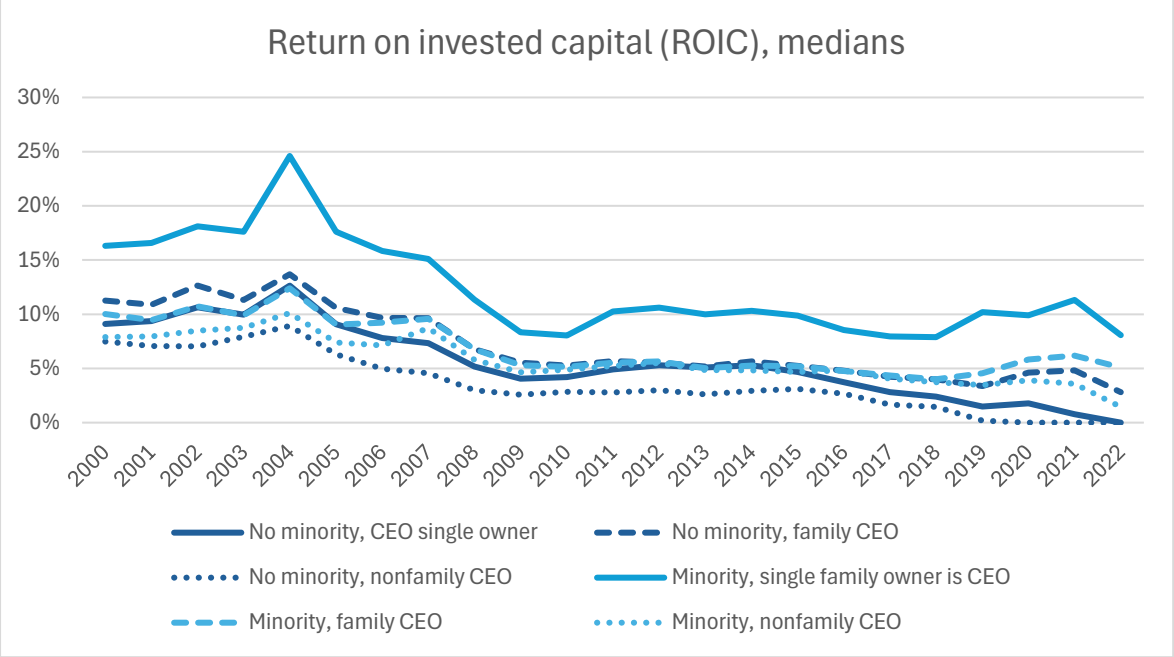
Return on invested capital (ROIC), medians
30%
25%
20%
15%
10%
5%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
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2020
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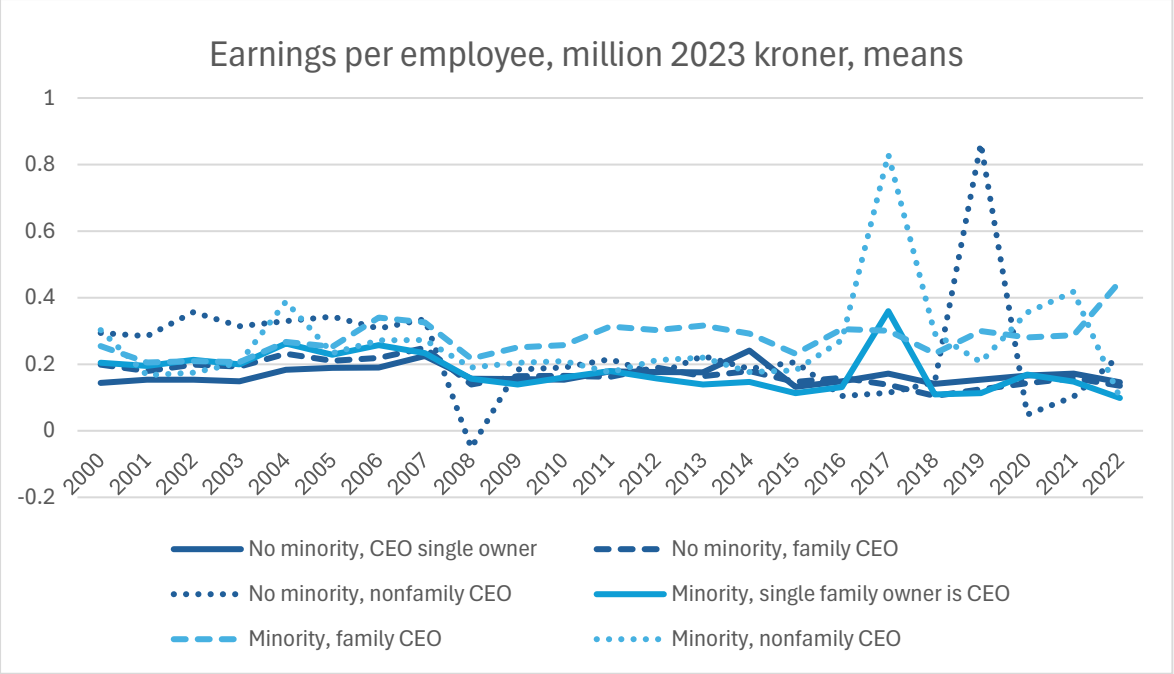
Earnings per employee, million 2023 kroner, means
1
0.8
0.6
0.4
0.2
0
-0.2
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
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2014
2015
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2020
2021
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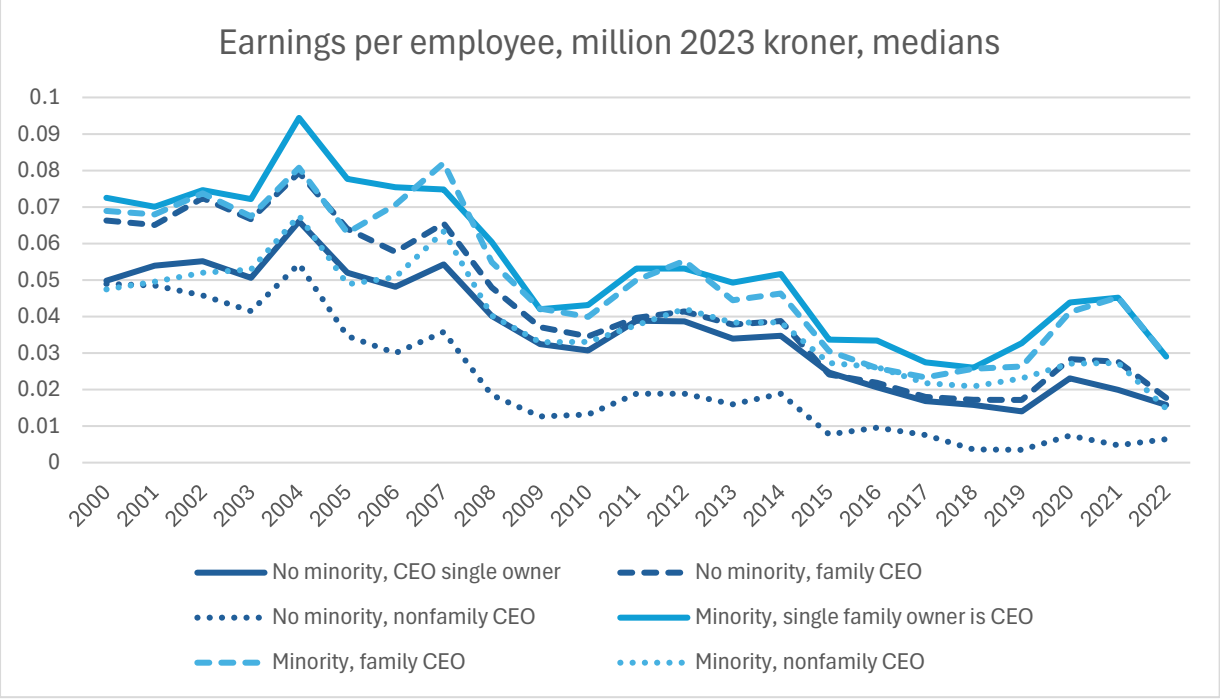
Earnings per employee, million 2023 kroner, medians
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
2000
2001
2002
2003
2004
2005
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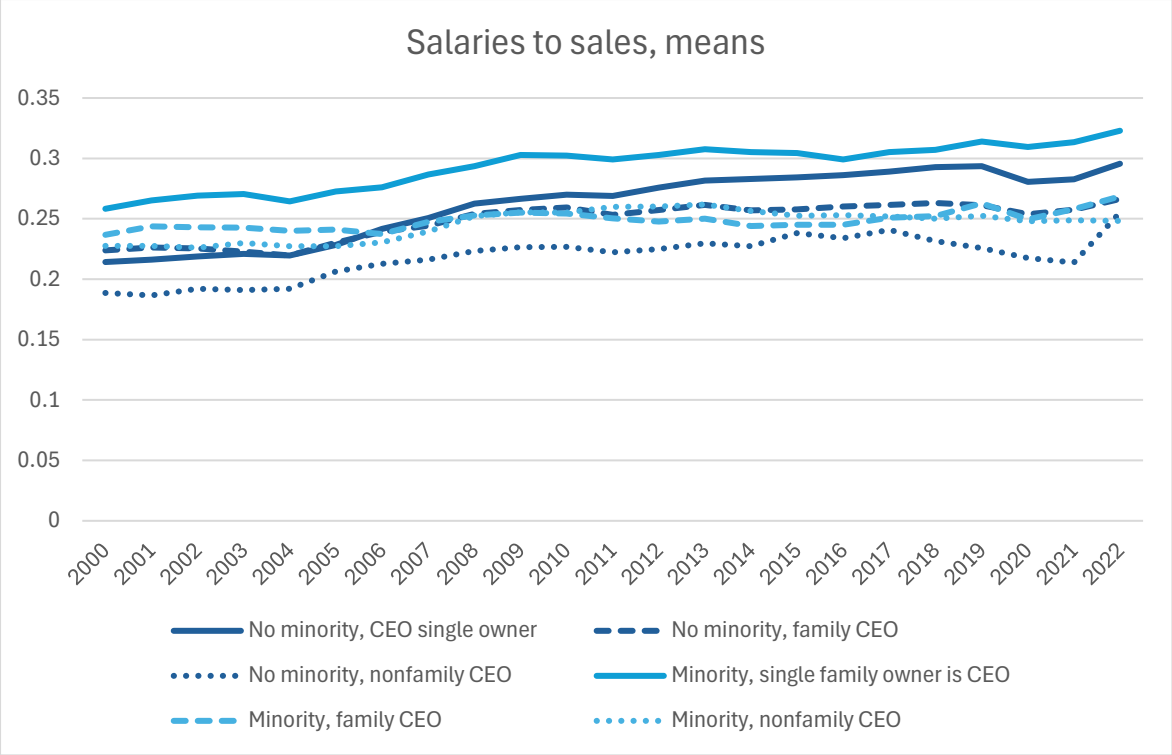
Salaries to sales, means
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
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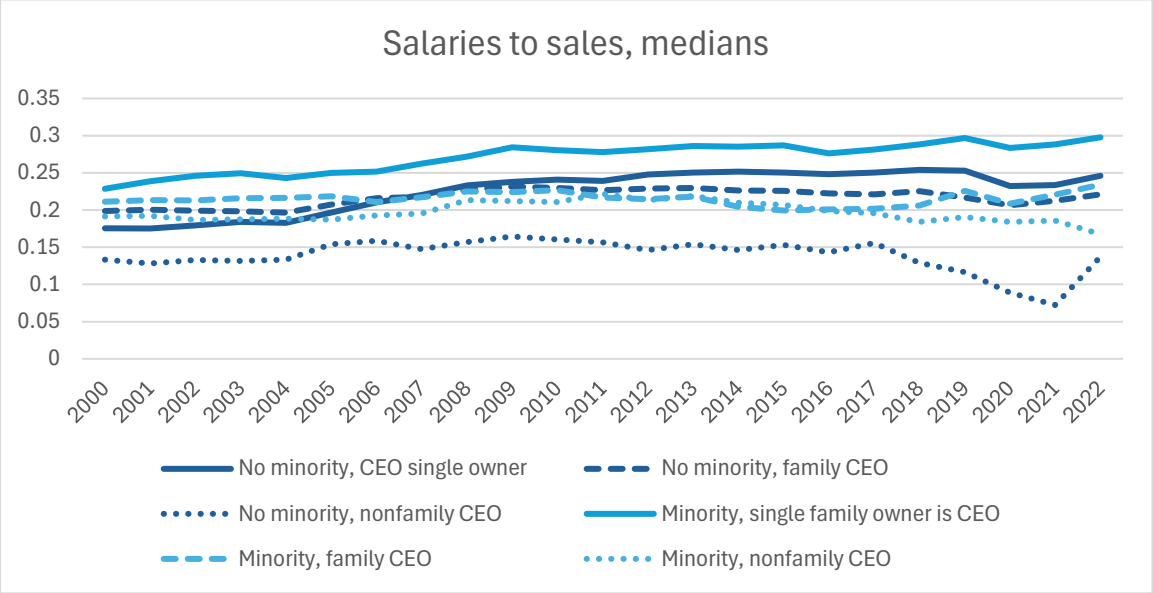
Salaries to sales, medians
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2000
2001
2002
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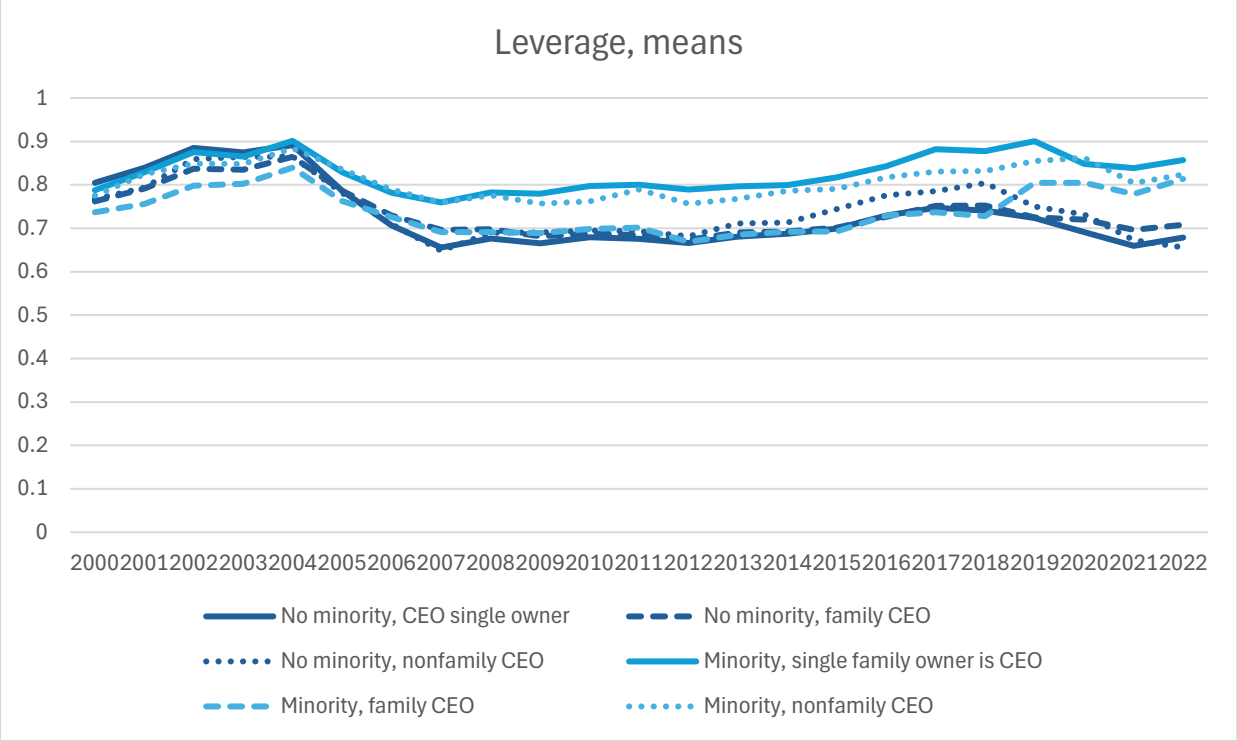
Leverage, means
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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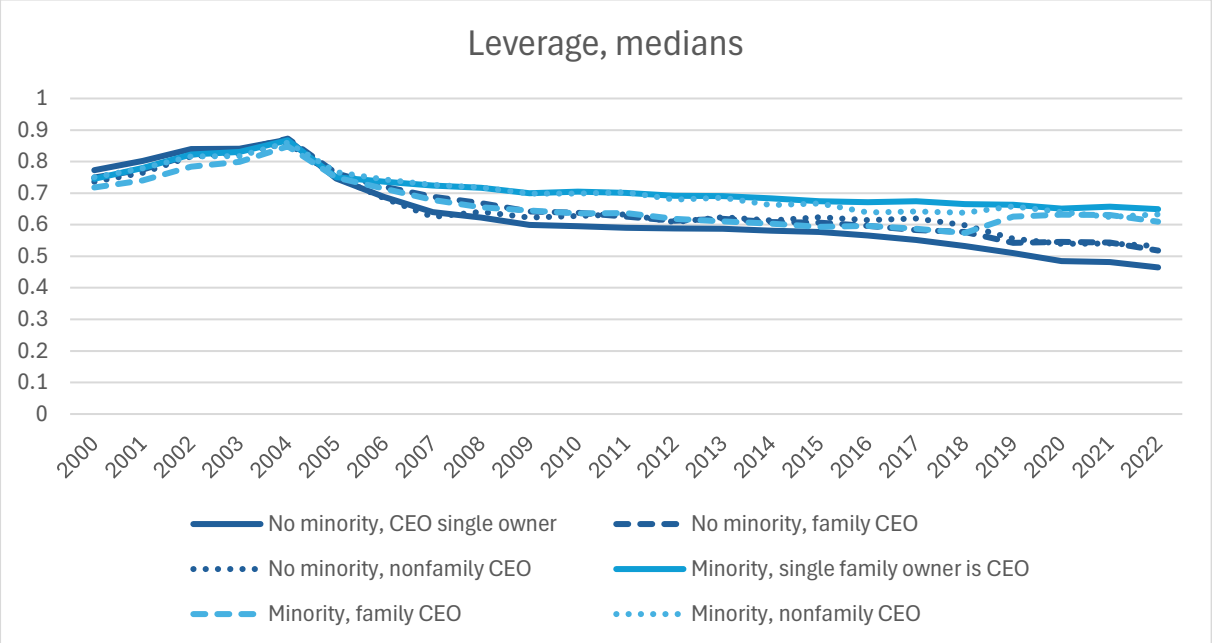
Leverage, medians
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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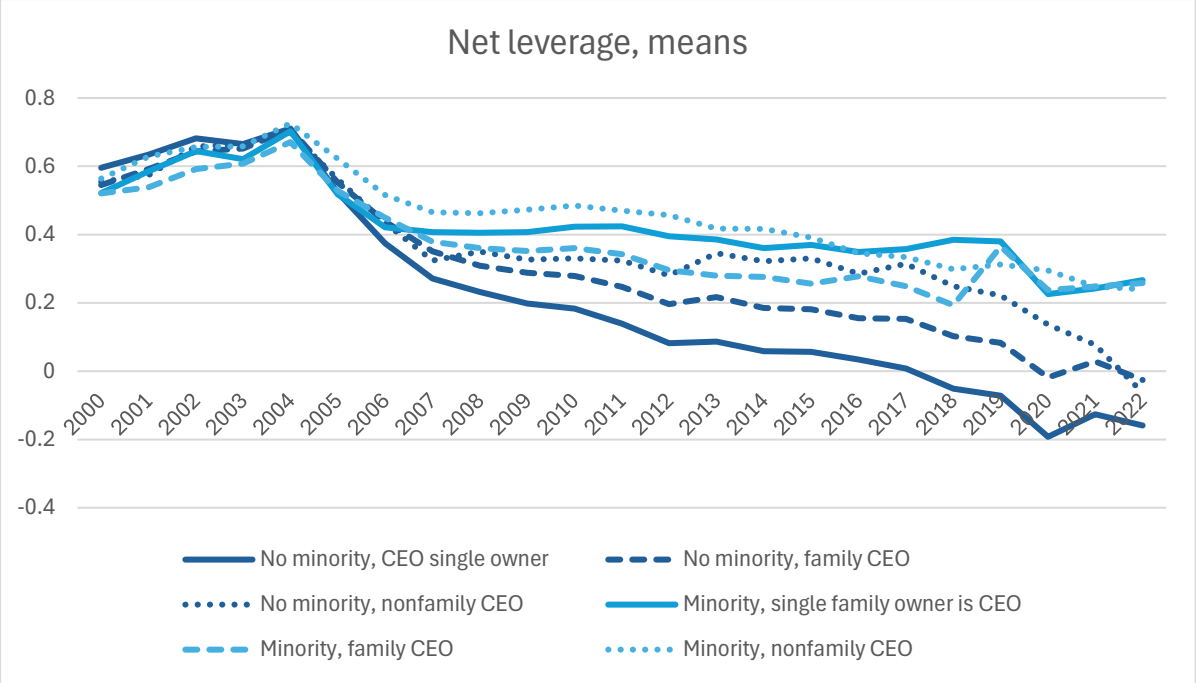
Net leverage, means
0.8
0.6
0.4
0.2
0
-0.2
-0.4
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
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2017
2018
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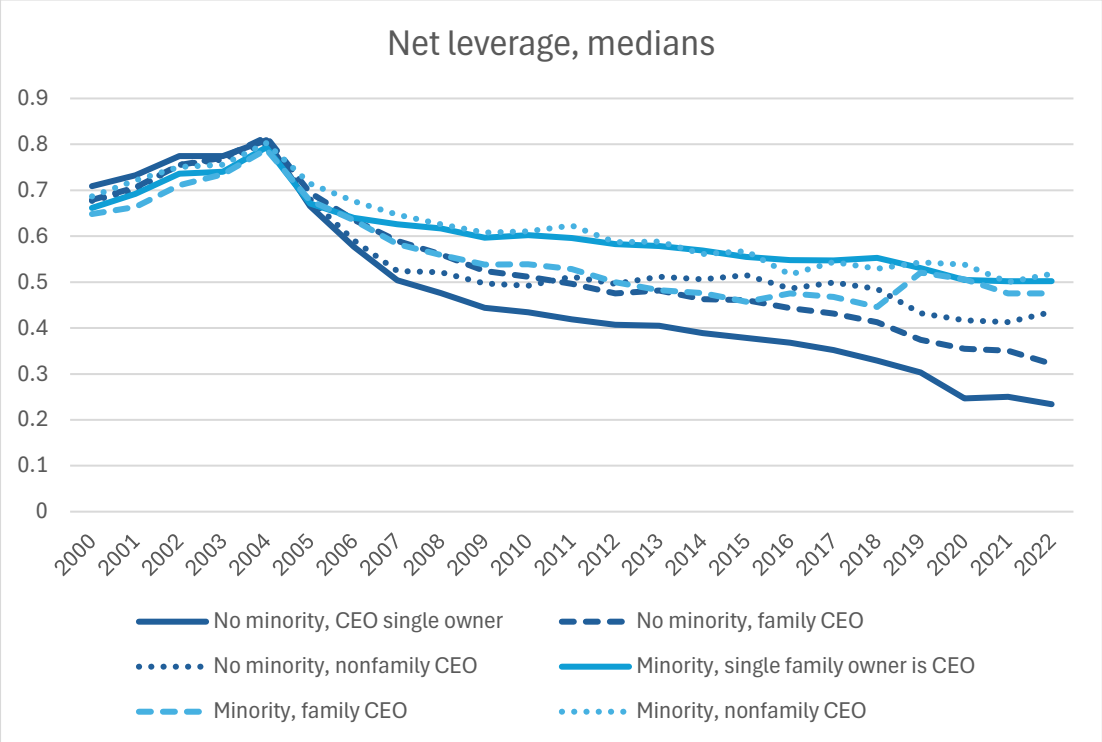
Net leverage, medians
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2000
2001
2002
2003
2004
2005
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2016
2017
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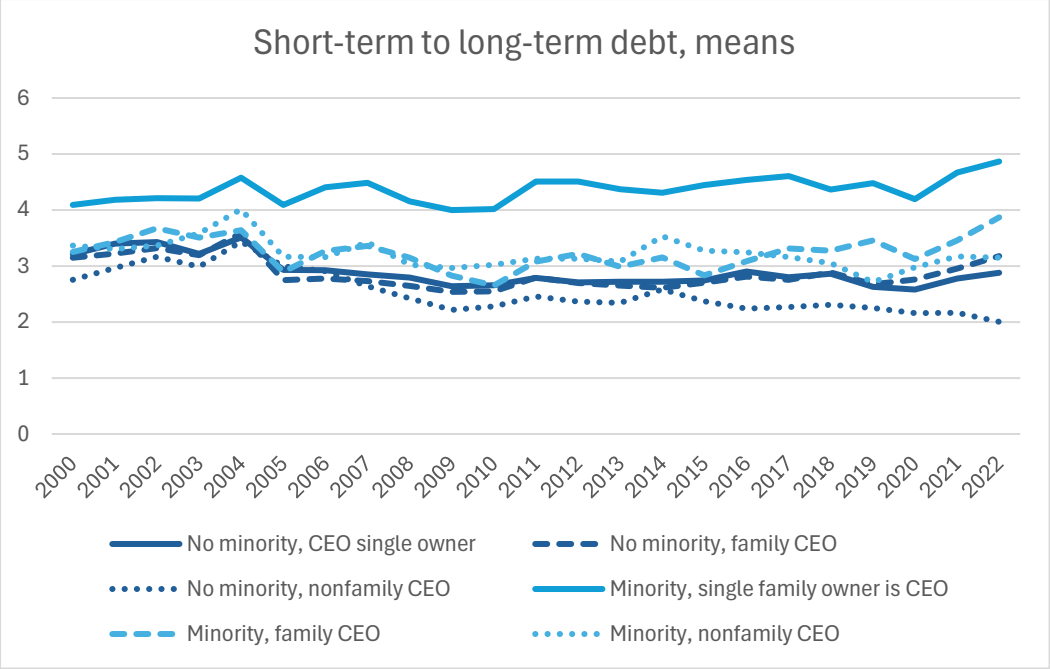
Short-term to long-term debt, means
6
5
4
3
2
1
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
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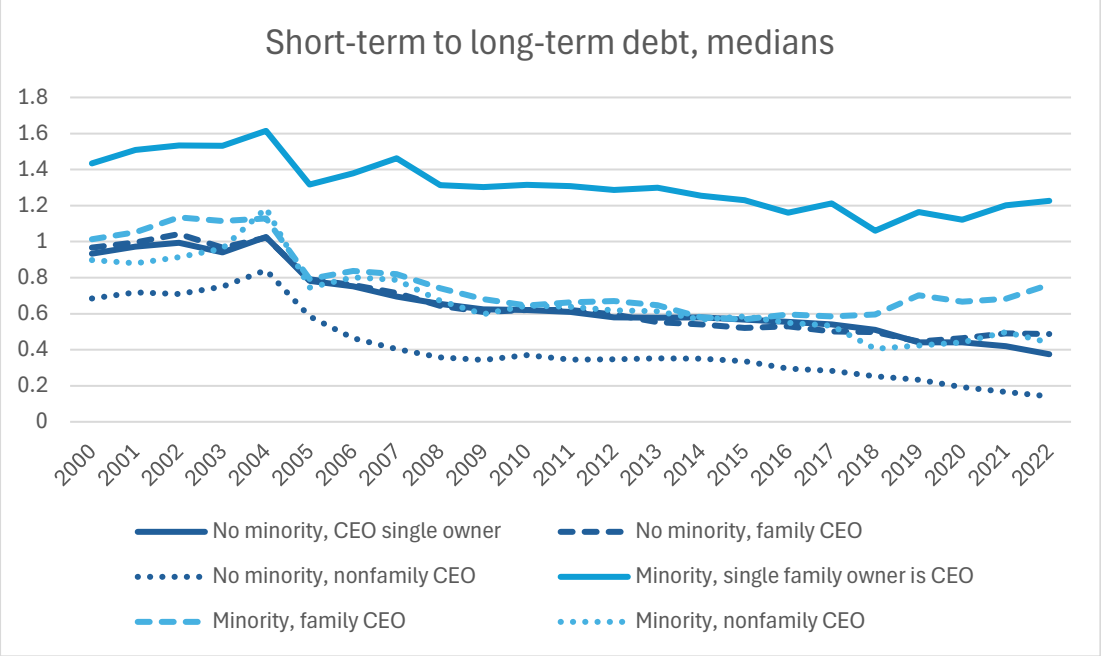
Short-term to long-term debt, medians
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
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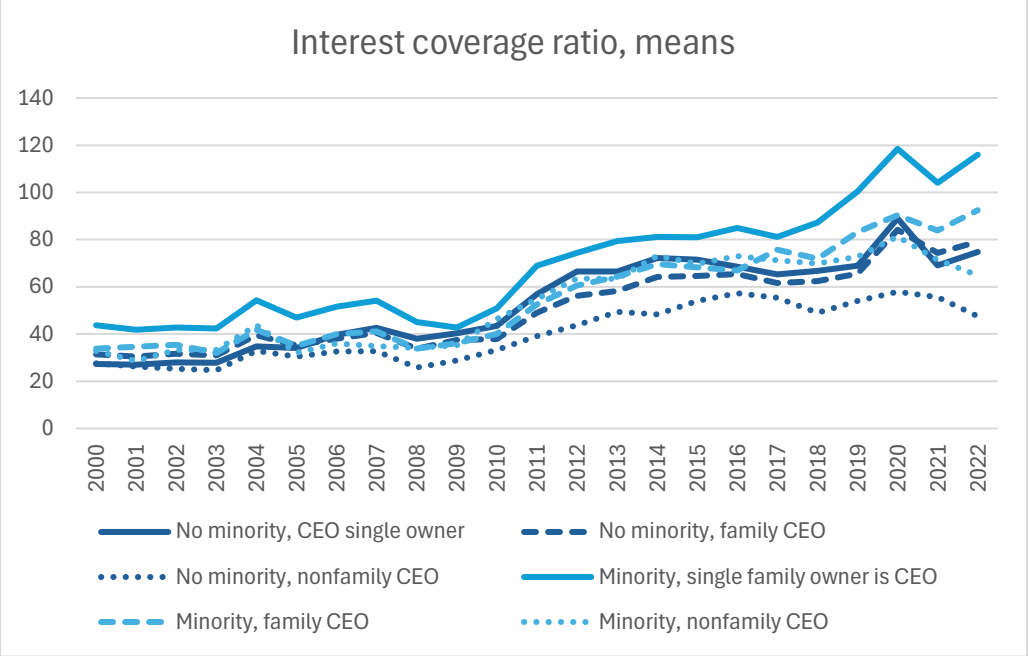
Interest coverage ratio, means
140
120
100
80
60
40
20
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
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2020
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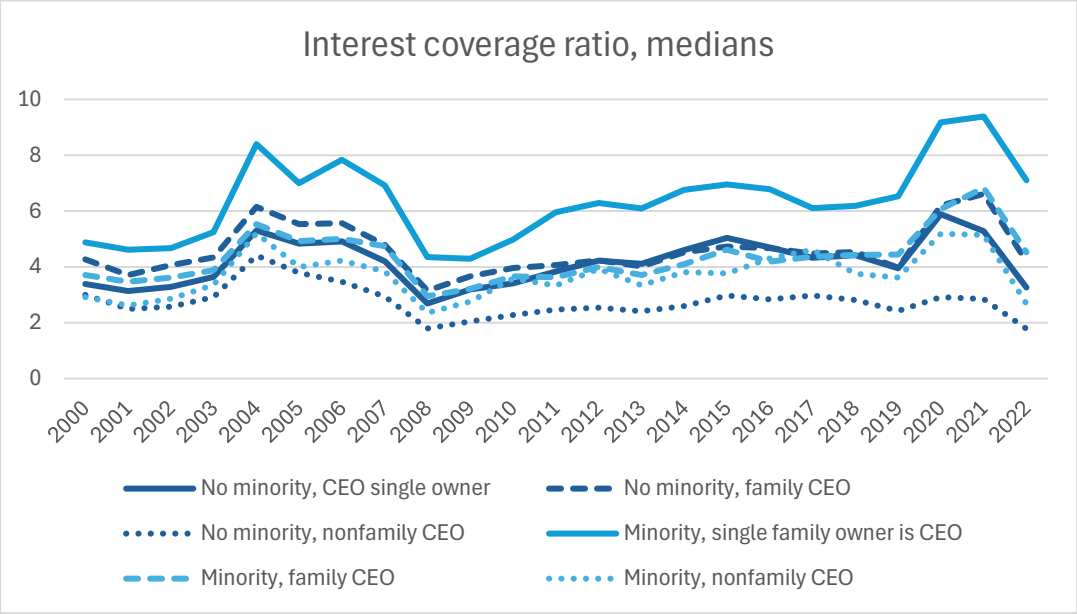
Interest coverage ratio, medians
10
8
6
4
2
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
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2020
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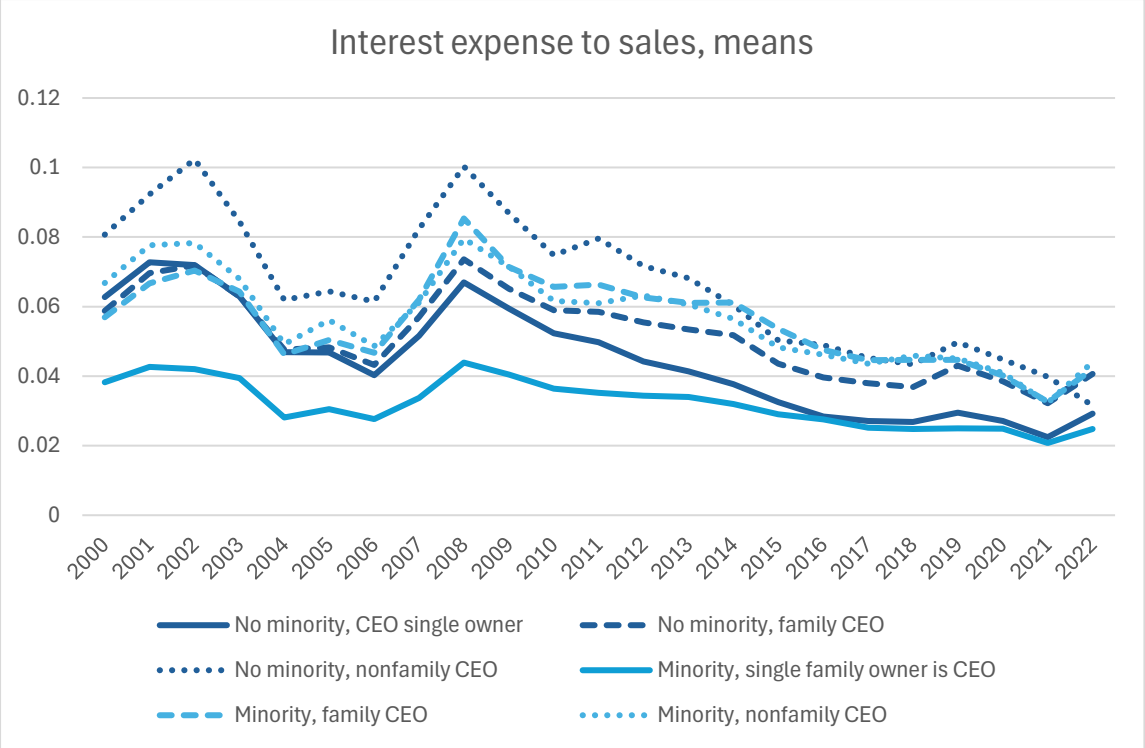
Interest expense to sales, means
0.12
0.1
0.08
0.06
0.04
0.02
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
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2020
2021
2022
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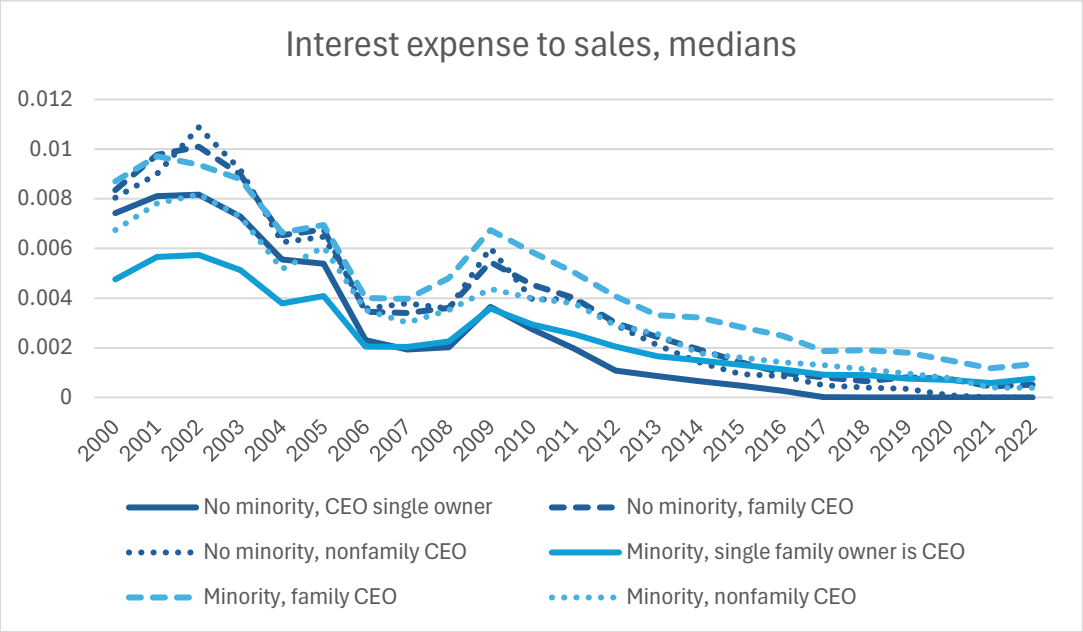
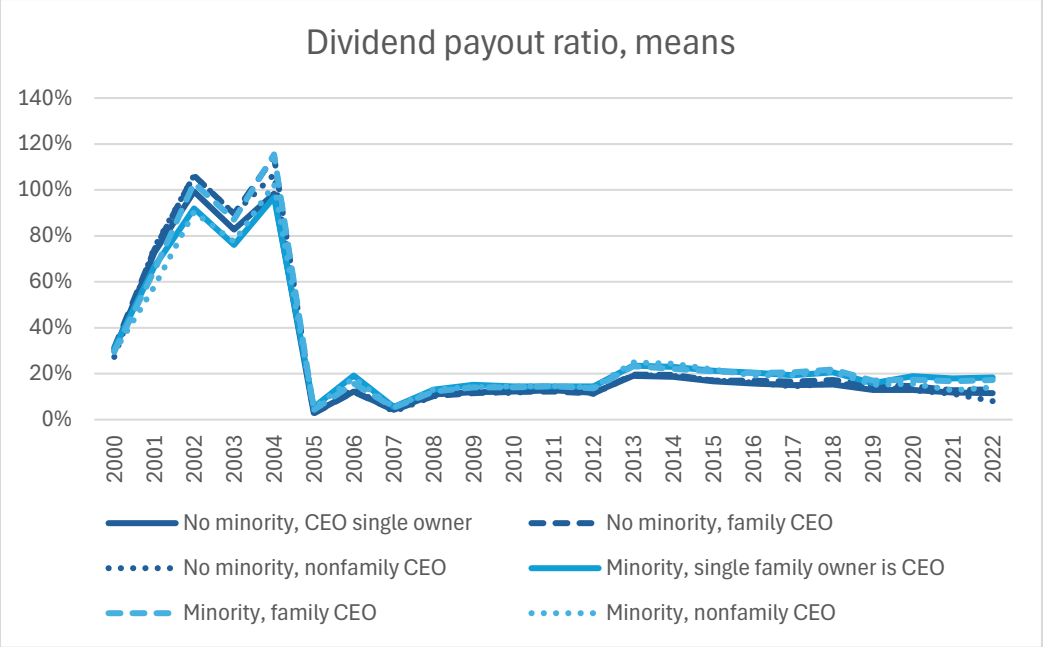
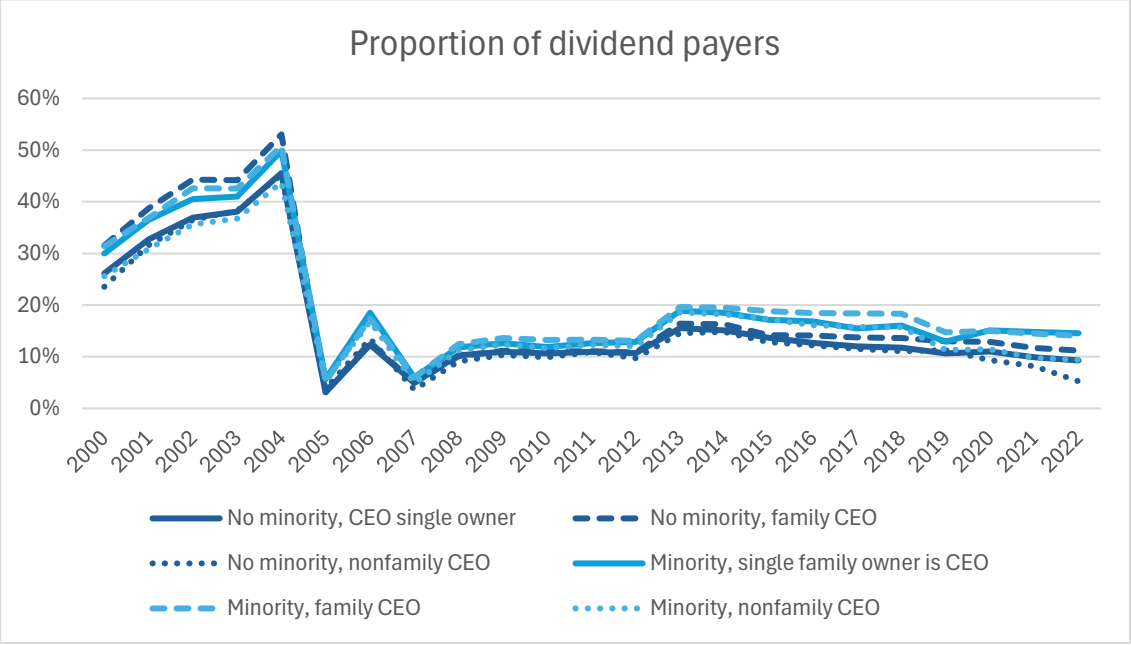
Minority, family CEO
Minority, nonfamily CEO


Interest expense to sales, medians
0.012
0.01
0.008
0.006
0.004
0.002
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
No minority, CEO single owner
No minority, family CEO
No minority, nonfamily CEO
Minority, single family owner is CEO
Minority, family CEO
Minority, nonfamily CEO

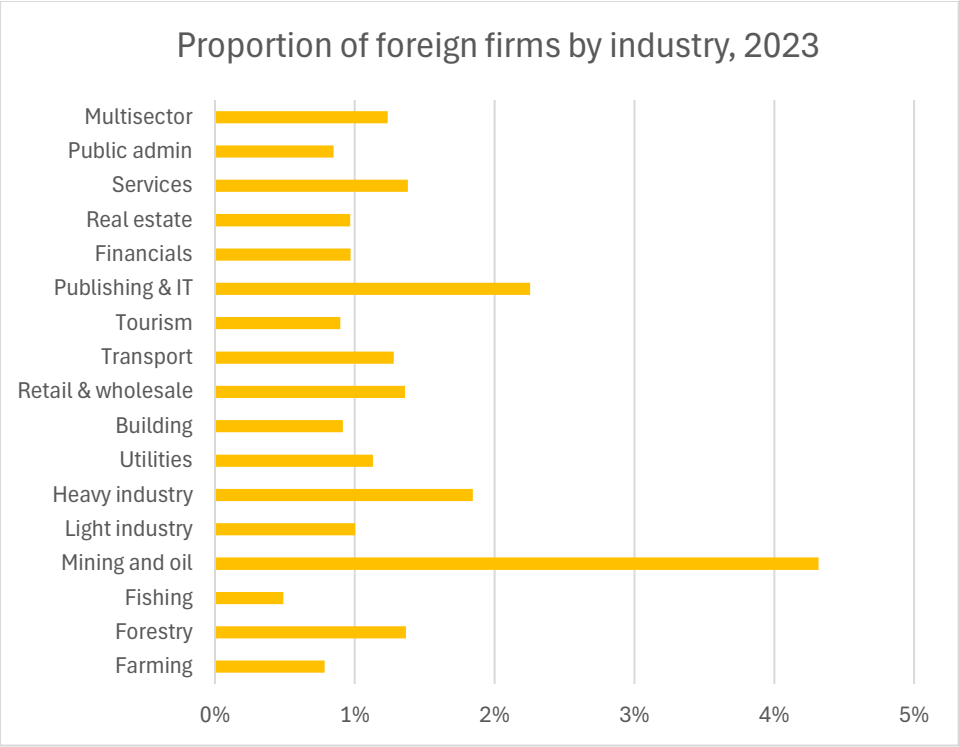

Dividend payout ratio, means
140%
120%
100%
80%
60%
40%
20%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
No minority, CEO single owner
No minority, family CEO
No minority, nonfamily CEO
Minority, single family owner is CEO
Minority, family CEO
Minority, nonfamily CEO


Proportion of dividend payers
60%
50%
40%
30%
20%
10%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
No minority, CEO single owner
No minority, family CEO
No minority, nonfamily CEO
Minority, single family owner is CEO
Minority, family CEO
Minority, nonfamily CEO

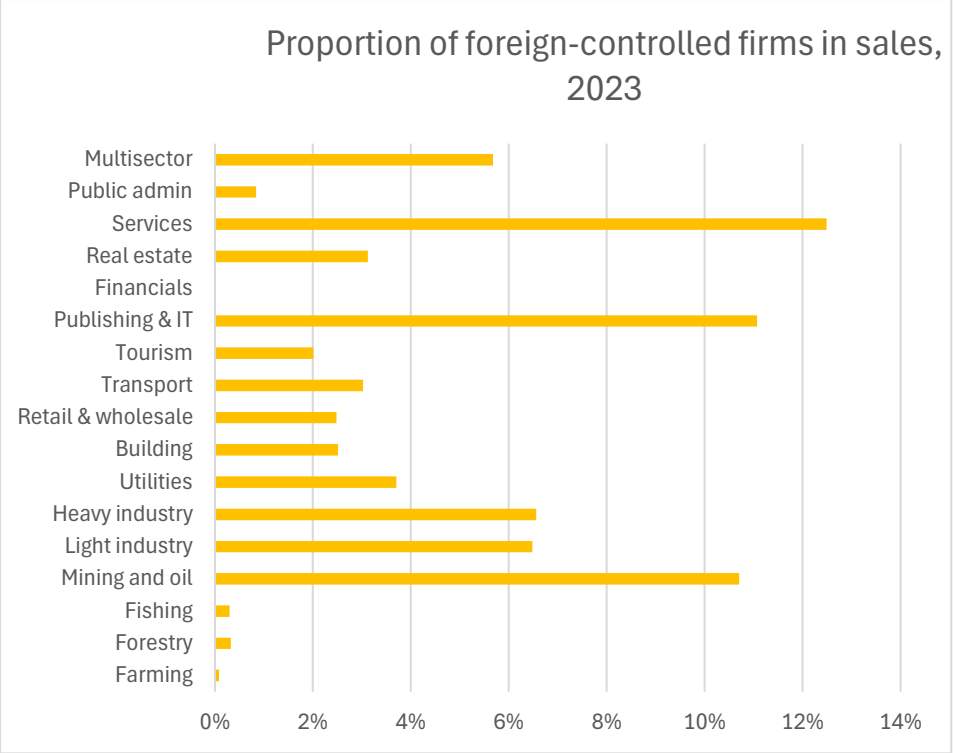
16. Foreign ownership

In this section, we present statistics on foreign-controlled firms active in Norway in 2023. We define foreign-majority (foreign-controlled) firms as firms or business groups where foreign individuals or entities ultimately control at least 50% of the equity.

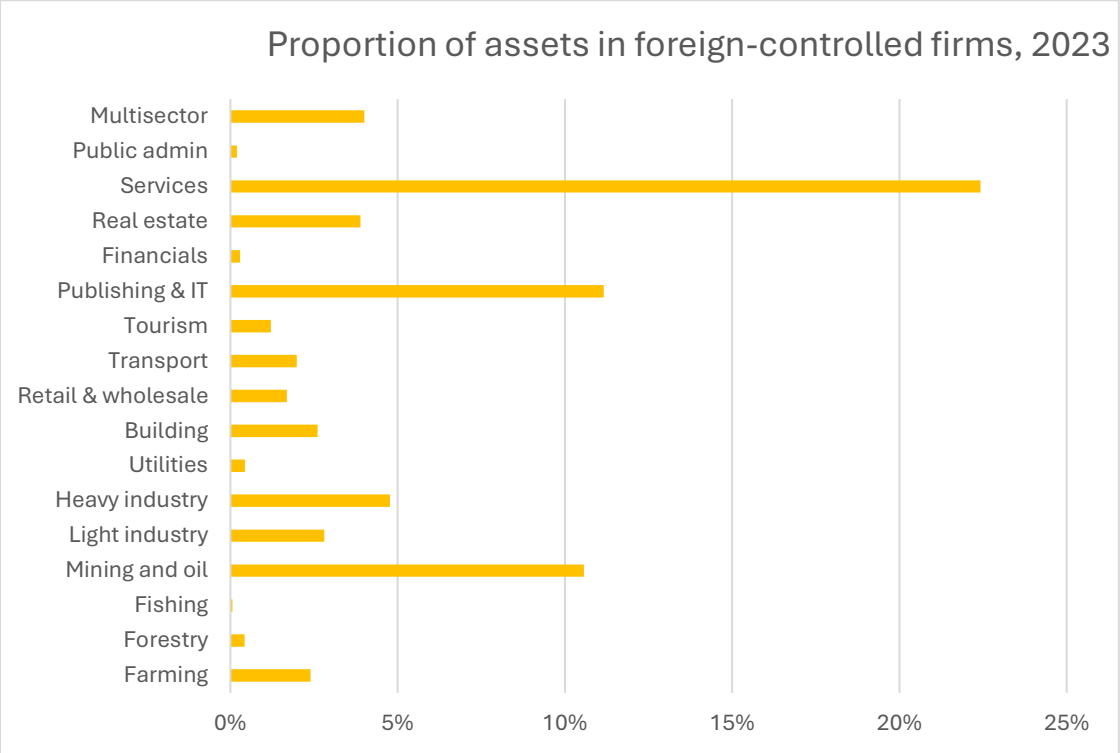
The proportion of firms with foreign majority ownership is highest in mining and oil and IT. It is lower in fishing and farming.



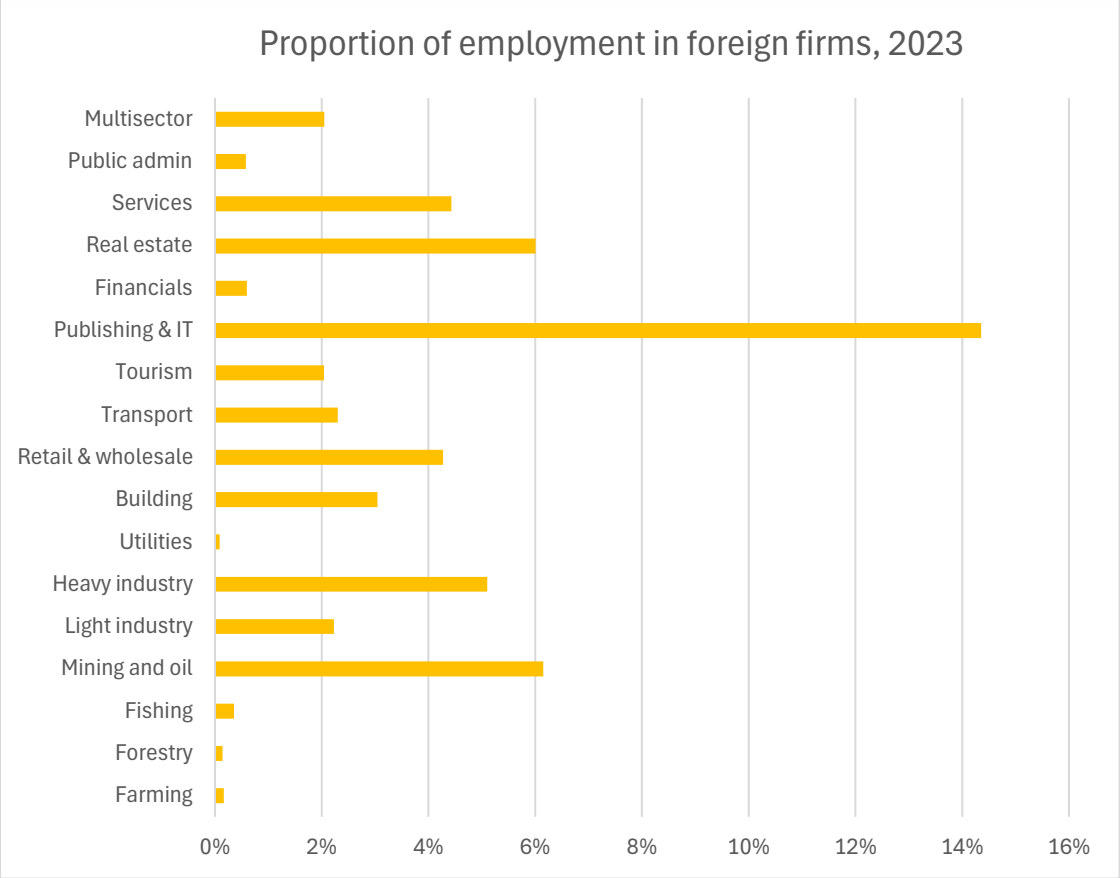
In terms of revenues, foreign-controlled firms are important in services, mining and oil, and IT.



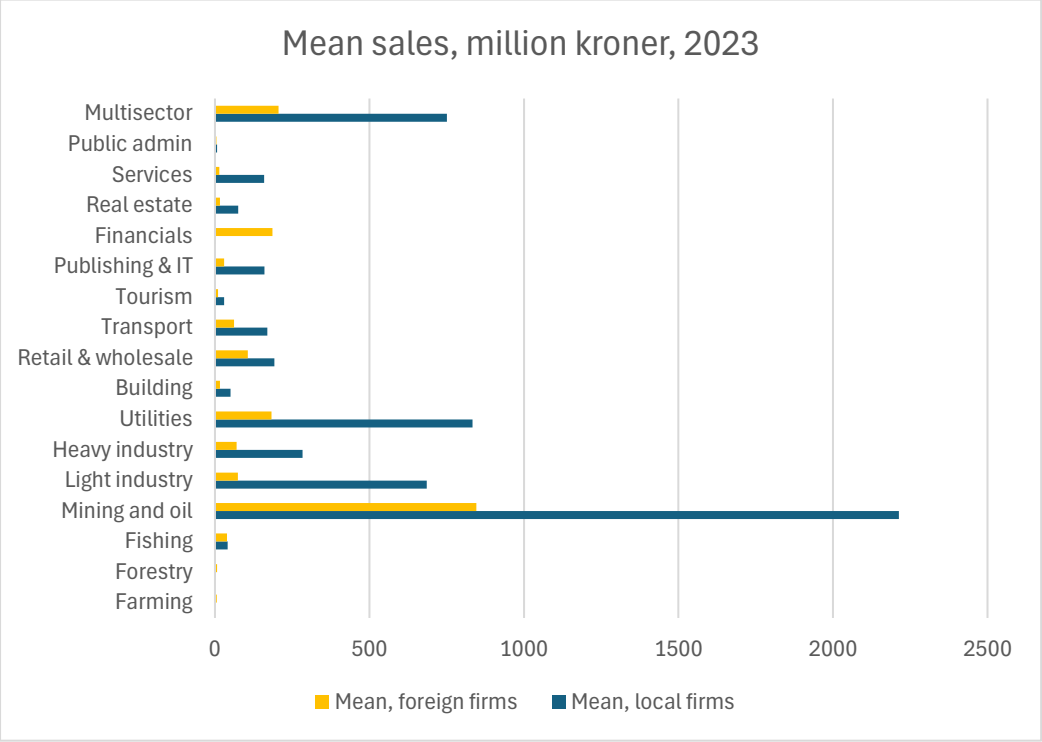
Foreign-controlled firms represent a significant proportion of assets in services, IT, and mining and oil, and very small percentage in fishing, forestry, public services, and utilities.

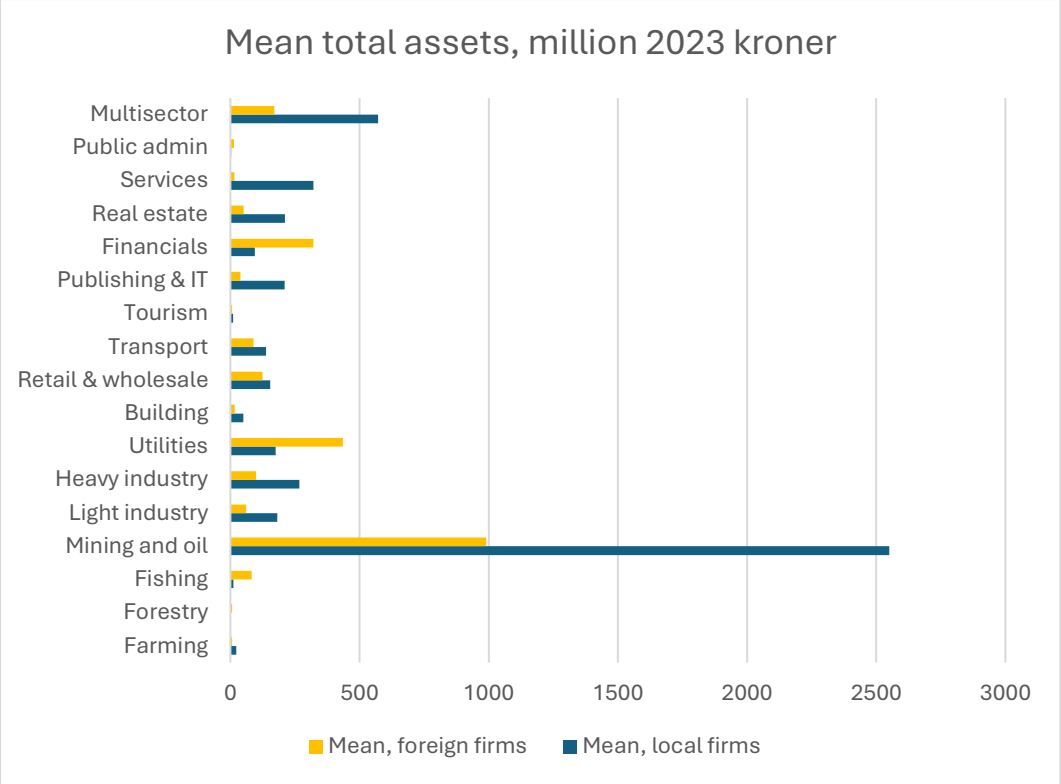


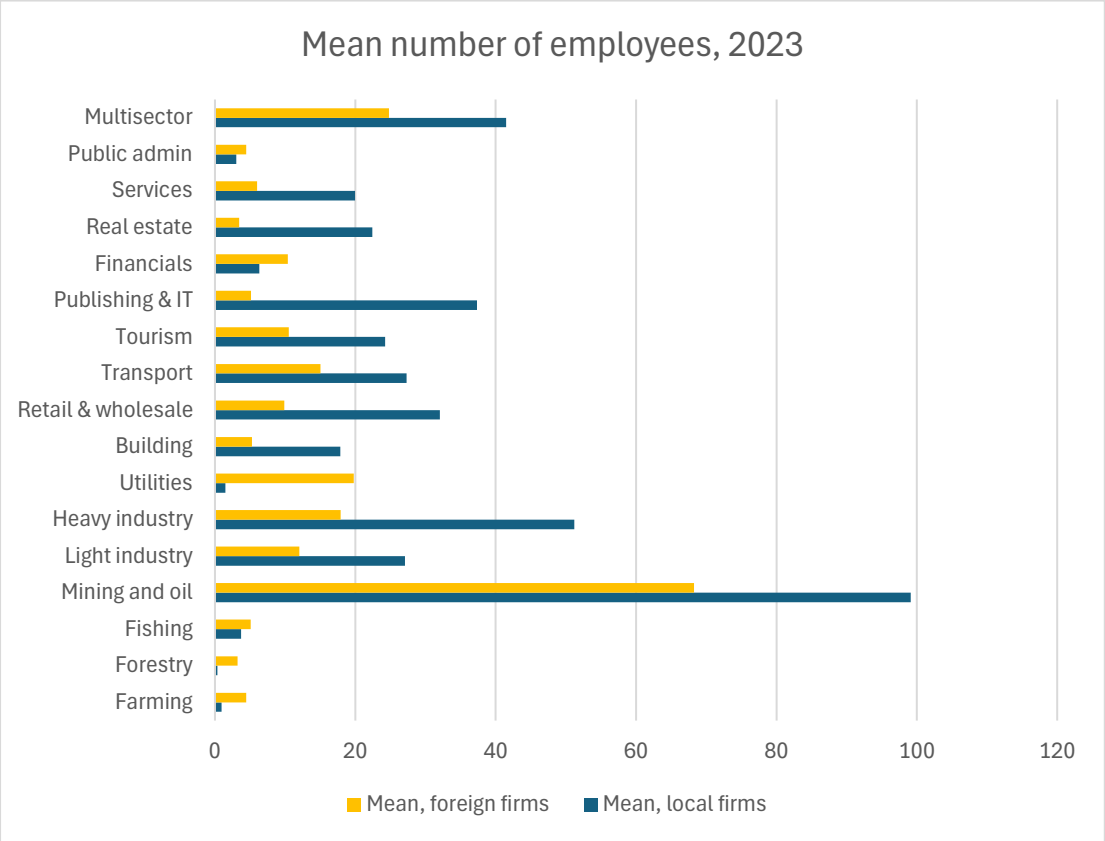
In terms of employment, foreign-controlled firms represent the largest proportion in IT, followed by mining and oil and real estate.



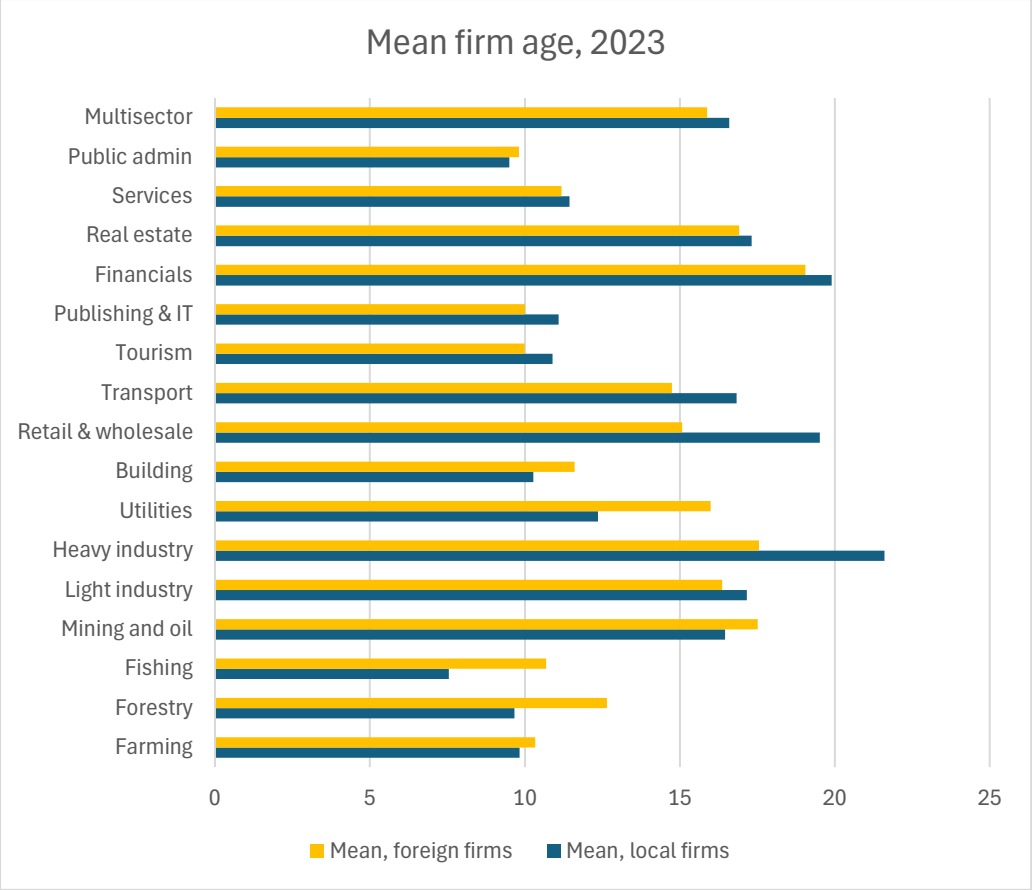
Foreign-controlled firms are typically smaller than locally-controlled firms:







Firms with foreign controlling owners have similar average ages to local firms across industries.


Mean firm age, 2023
Multisector
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
5
10
15
20
25
Mean, foreign firms
Mean, local firms

17. Corporate and personal finance

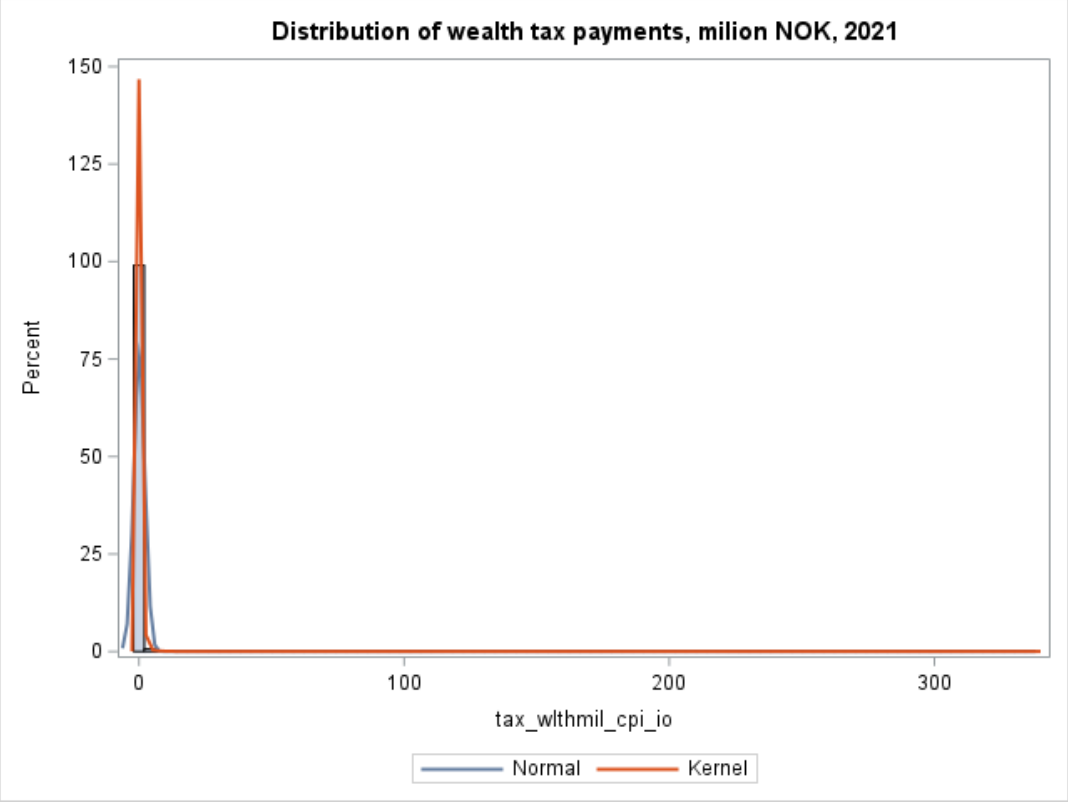
In the case of family firms, the personal finances of the controlling family are closely linked to the firm. Shocks to the firm affect the family, and personal financial shocks to the family propagate to the firm. An additional link is created by the fact that the firm is part of the family's taxable wealth.

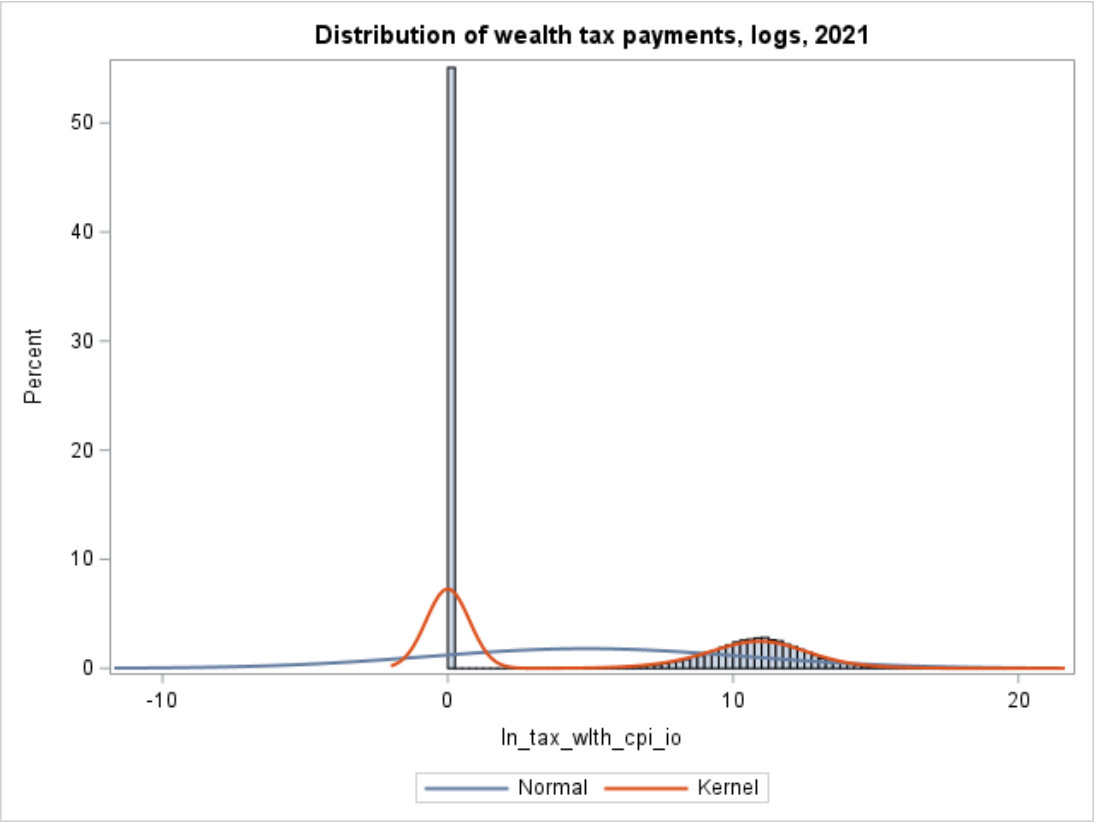
17.2. Wealth taxation over time

The wealth tax has been the focus of public policy debate in Norway for many years. It has also been part of international debates on tax systems and inequality (Zucman 2023).

The distribution of wealth is skewed, and as a result the distribution of wealth tax payments is also highly positively skewed.

The graphs below illustrate this property of the distribution. The first graph presents the wealth tax payments of families that control family firms in 2021 (in million kroner, adjusted for inflation to 2023). The second graph presents the distribution of the natural logarithm of 1+the amount of wealth tax payment in kroner, for the same sample and year.



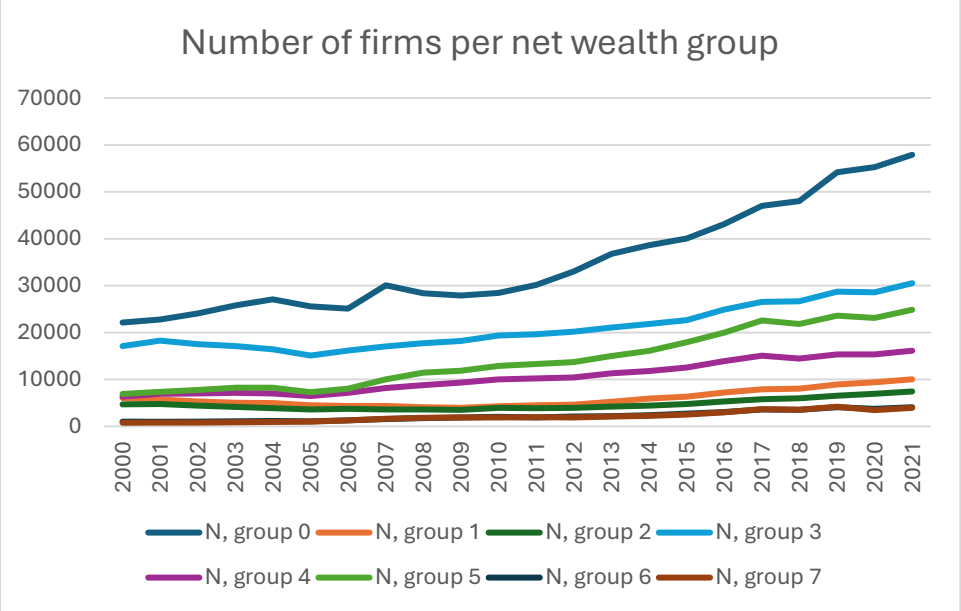


In this section we describe the evolution of wealth taxation for business owners over time. To address the issue of skewness, we group family firms in 8 broad bands based on the net (taxable) wealth of their controlling owners.

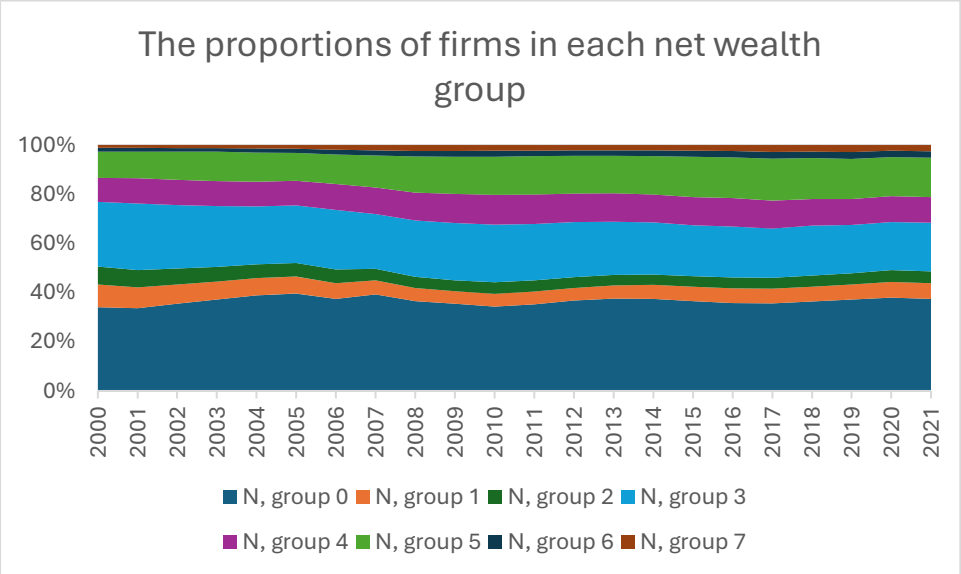
We form the following groups of family businesses based on the net wealth of the controlling family:

- Group 0: negative net wealth;
- Group 1: net wealth between 0 and 500,000 kroner (adjusted for inflation, in 2023 kroner);
- Group 2: net wealth between 500,000 and 1,000,000 kroner;
- Group 3: net wealth between 1,000,000 and 5,000,000 kroner;
- Group 4: net wealth between 5,000,000 and 10,000,000 kroner;
- Group 5: net wealth between 10,000,000 and 50,000,000 kroner;
- Group 6: net wealth between 50,000,000 and 100,000,000 kroner;
- Group 7: net wealth above 100,000,000 kroner.

The graph below presents the number of firms in each group and year:

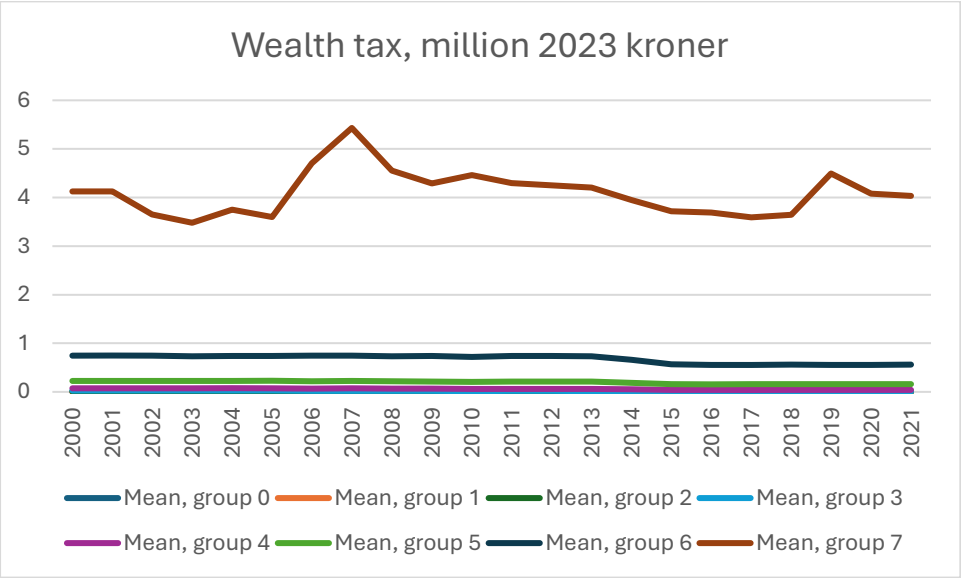


The proportion of family firms in each group is fairly stable over time:

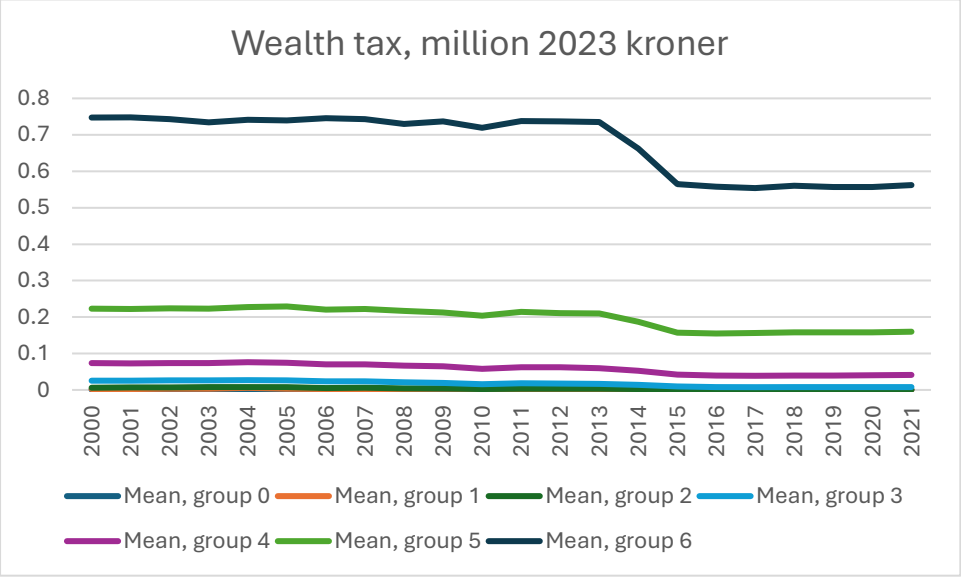


Around one third of business owners have negative net wealth, where the net wealth is calculated as the difference between gross wealth (the family's total assets) and personal liabilities. That means they do not pay the wealth tax. Another large group is business owners with a net wealth between 1 and 5 million kroner (group 3 in our classification). The top two groups, with net wealth above 100 million kroner or between 50 and 100 million kroner (groups 6 and 7) stand for between 1 and 3% of business owners each depending on the year.

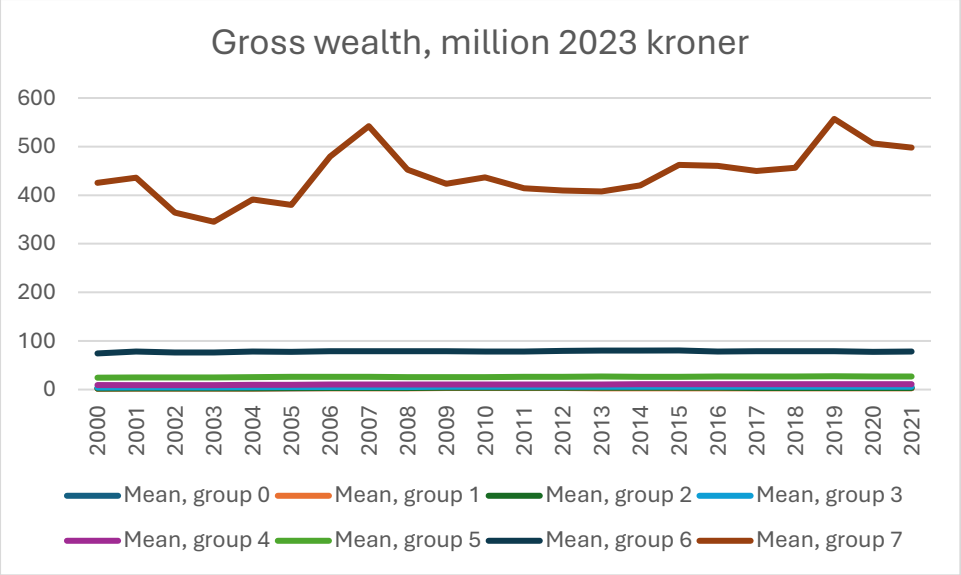
As it may be expected, business owners with higher net wealth pay larger amounts of wealth tax. The graph below presents the mean amount paid by business owners in each group, in million (2023, adjusted for inflation) kroner.

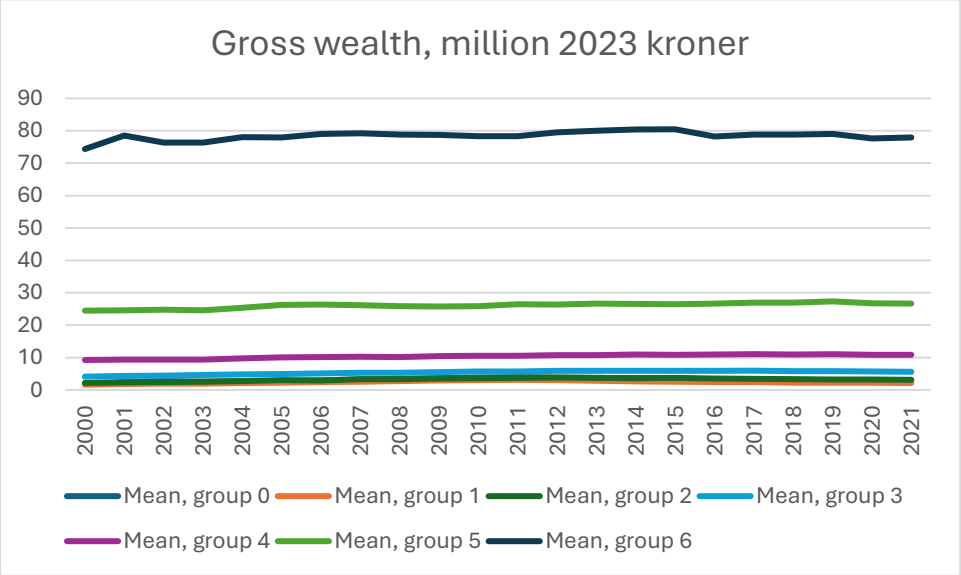


Since the distribution of tax payments is highly skewed, it is easier to see the evolution of tax payments for groups 0-6 if we exclude group 7 (with the largest tax payments):



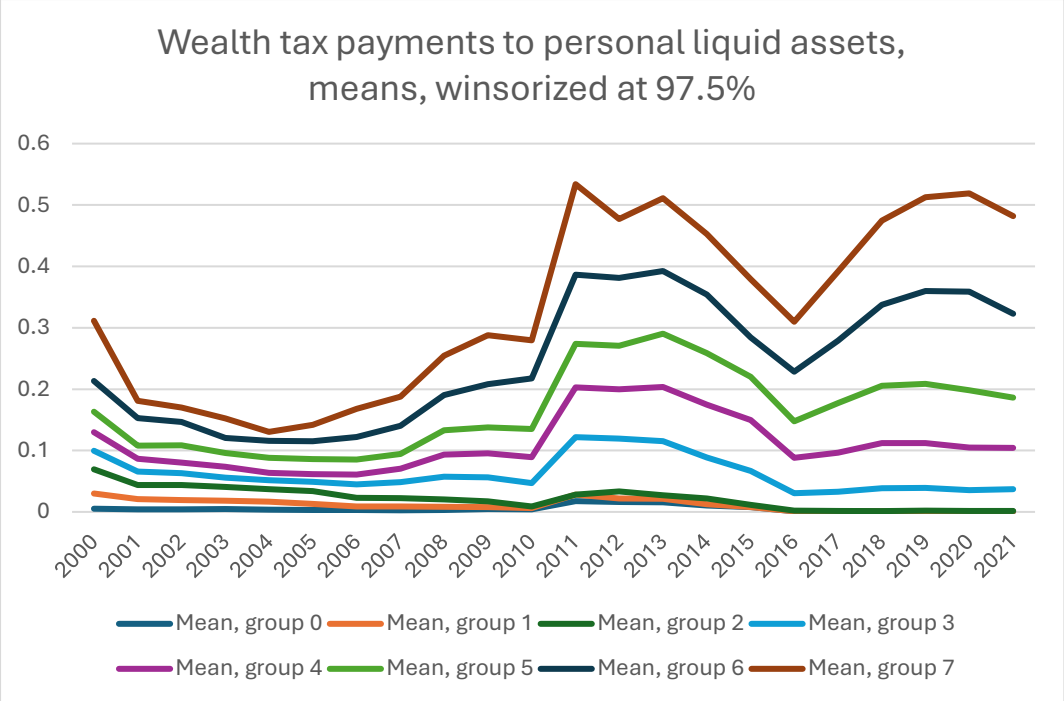
To complete the picture, we can also look at the evolution of gross wealth (total personal assets) for each group of business owners over time. There is obviously a positive correlation between the net and the gross wealth, and the ranking of the groups is the same using the gross wealth:



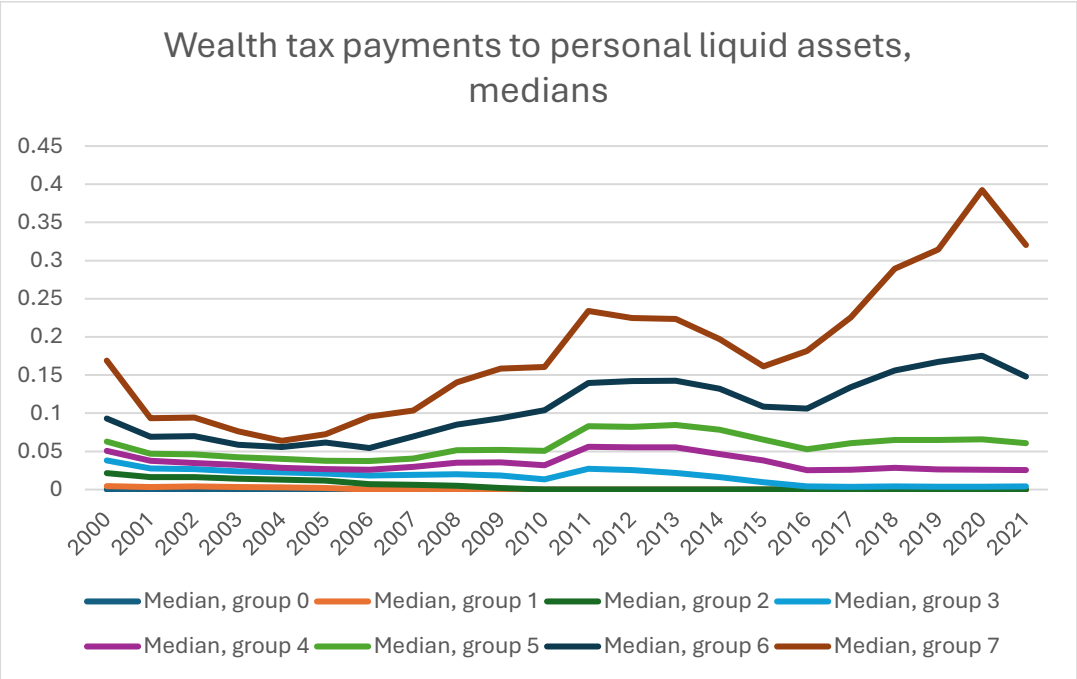


Wealth tax payments represent a cash outflow for the tax payers. It is therefore interesting to compare the wealth tax payments of the business owners to their personal liquid assets, which include bank savings and listed securities.

The ratio of tax payments to liquid assets has some extreme outliers in group 7. To make it easier to follow the evolution of the ratio over time and reduce the influence of extreme outliers, we winsorize the ratio of wealth tax payments at 97.5% every year. We can see that wealthier business owners also pay more in the wealth tax relative to their personal liquid assets. The ratio has increased in the second half of our time period.



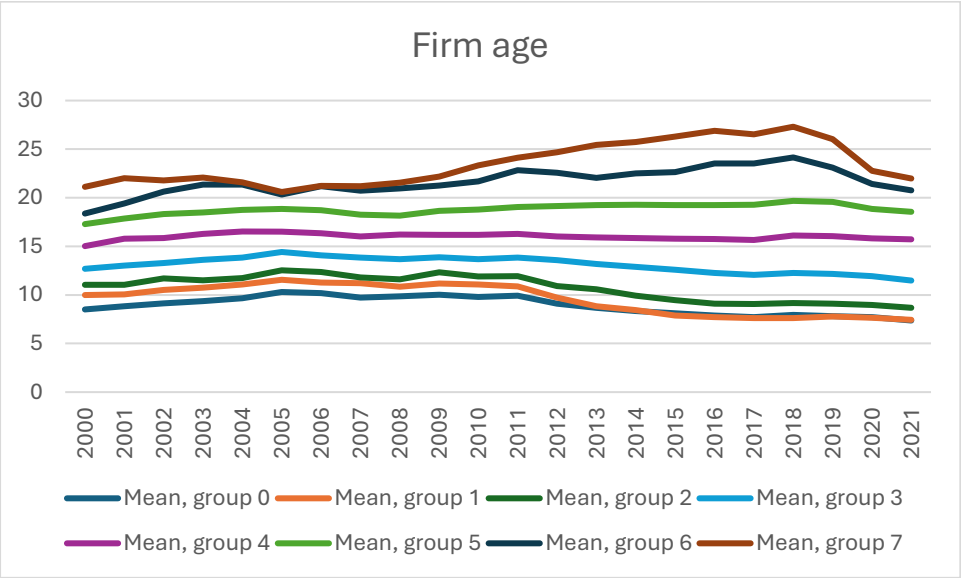
A similar relationship can be seen if we focus on the median ratio for each group:



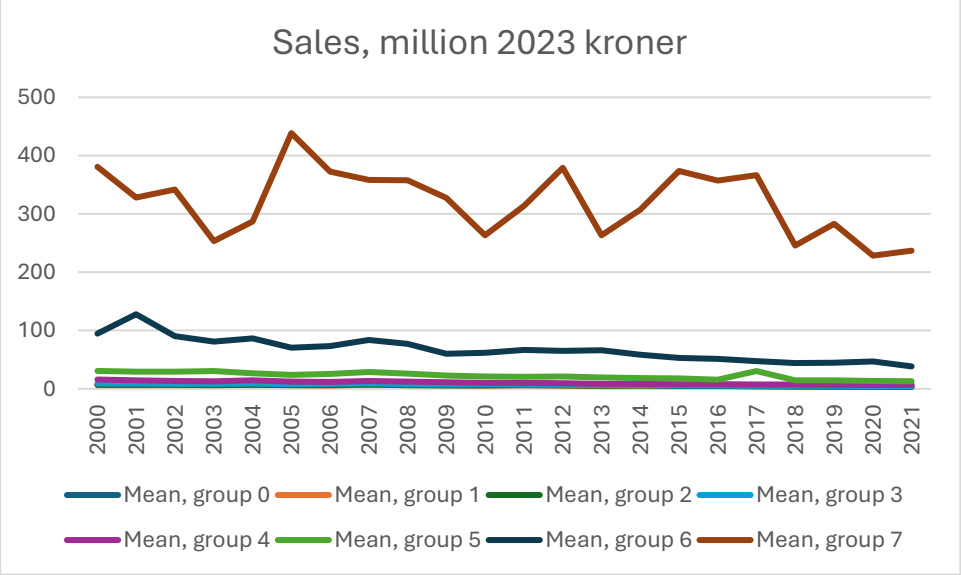
17.3. Wealth taxation and firm characteristics

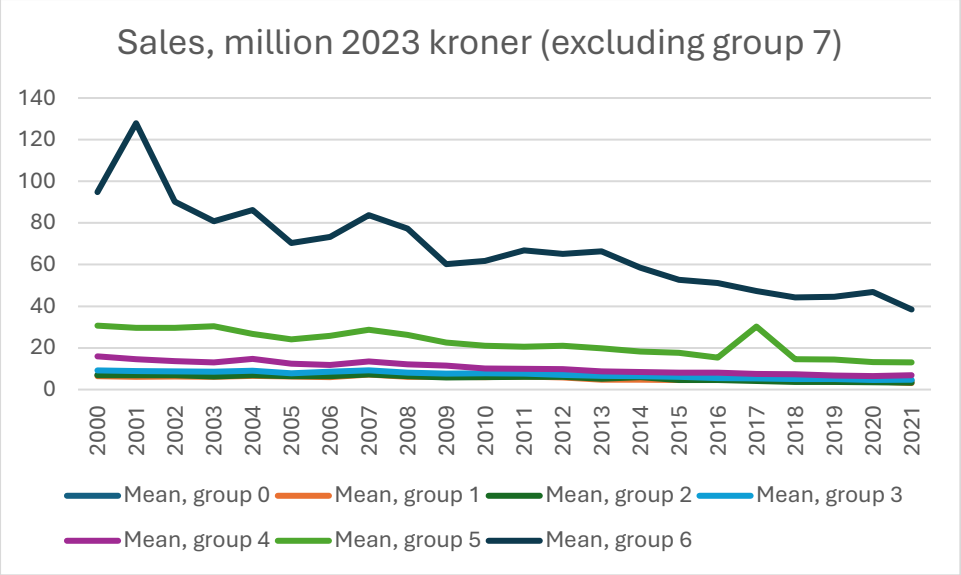
In this section, we link the business owners in each group of net wealth to the characteristics of the firms they control.

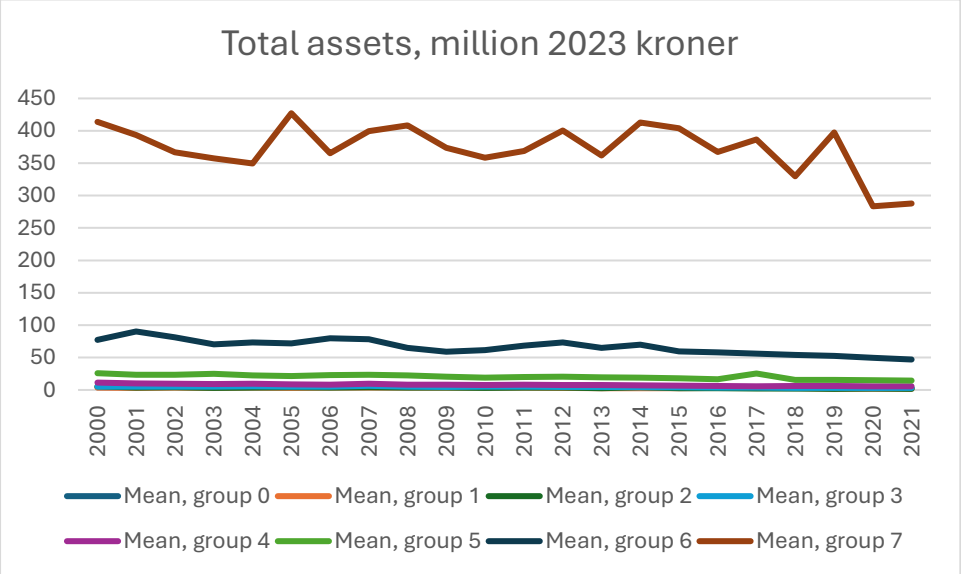
Wealthier business owners tend to have relatively older businesses.

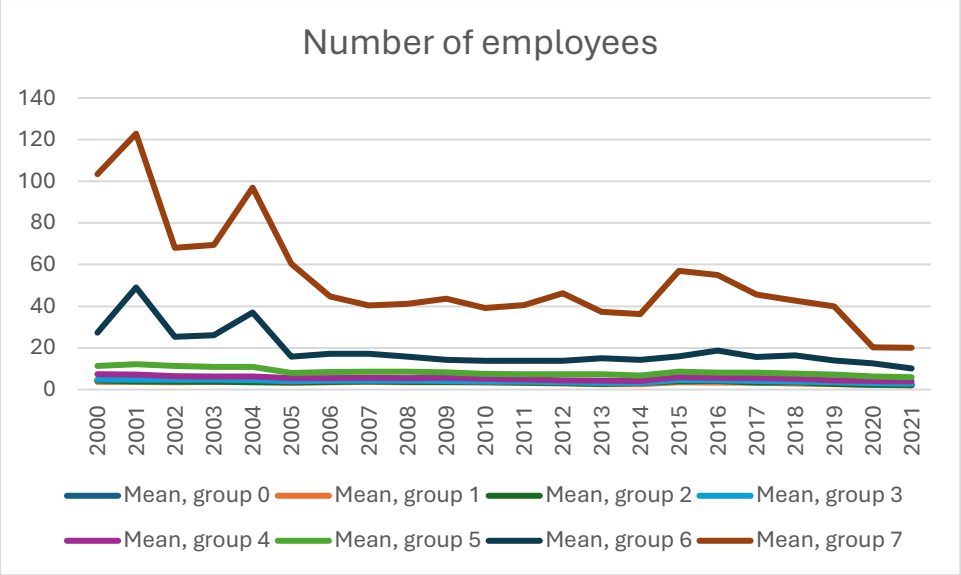


Wealthier business owners also have larger businesses, whether we measure that by sales, total assets, or employment. This is to be expected, since the net value of the firm's assets is part of the owner's tax base:

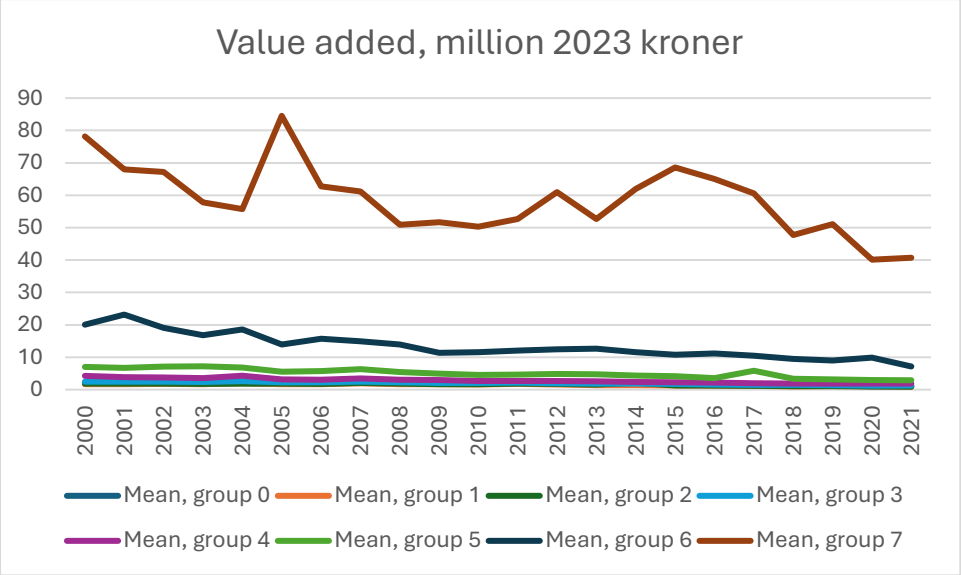


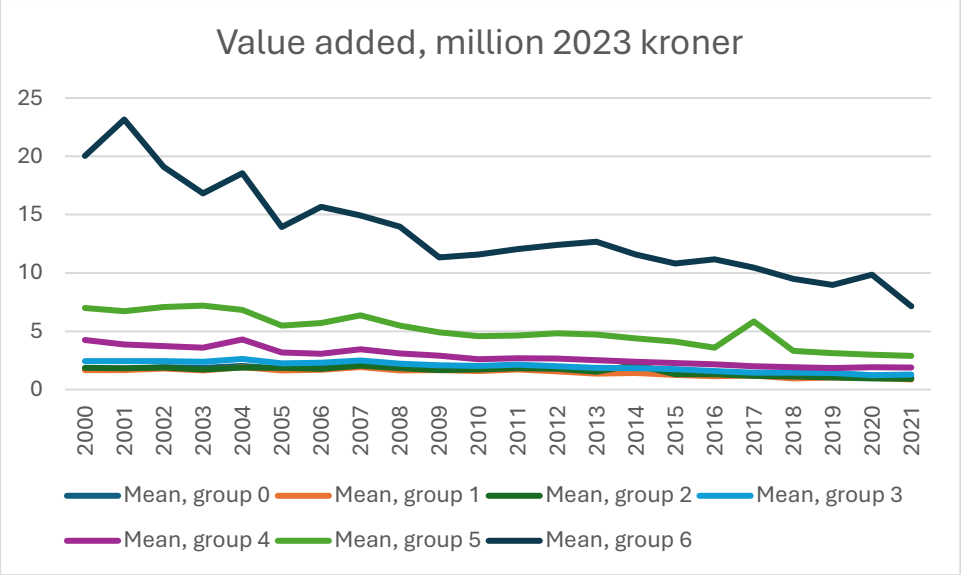

Sales, million 2023 kroner (excluding group 7)
140
120
100
80
60
40
20
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Mean, group 0
Mean, group 1
Mean, group 2
Mean, group 3
Mean, group 4
Mean, group 5
Mean, group 6


Total assets, million 2023 kroner
450
400
350
300
250
200
150
100
50
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Mean, group 0
Mean, group 1
Mean, group 2
Mean, group 3
Mean, group 4
Mean, group 5
Mean, group 6
Mean, group 7

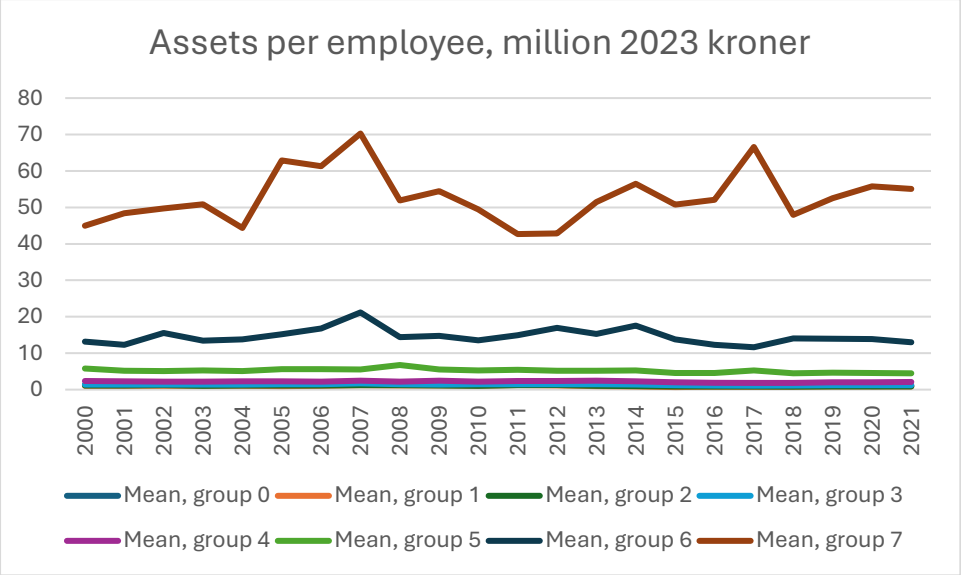


A similar picture emerges if we look at value added (calculated as the sum of earnings – the revenues going to capital – and salaries – the earnings going to labour):

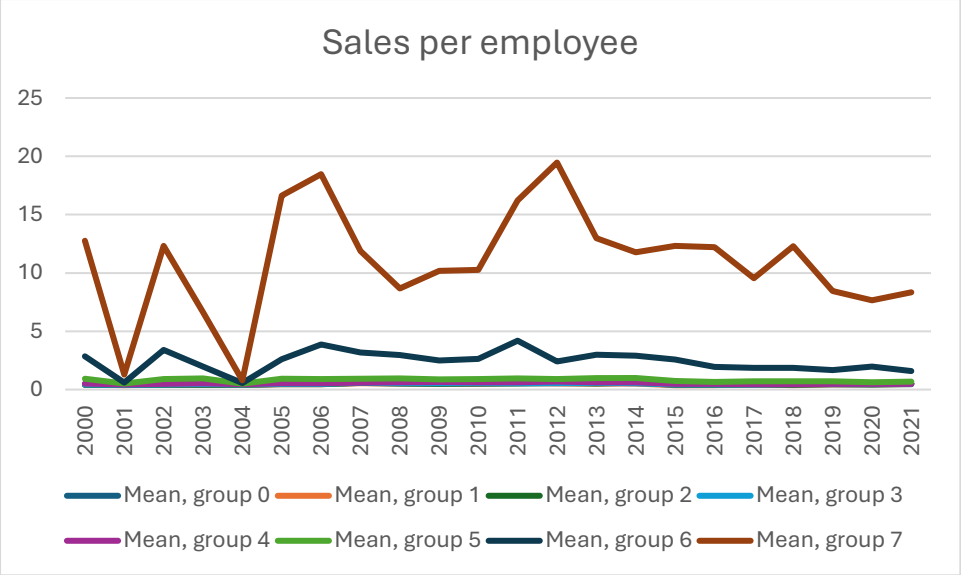


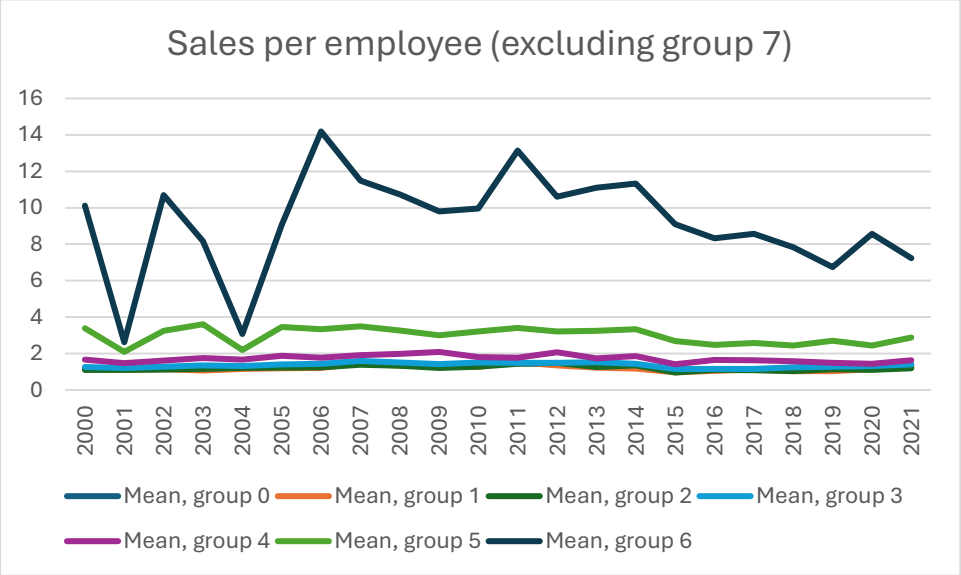


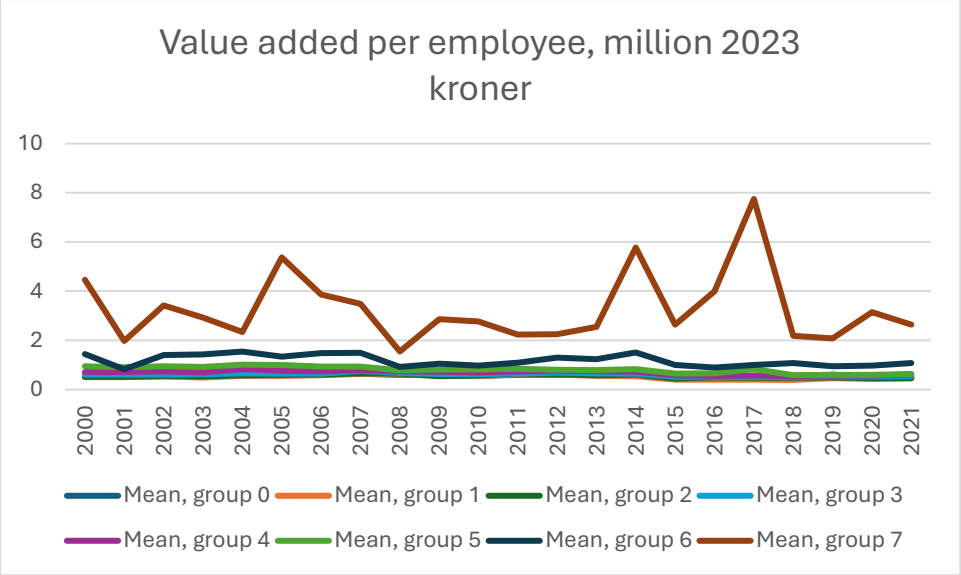
Firms with wealthier owners tend to be more capital intensive, as indicated by the ratio of total assets to employees:

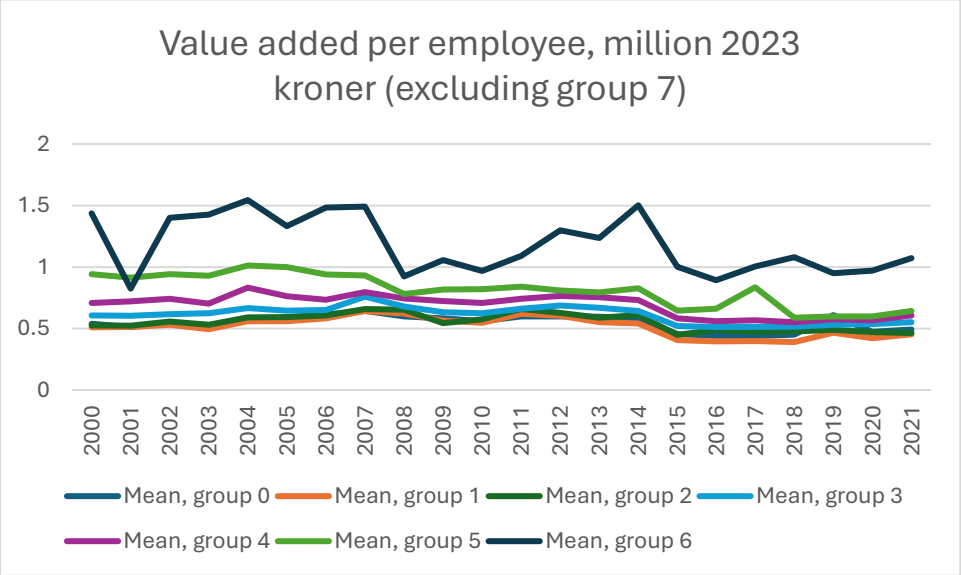


A similar picture emerges if we look at sales or value added per employee:

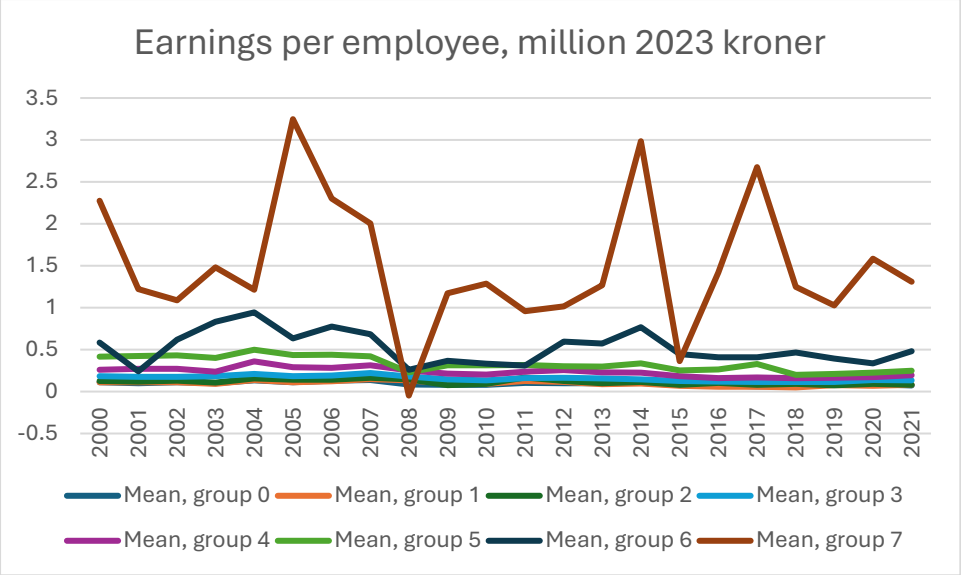

Sales per employee
25
20
15
10
5
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Mean, group 0
Mean, group 1
Mean, group 2
Mean, group 3
Mean, group 4
Mean, group 5
Mean, group 6
Mean, group 7


Sales per employee (excluding group 7)
16
14
12
10
8
6
4
2
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Mean, group 0
Mean, group 1
Mean, group 2
Mean, group 3
Mean, group 4
Mean, group 5
Mean, group 6

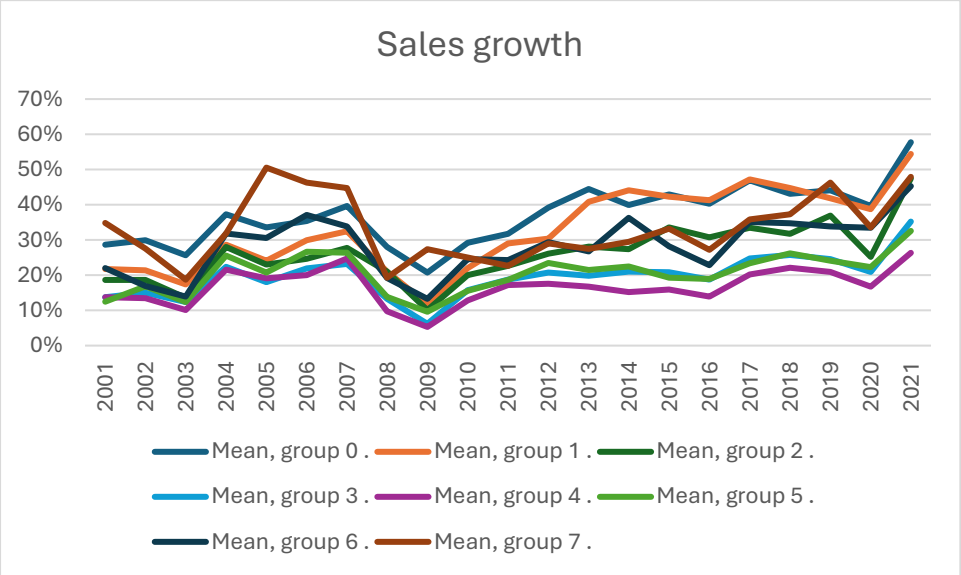


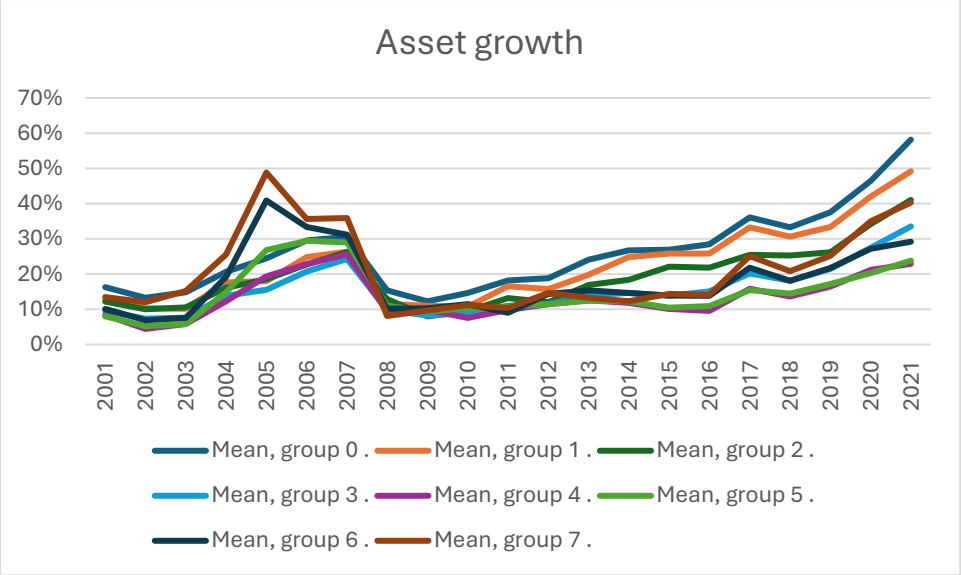


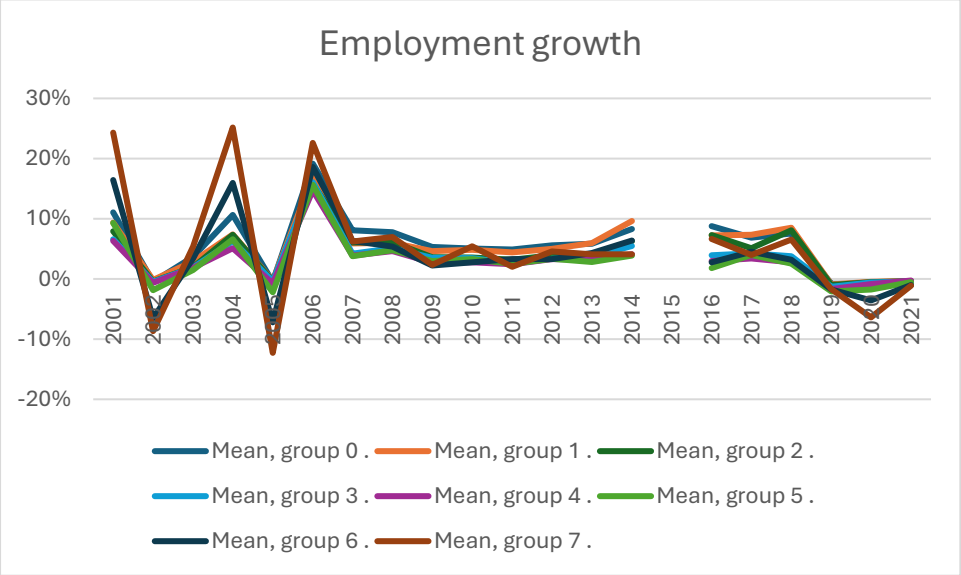
The earnings (net income) generated per employee are also correlated with firm size and the net wealth of the owners. For the top groups, we can also observe a significant cyclical pattern, with downturns in 2008 and 2015:



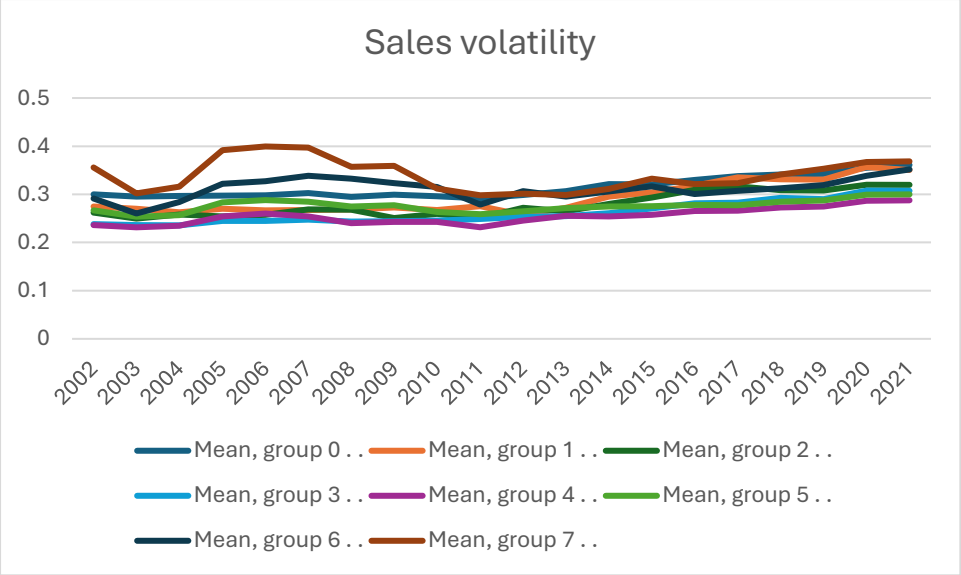
The various groups are much closer when we look at growth rates, where there seems to be no clear hierarchy:



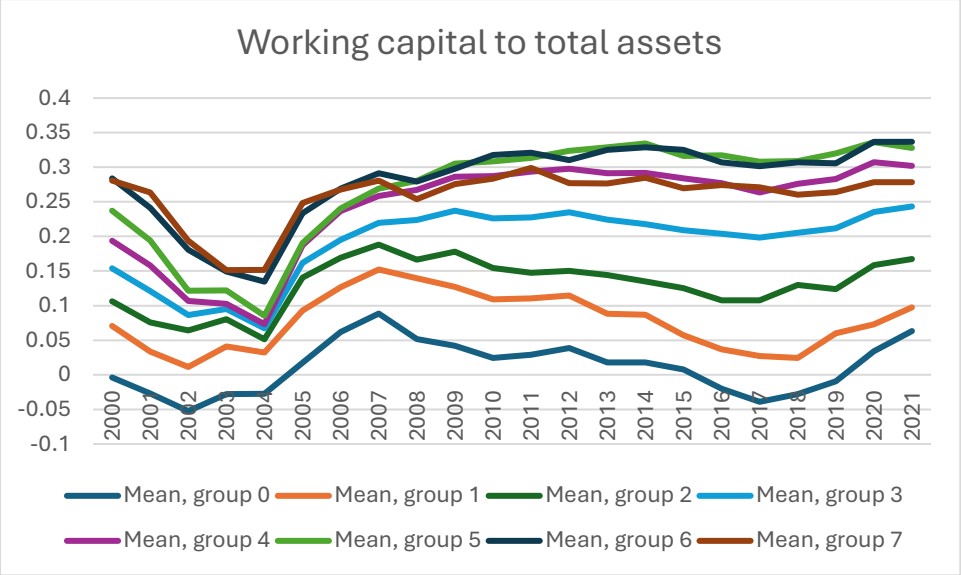


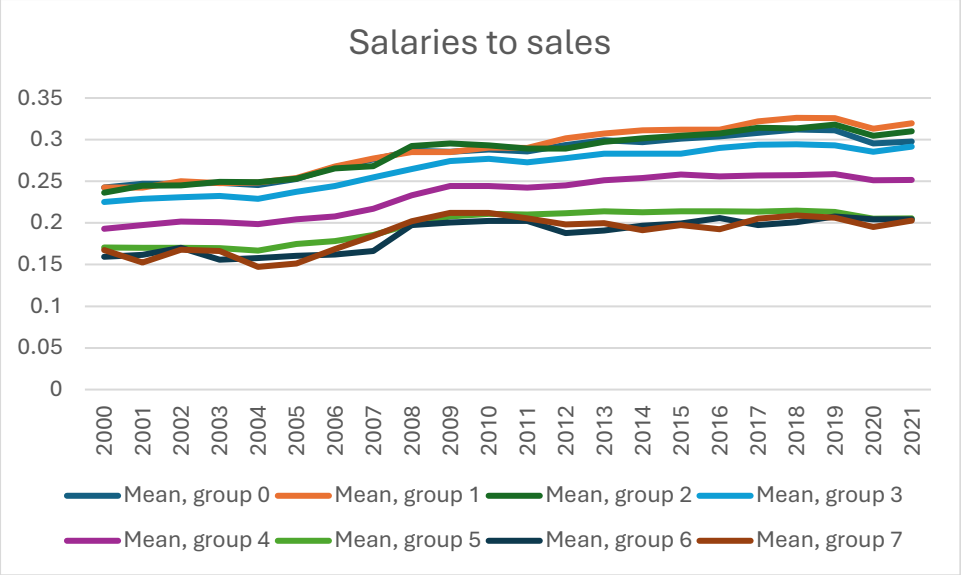


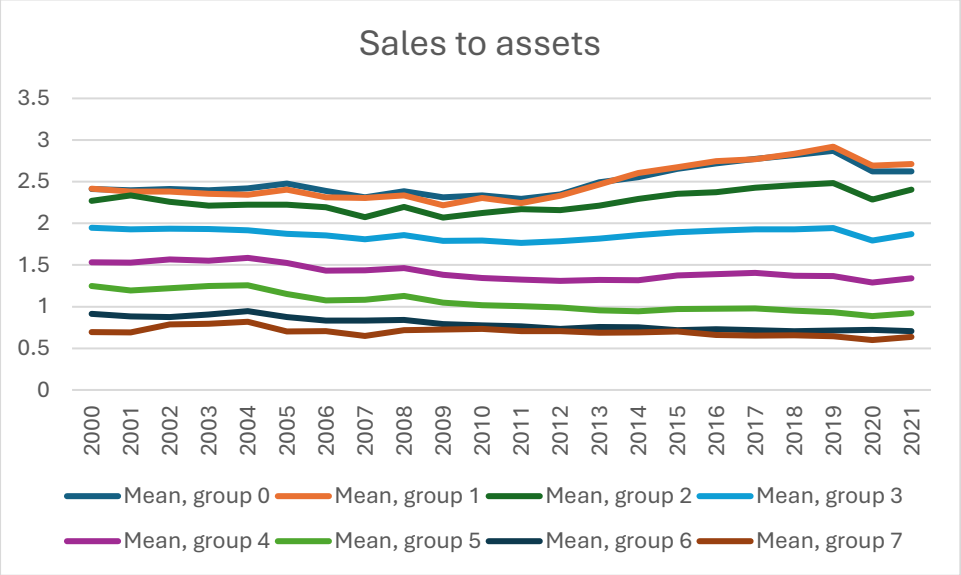
The differences in risk, measured as the coefficient of variation for sales over a three-year period, are small, with the largest and smallest firms (most/least wealthy owners) having slightly higher volatility:



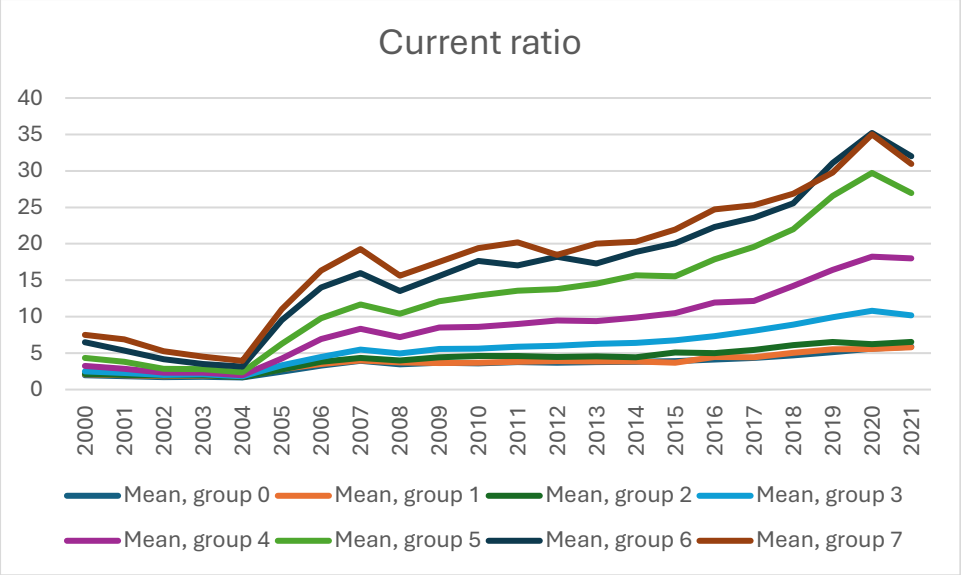
The higher capital intensity of larger firms with wealthier owners is also illustrated by their higher ratio of working capital to total assets, and their lower ratios of salaries and sales to assets.

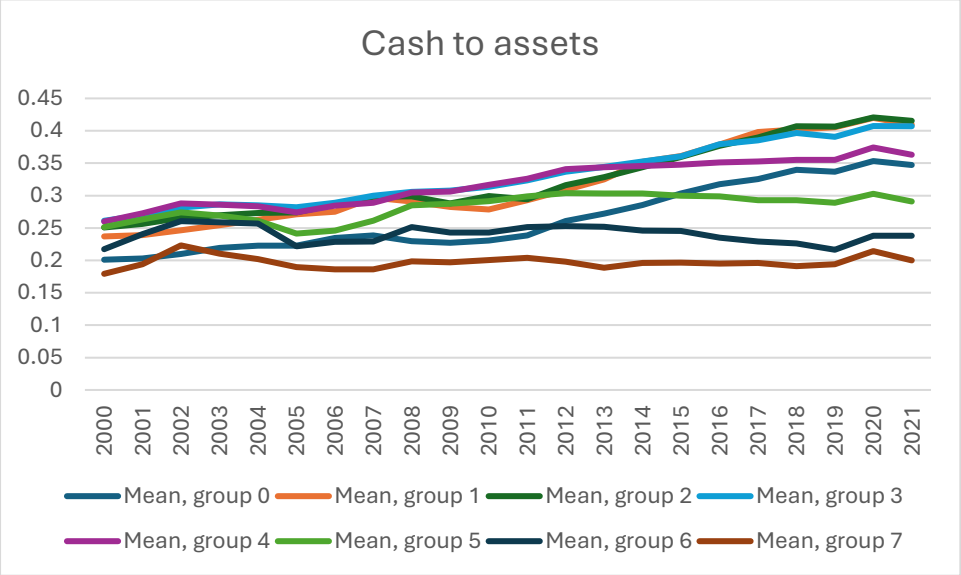




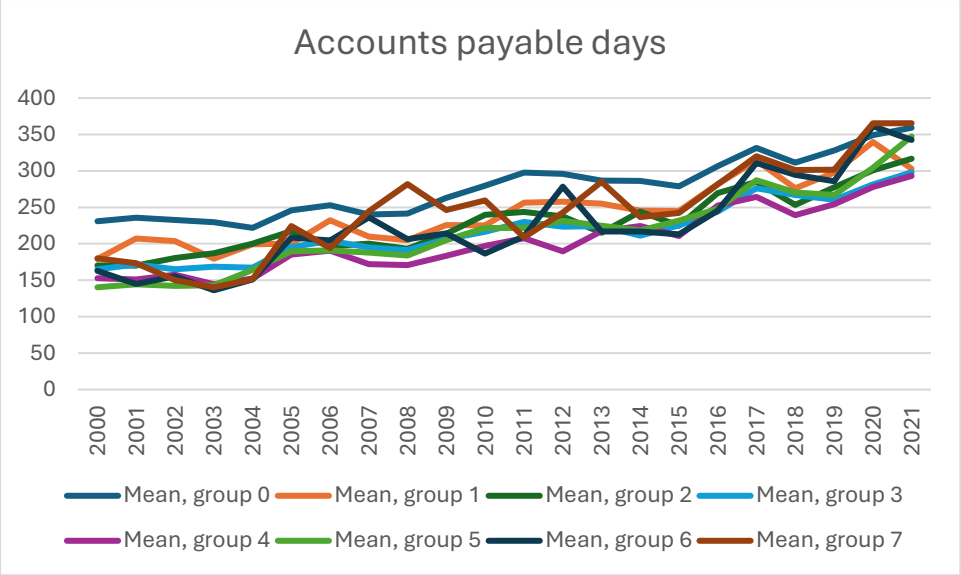


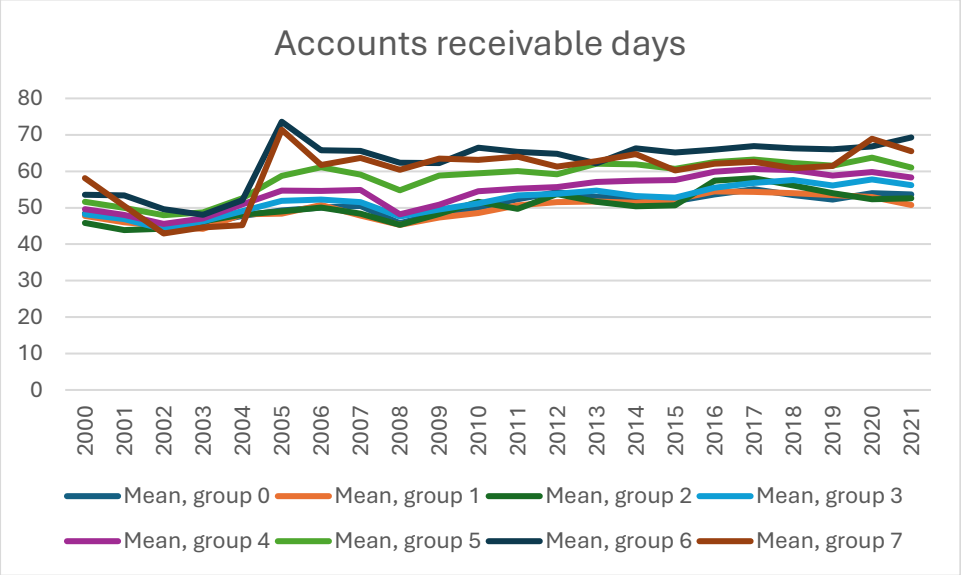
Looking at the firms' liquidity, larger firms with wealthier owners have higher current ratios, but they also have a lower proportion of cash on their balance sheet.

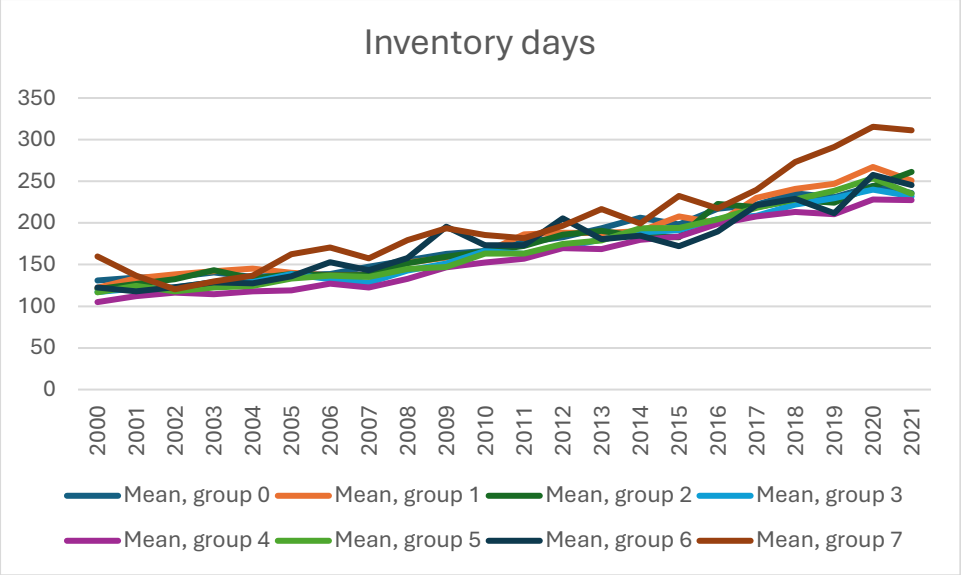




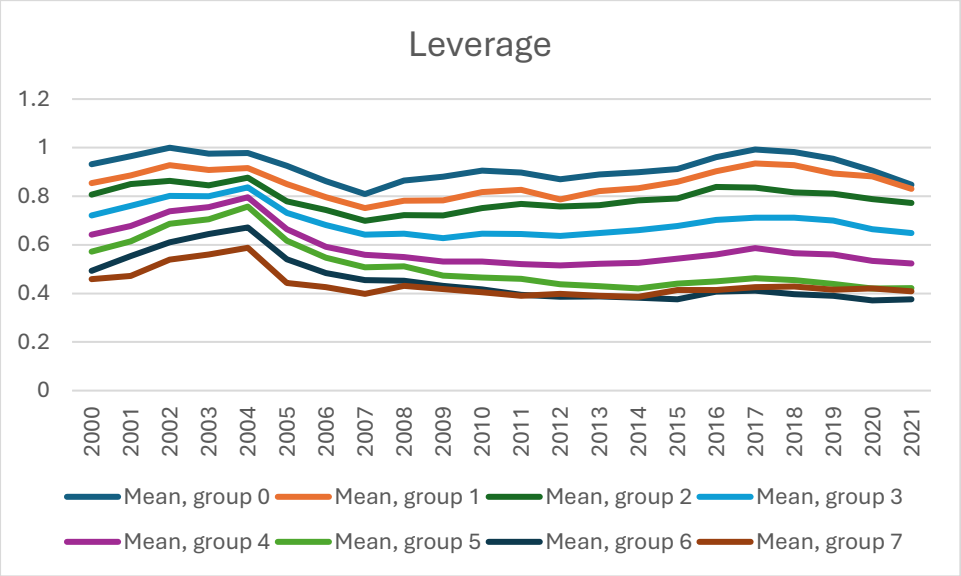
There is little difference across the groups in terms of their accounts payable, and accounts receivable and inventory days, and all groups show an upward trend:


Accounts payable days
400
350
300
250
200
150
100
50
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Mean, group 0
Mean, group 1
Mean, group 2
Mean, group 3
Mean, group 4
Mean, group 5
Mean, group 6
Mean, group 7

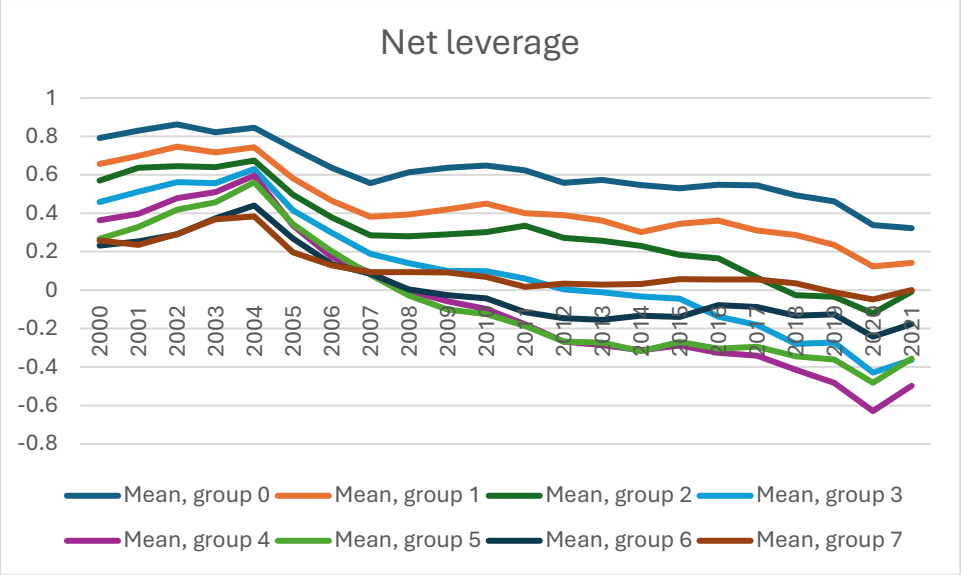

Accounts receivable days
80
70
60
50
40
30
20
10
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Mean, group 0
Mean, group 1
Mean, group 2
Mean, group 3
Mean, group 4
Mean, group 5
Mean, group 6
Mean, group 7



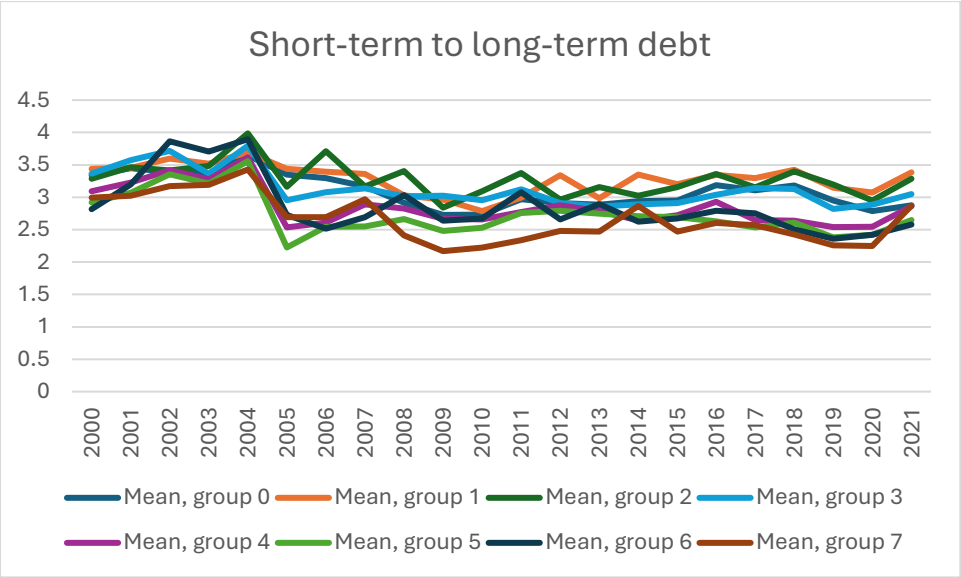
Looking at financing, leverage varies monotonically across our groups, and differences are stable over time. Smaller firms with less wealthy owners are more highly levered.



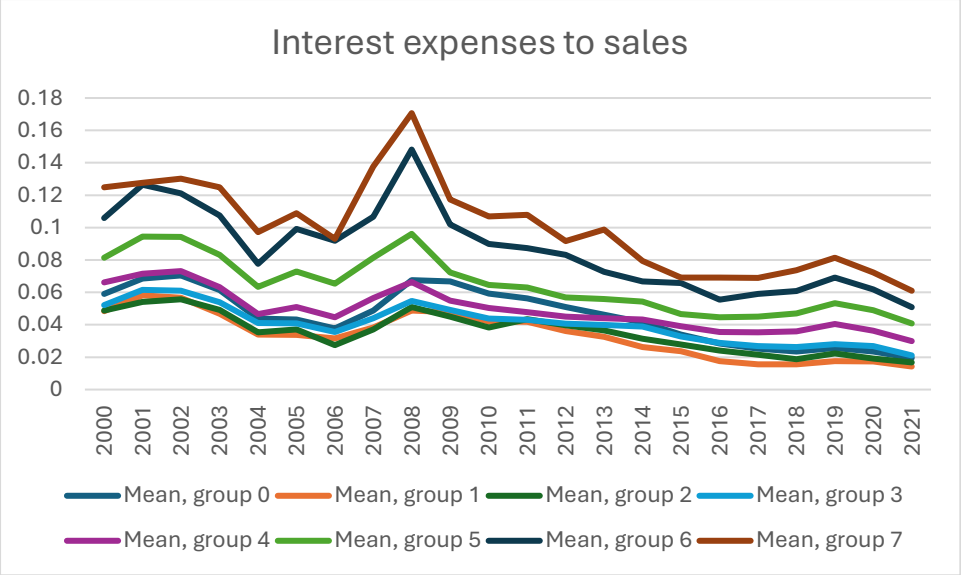
When we look at net leverage (total liabilities minus cash divided by total assets minus cash), the picture is somewhat different. Medium-sized firms have low and decreasing net leverage as a result of their increasing cash holdings.

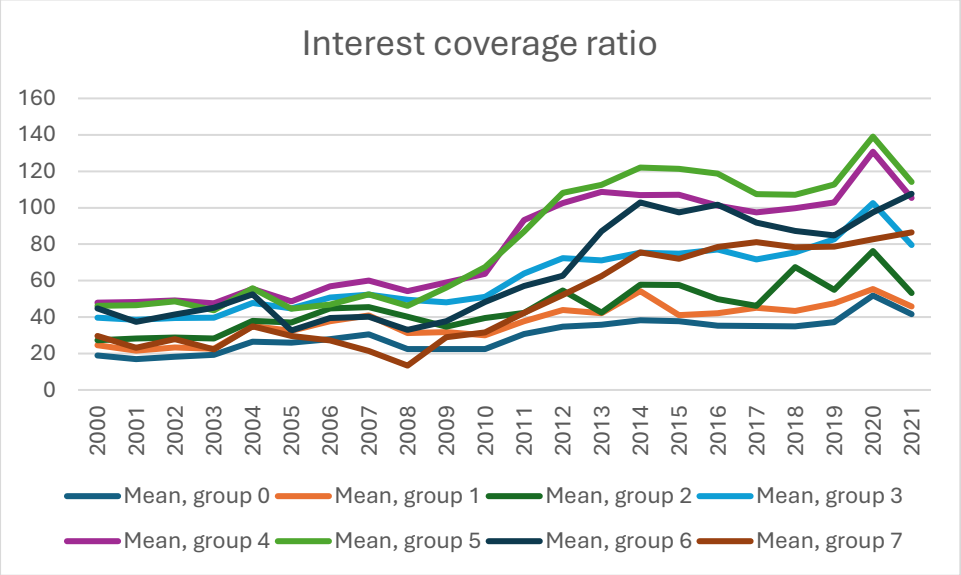


The ratio of short-term to long-term debt does not show a very clear relationship, but in general larger firms have a larger proportion of long-term debt compared to smaller firms.

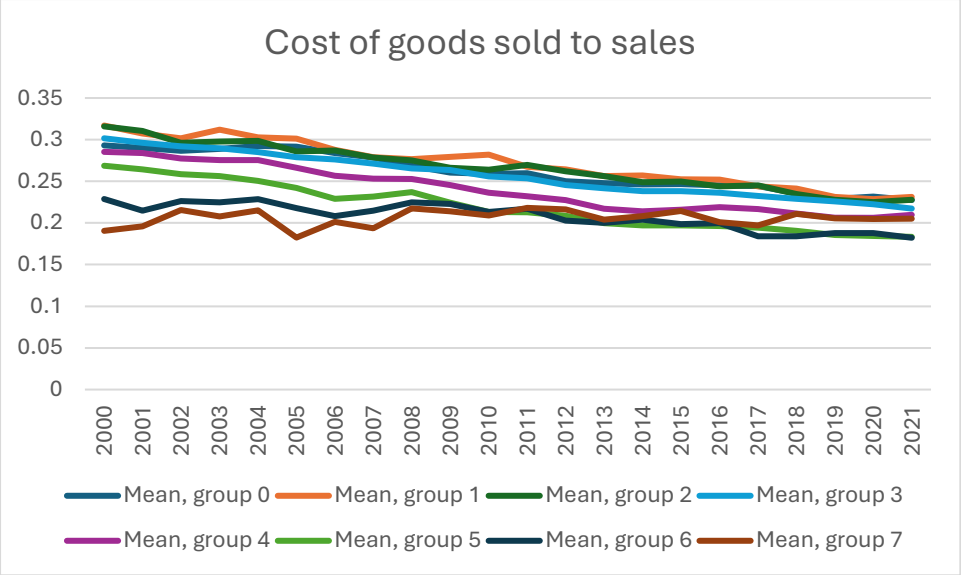


Interest expenses relative to sales are highest for large firms and wealthy owners. The interest coverage ratio has been increasing in recent years for all groups.

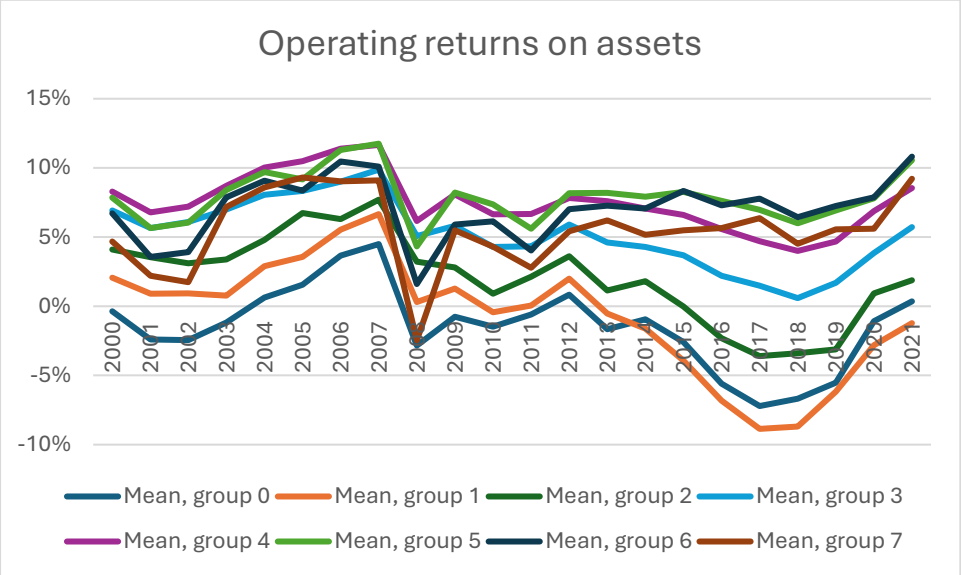


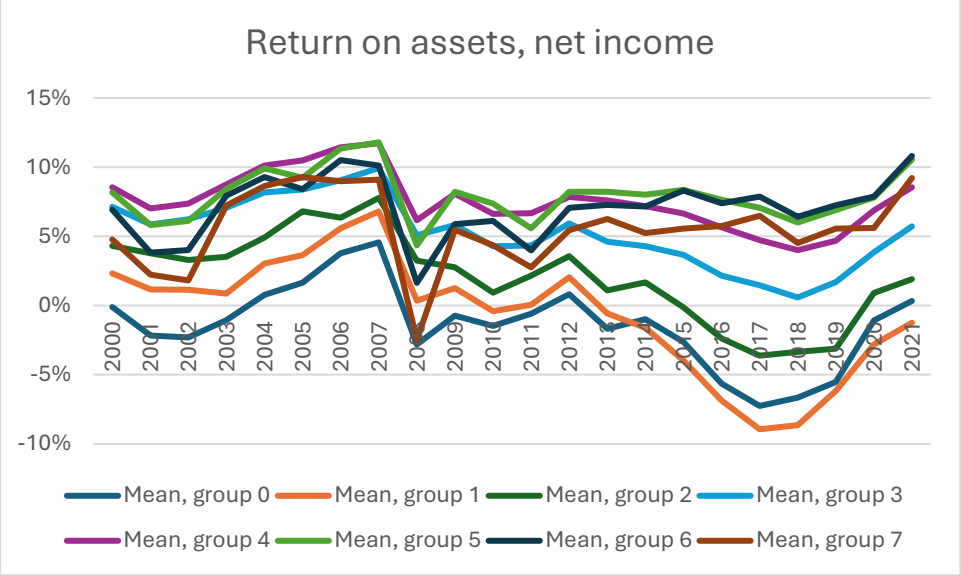


We can also compare profitability across the groups. The ratio of direct costs (the cost of goods sold) to sales has been decreasing over time except for the top two groups, where it has been stable at a relatively lower level.

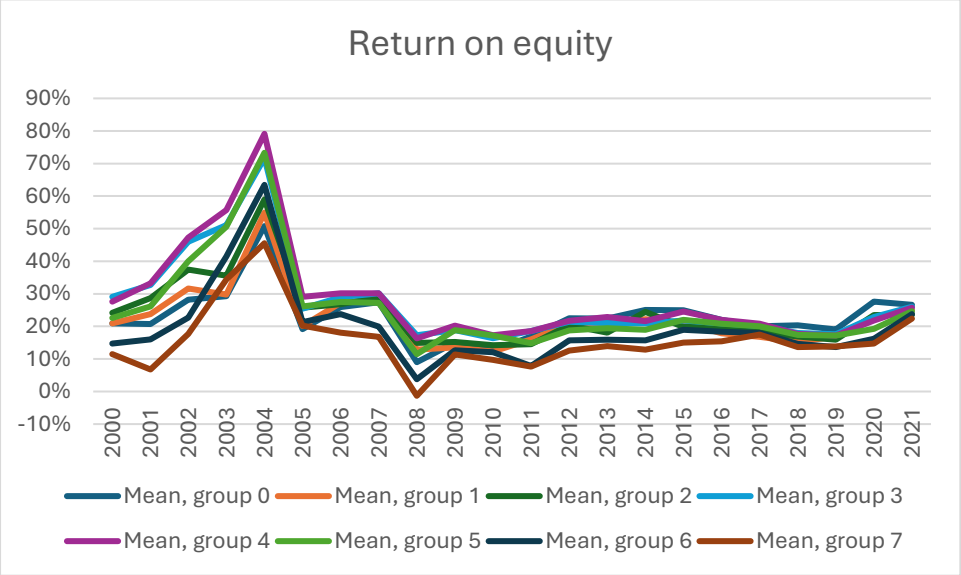


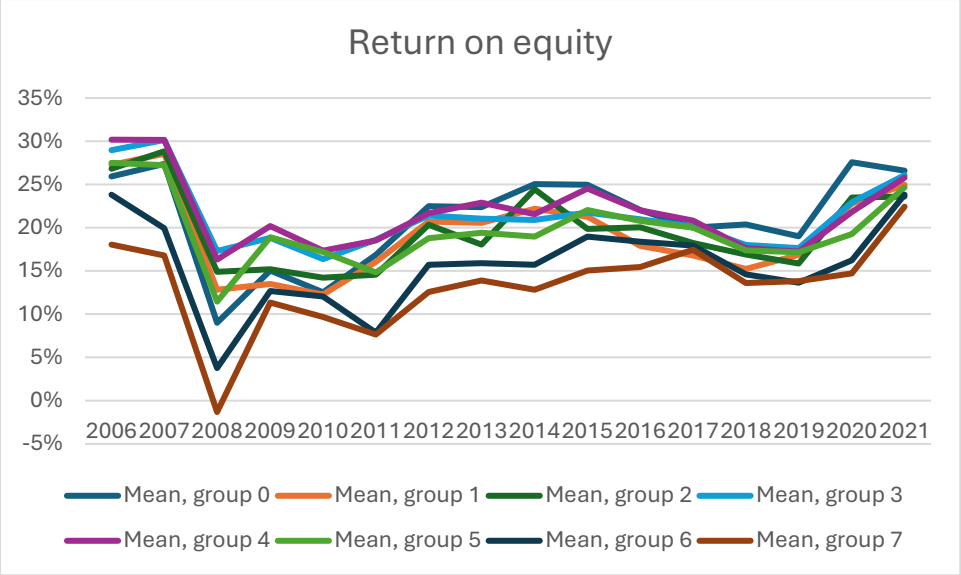
The return on assets (ROA, calculated as the ratio of the operating income net of tax to total assets or the ratio of the net income plus interest to total assets) varies with the business cycle. It is lower for small firms, and larger for large and medium-sized firms.

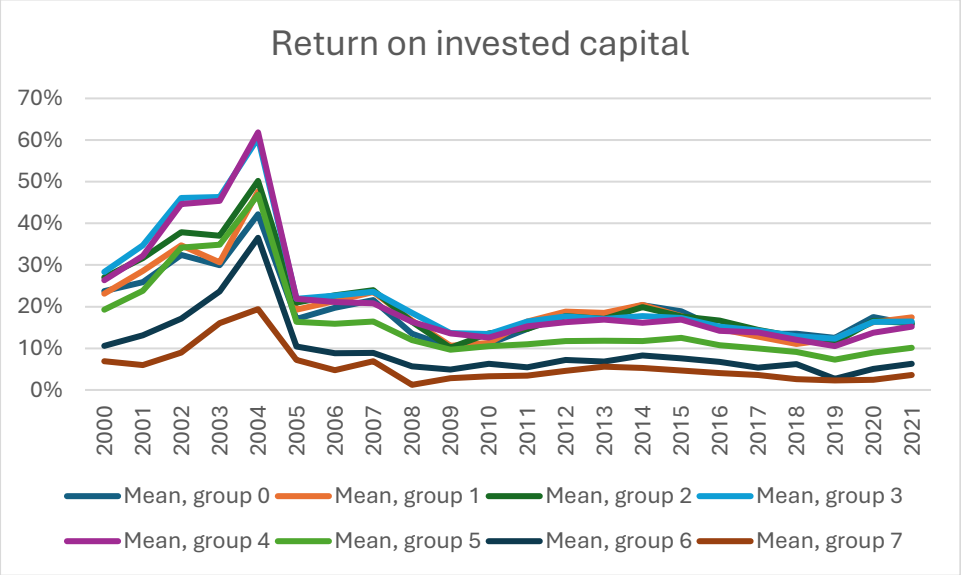




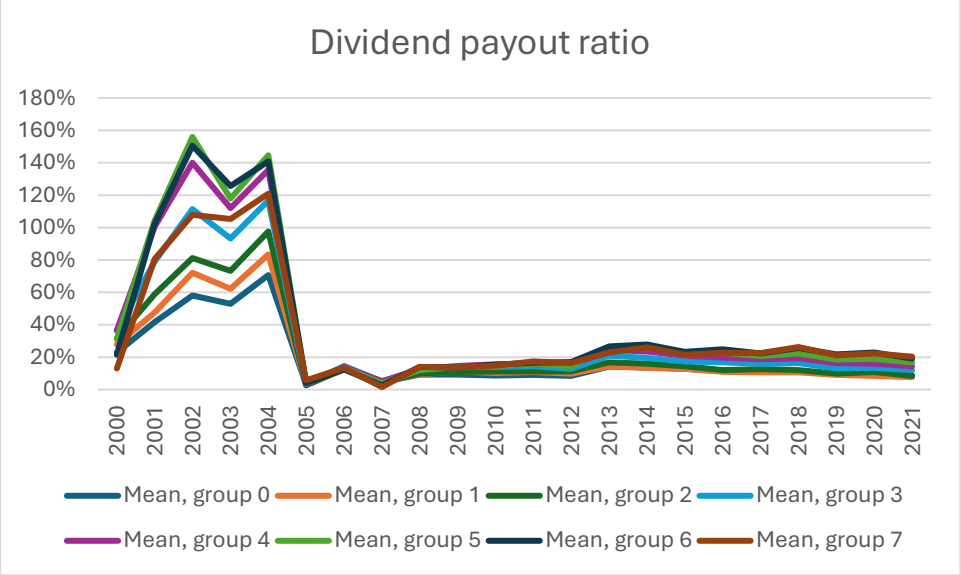
The return on equity (ROE, calculated as the ratio of net income to book equity) varies both with the business cycle and as a result of the 2006 dividend tax reform, where the large dividends prior to the tax increase temporarily reduced book equity. It is lower for large firms with wealthy owners.

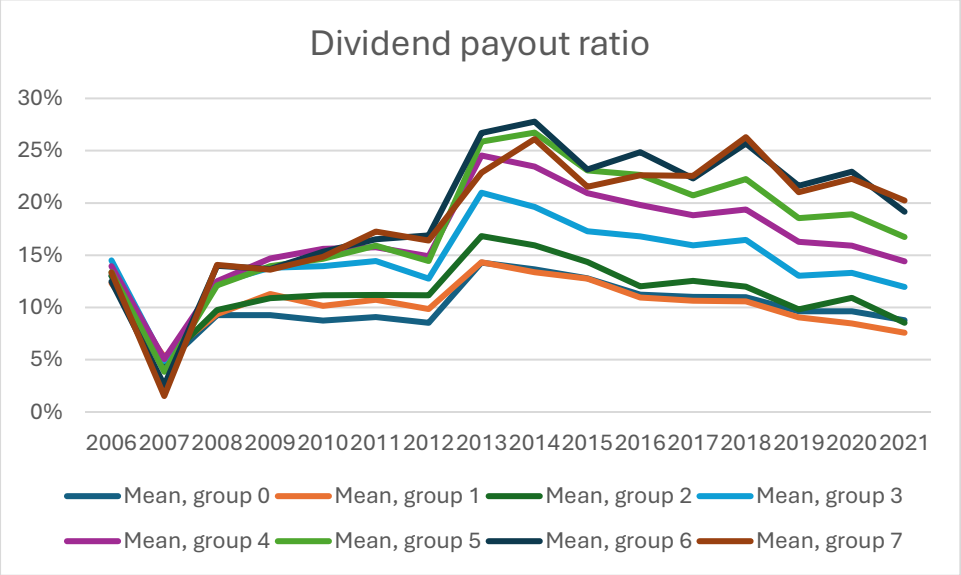


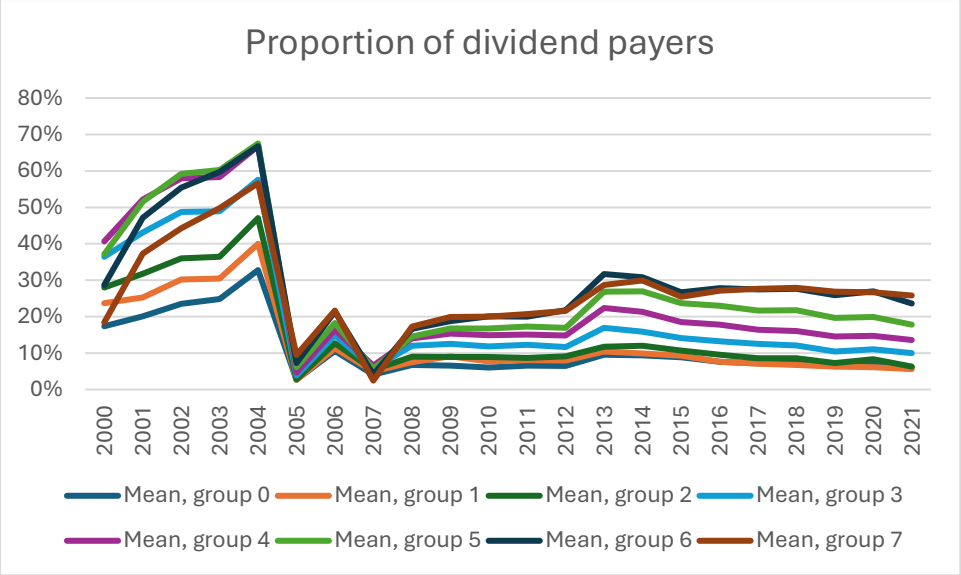




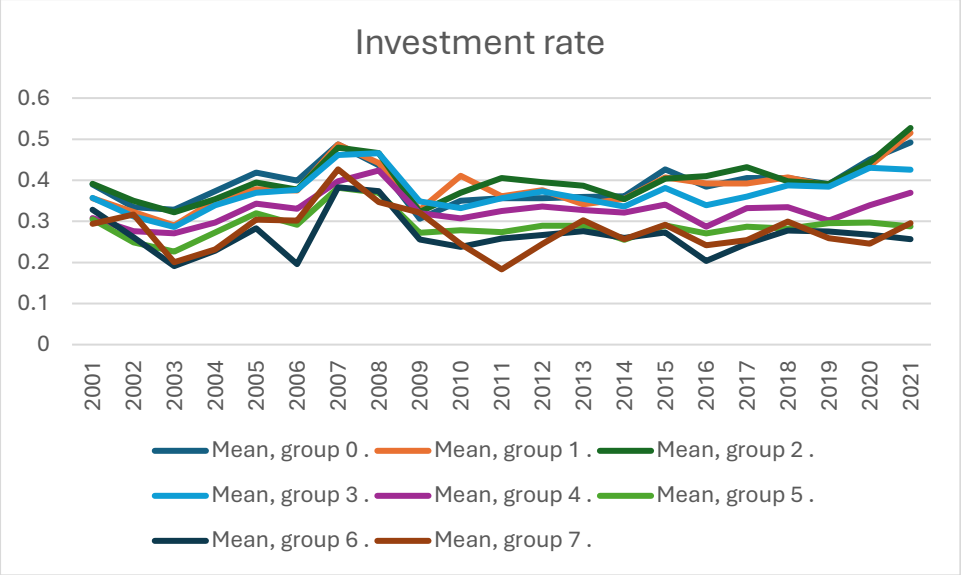
The dividend policy of Norwegian firms was strongly affected by the 2006 tax reform. Following the reform, large firms with wealthy owners have higher payout ratios and they pay dividends more often.


Dividend payout ratio
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Mean, group 0
Mean, group 1
Mean, group 2
Mean, group 3
Mean, group 4
Mean, group 5
Mean, group 6
Mean, group 7


Dividend payout ratio
30%
25%
20%
15%
10%
5%
0%
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Mean, group 0
Mean, group 1
Mean, group 2
Mean, group 3
Mean, group 4
Mean, group 5
Mean, group 6
Mean, group 7



The differences in the investment rate (relative change in fixed assets adjusted for depreciation and write-downs) across the groups are small. Smaller, younger firms have slightly higher rates.



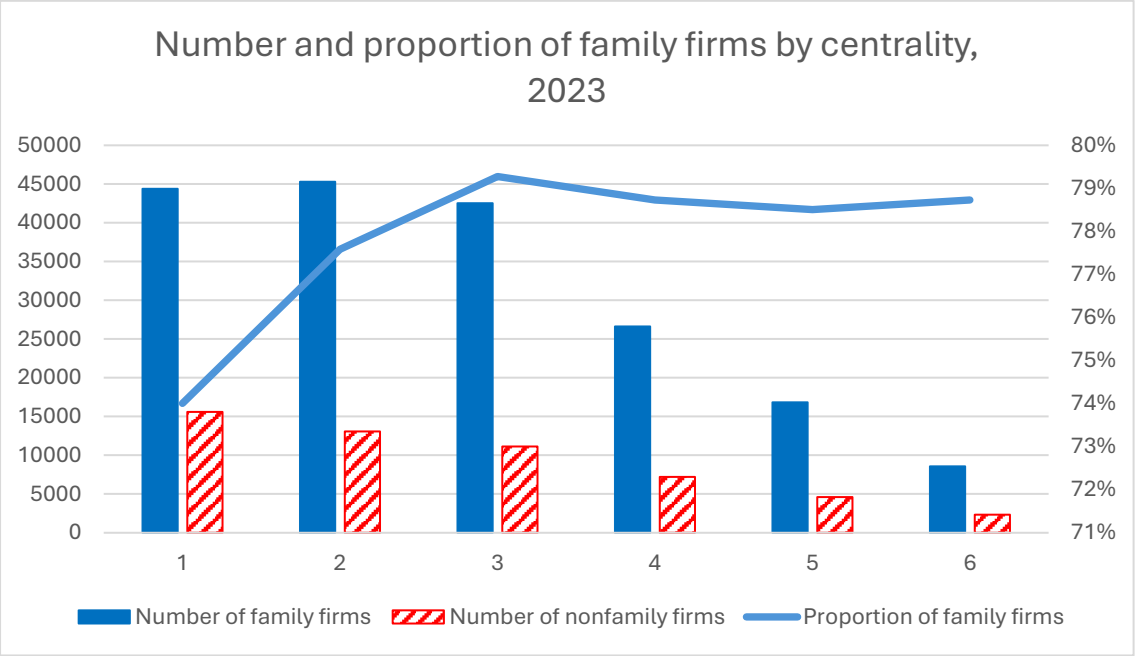
18. Location, firms and owners

18.1. Centrality and family firms

Ensuring the vitality of economic activity in outlying areas has long been a policy priority in Norway. Statistics Norway provides a centrality index (https://www.ssb.no/befolkning/folketall/artikler/sentralitetsindeksen) that classifies municipalities in Norway into 6 categories, ranging from the most central (index value 1, the core of the Oslo region), through the other large cities (index value 2) to the least central (index value 6). For instance, Oslo, Bærum and Lillestrøm are in centrality class 1, Bergen, Stavanger, Trondheim, Asker, Tønsberg, Moss, Hamar, Drammen are in class 2, Kristiansand, Gjøvik, Larvik, Sandefjord, Ålesund, Lillehammer, Tromsø, Bodø are in class 3, Alta, Molde, Gol, Voss, Hvaler are in class 4, Lærdal, Årdal, Hol, Røros, Vadsø are in class 5, Nordkapp, Frøya, Dovre, Ulvik are in class 6.

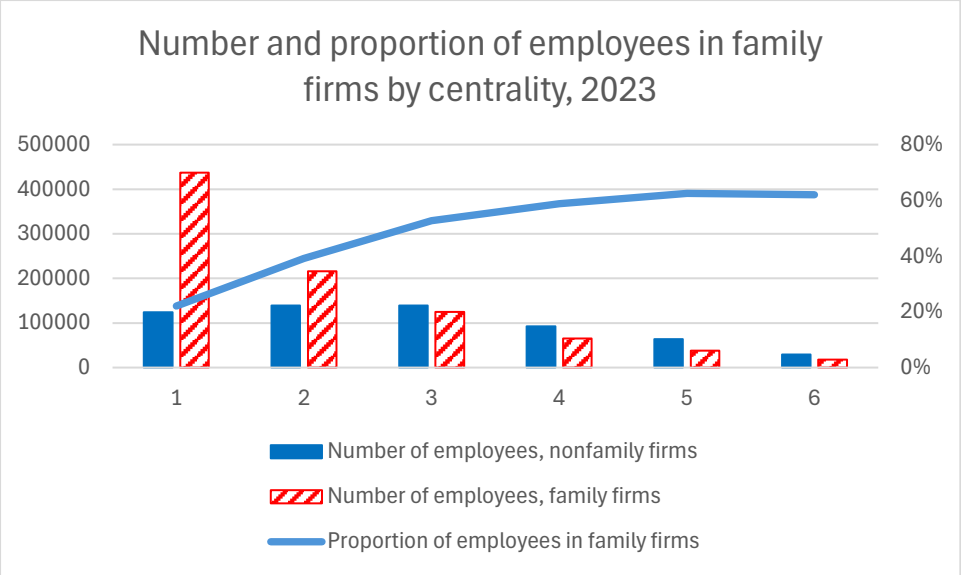
In this section we present statistics on the relative importance and the characteristics of family and nonfamily firms from regions with different centrality. We attach to every firm the centrality index of the location where it has its registered headquarters. In the case of business groups, we choose the location of the entity where it consolidates its financial reporting. All the statistics are for the year 2023.

Family firms represent a large majority in all regions, but their proportion is higher outside the large cities (regions 1 and 2).



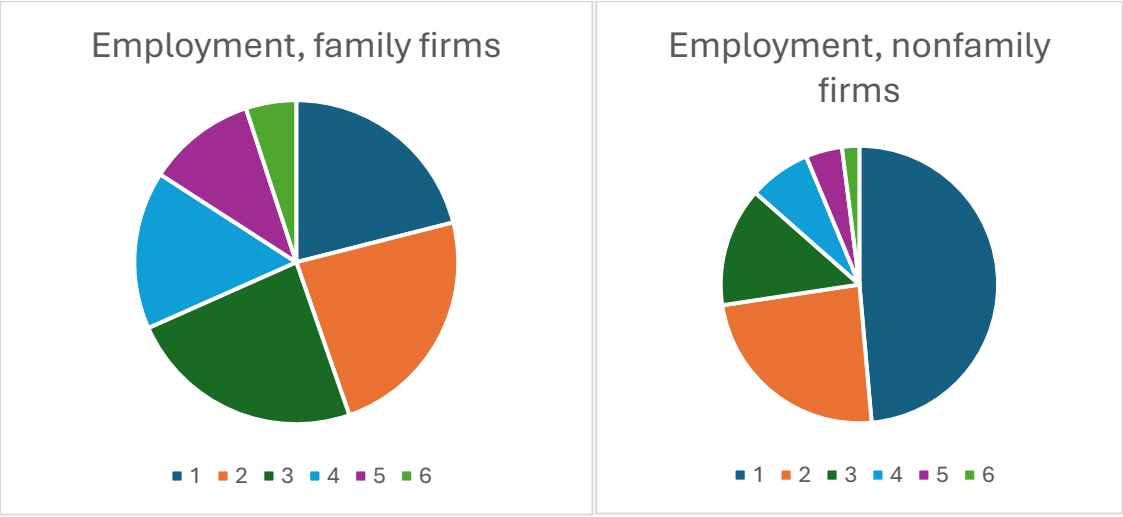
Left scale: the number of firms, right scale: the proportion of family firms.

Family firms also represent a majority of employment outside the large cities.

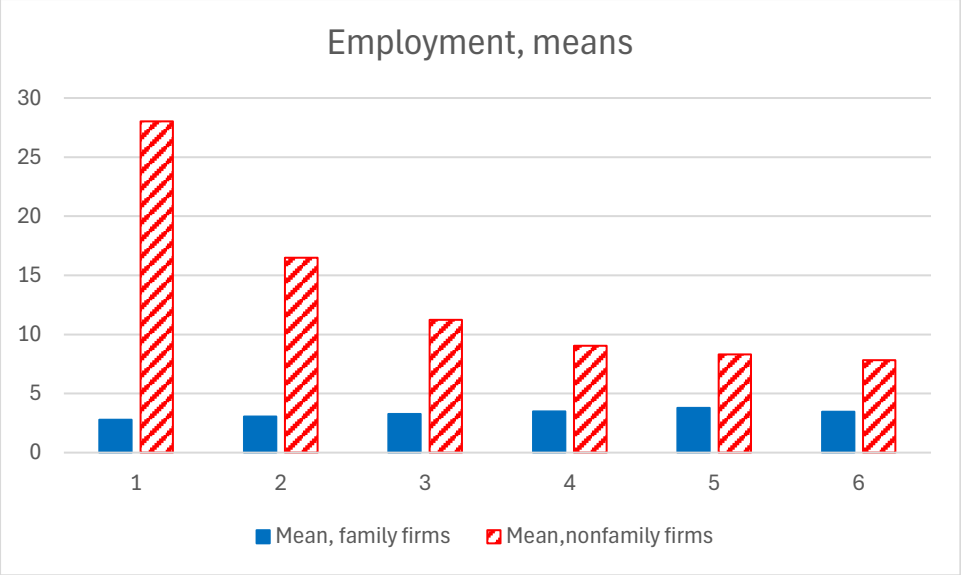


Left scale: the number of firms, right scale: the proportion of employees in family firms.

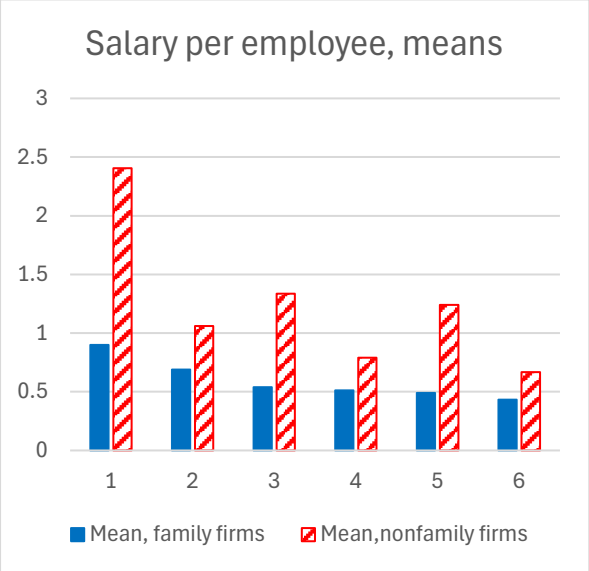
Almost half of the employees in nonfamily firms work in firms headquartered in the Oslo region. Employment in family firms is much more evenly distributed across regions. A majority of employees in family firms work in firms headquartered outside the large cities.

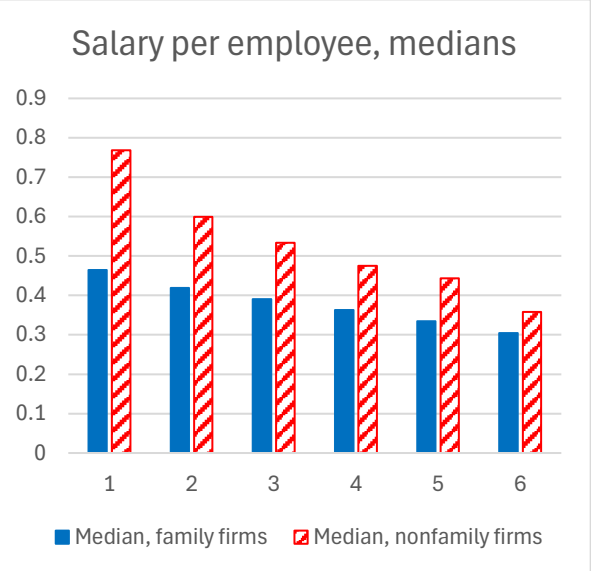


The typical number of employees in a nonfamily firm decreases as we move to less central regions, while average employment in family firms is stable.

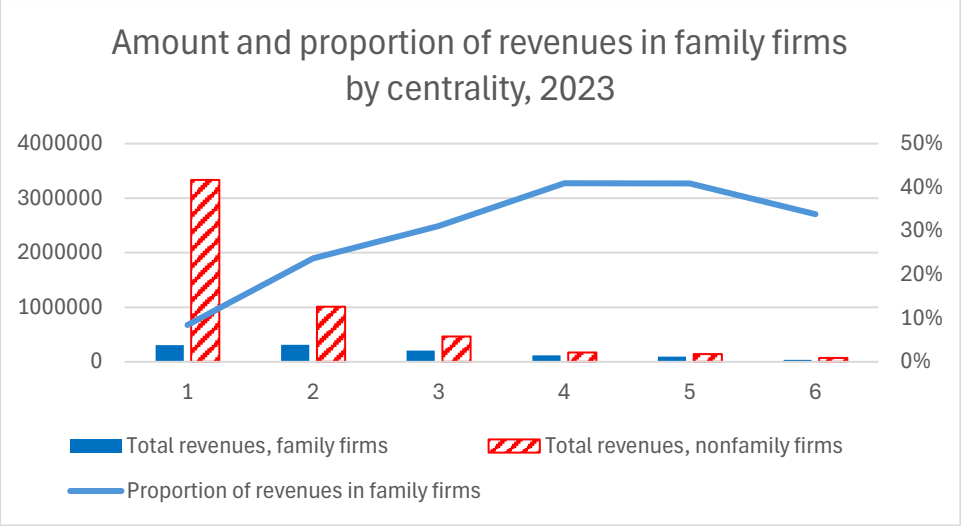


Typical salaries are quite close for family and nonfamily firms outside the Oslo region.



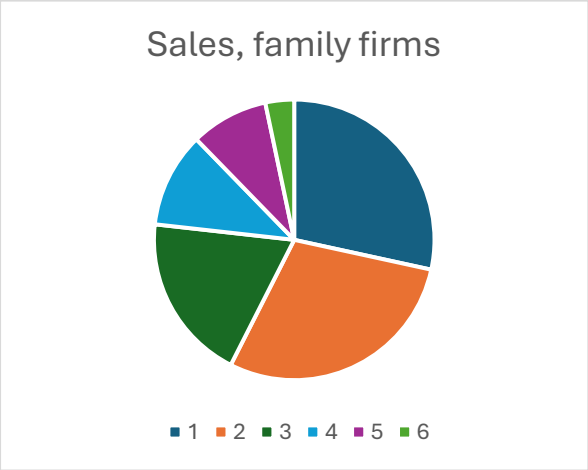


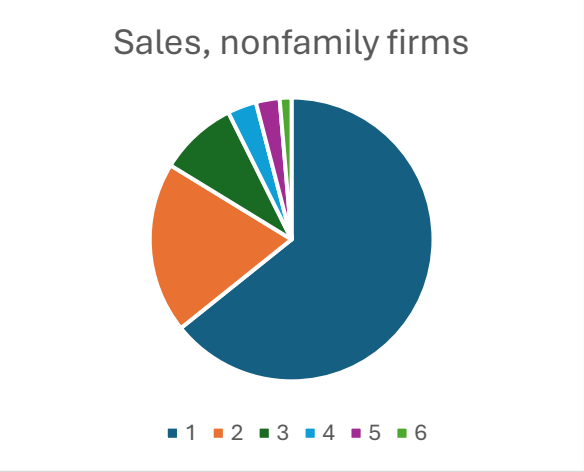
Family firms represent just 10% of revenues of firms headquartered in the Oslo region. Outside the large cities, however, family firms stand for close to 40%.



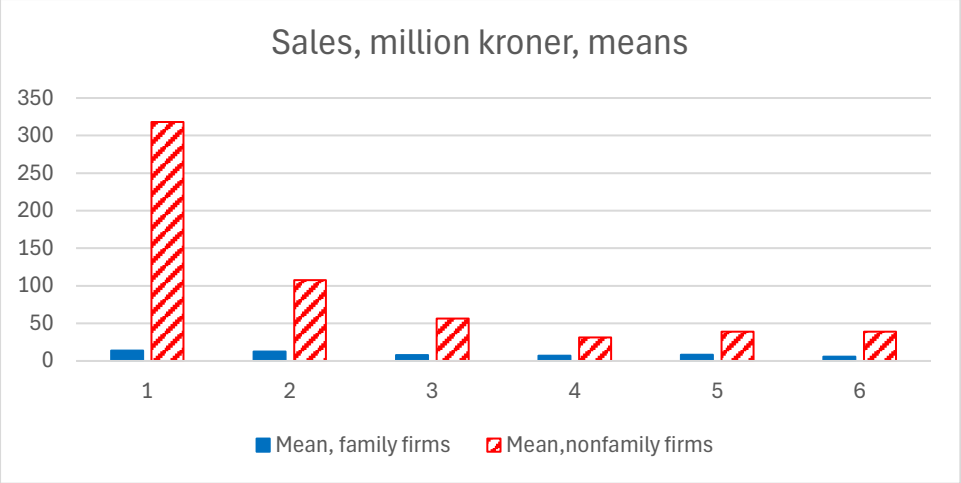
Left scale: the number of firms, right scale: the proportion of revenues generated by family firms.

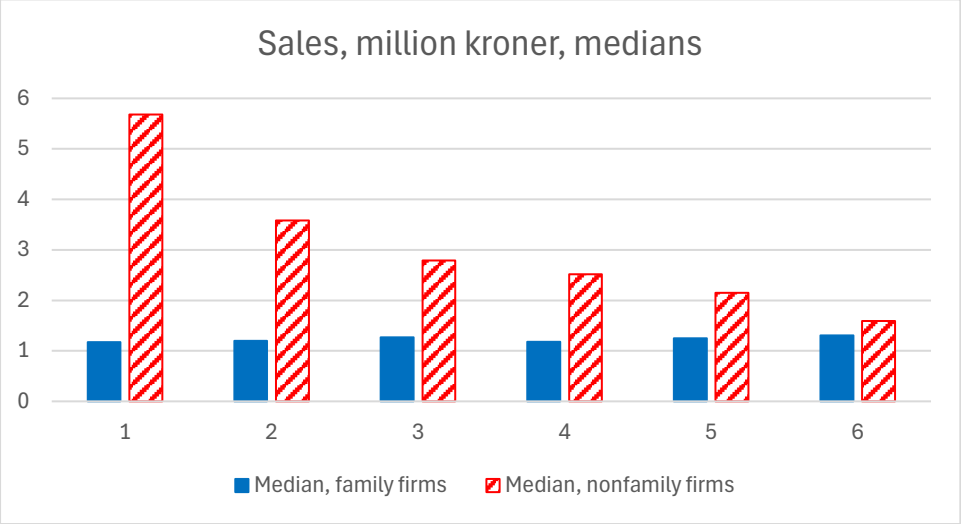
Most nonfamily firm revenues are concentrated in firms headquartered in the Oslo region – while family firm revenues are much more evenly distributed.



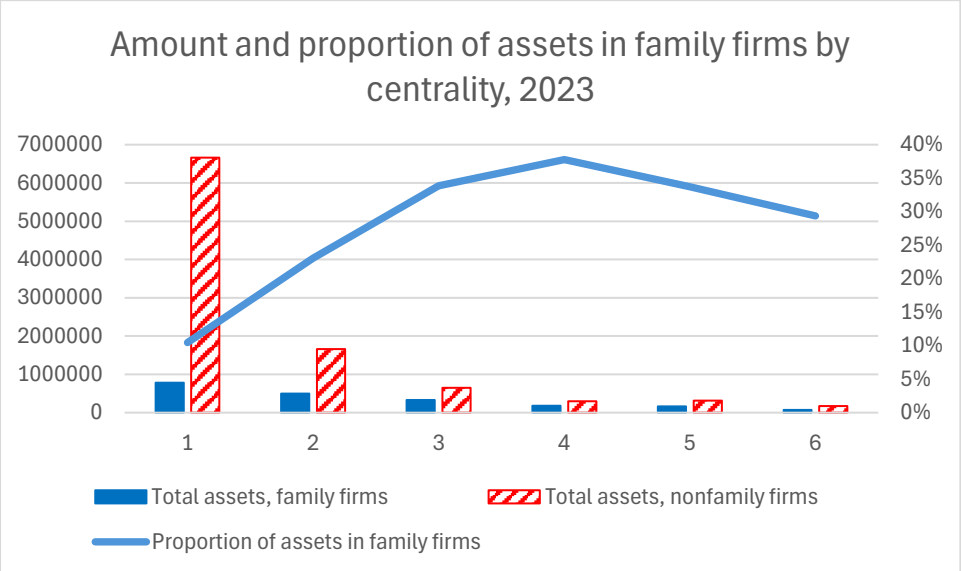


The gap between the mean revenues of family and nonfamily firms is also much smaller outside the large cities.



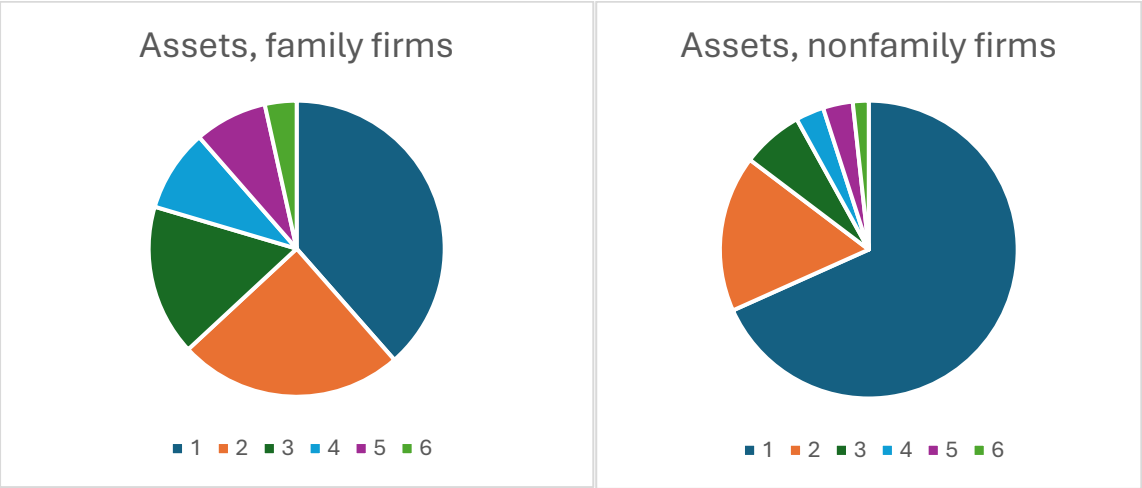


The pattern of family firms being more important outside the large cities is confirmed when we look at assets. Family firms represent just 10% of the assets of firms headquartered in the Oslo region, but around one third for firms headquartered outside the large cities.

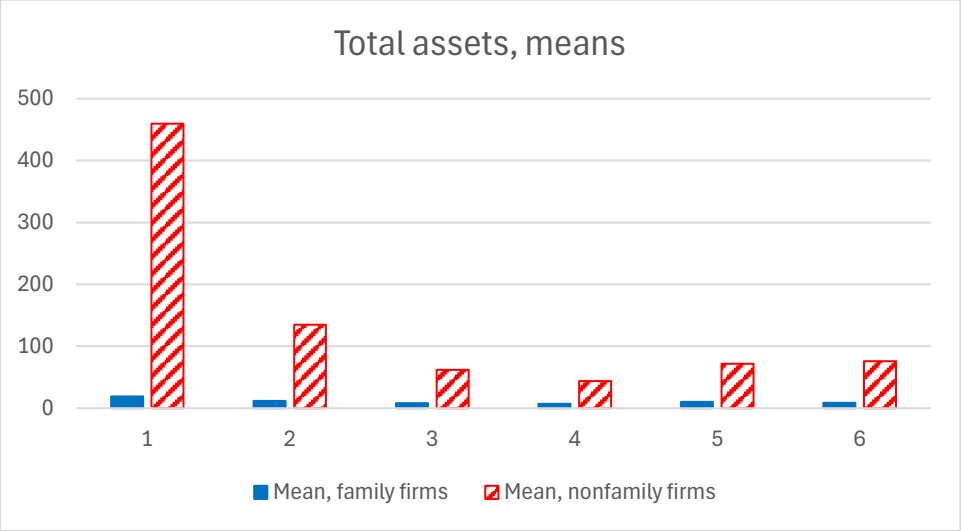


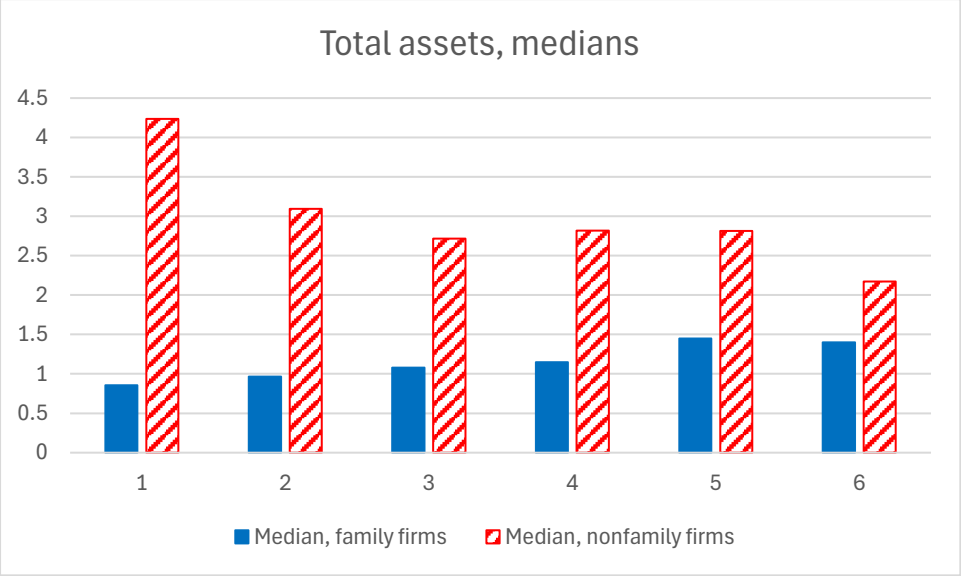
Left scale: the number of firms, right scale: the proportion of assets in family firms.

More than two-thirds of the assets of nonfamily firms are in firms headquartered in Oslo, while the proportion for family firms is just above one third.

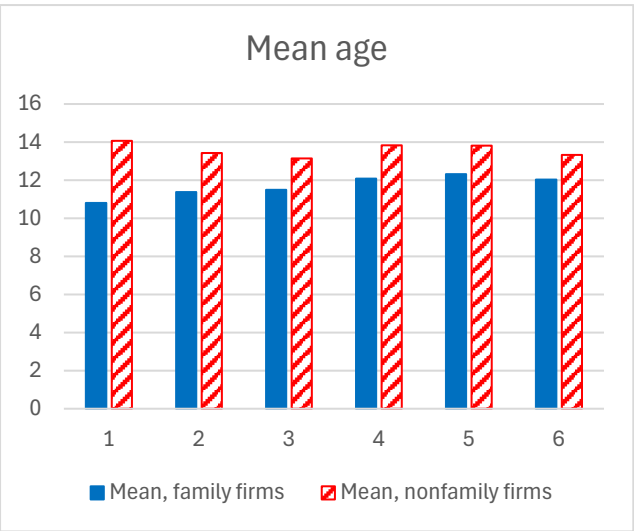


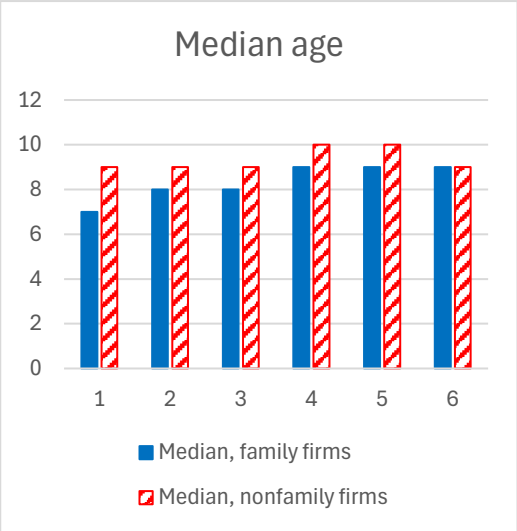
The gap between the size of family and nonfamily firms is smaller outside the large cities. The size distribution of nonfamily firms is also highly skewed.



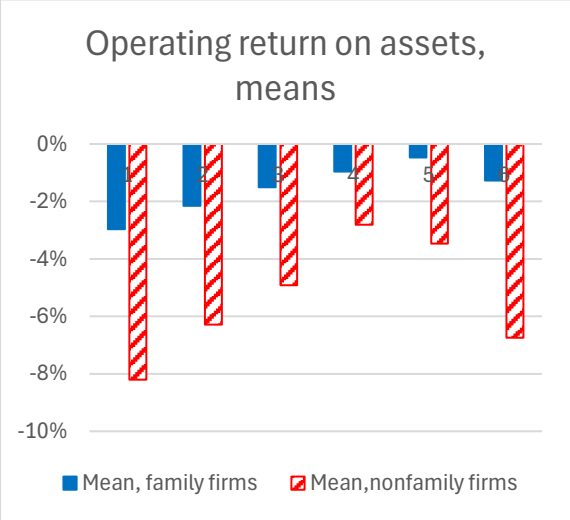


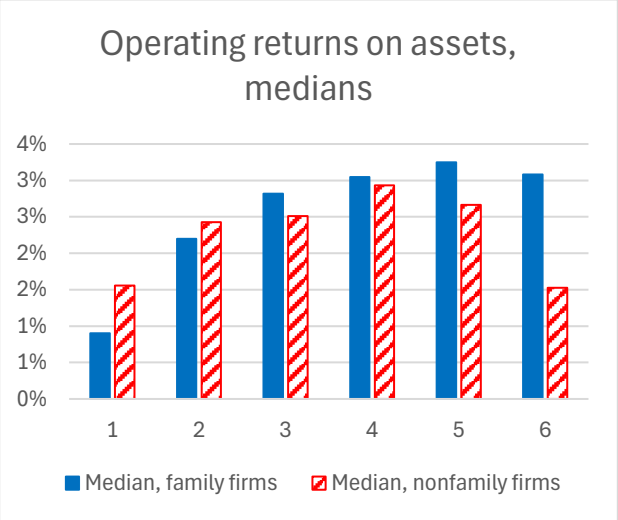
On average, firms in less central regions are slightly older.

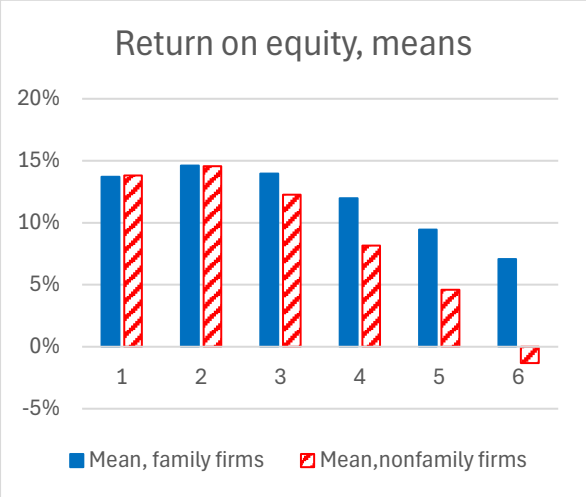


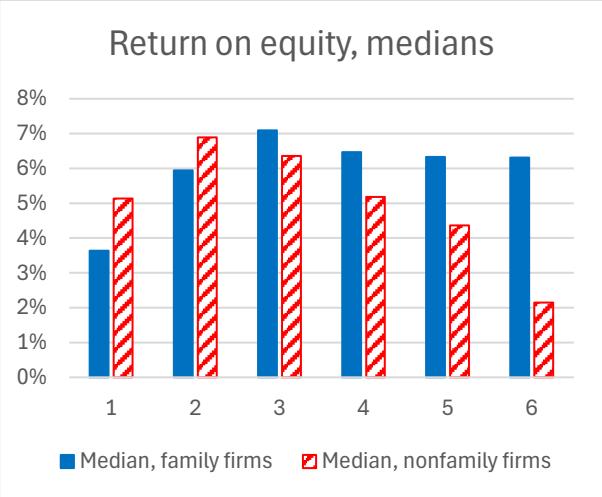


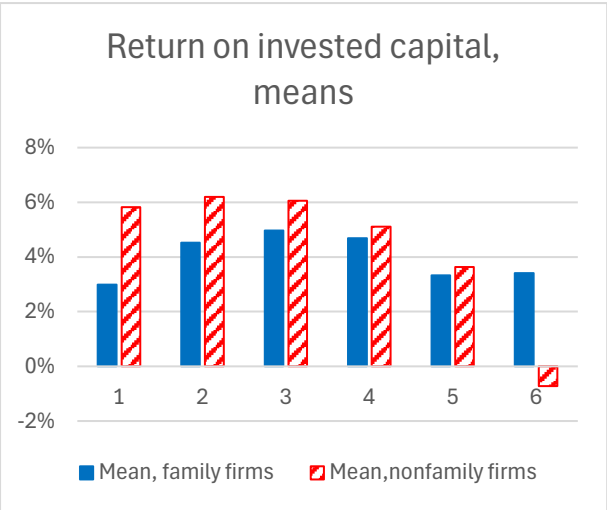
The profitability of family firms is relatively higher in less central regions.

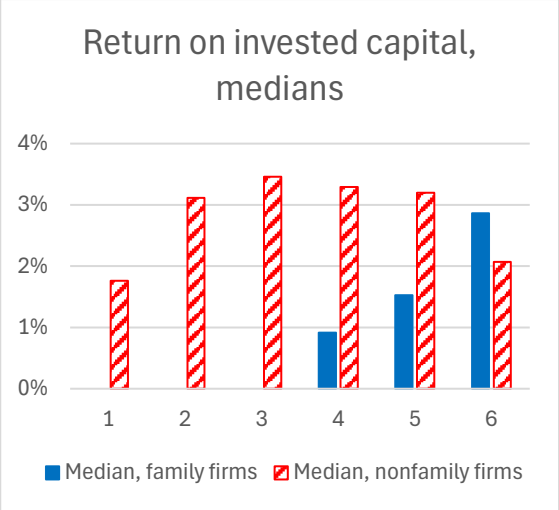




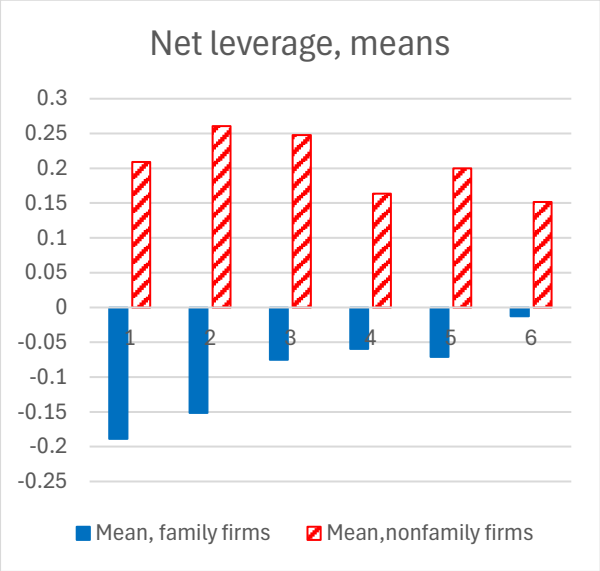


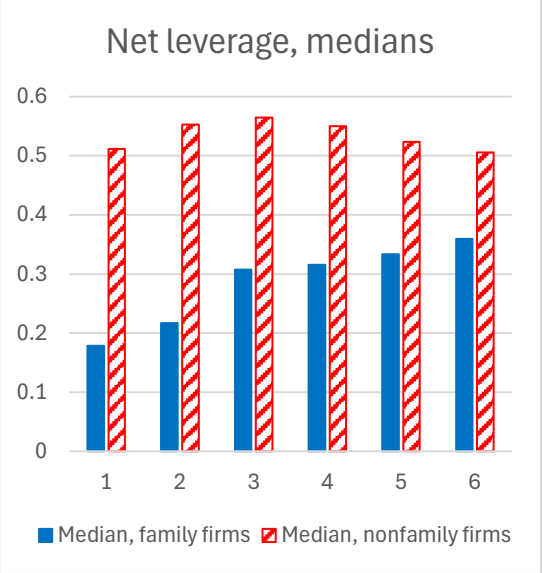


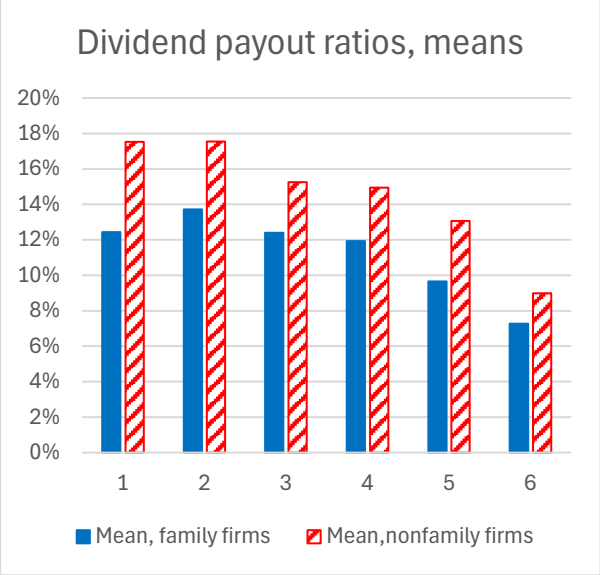


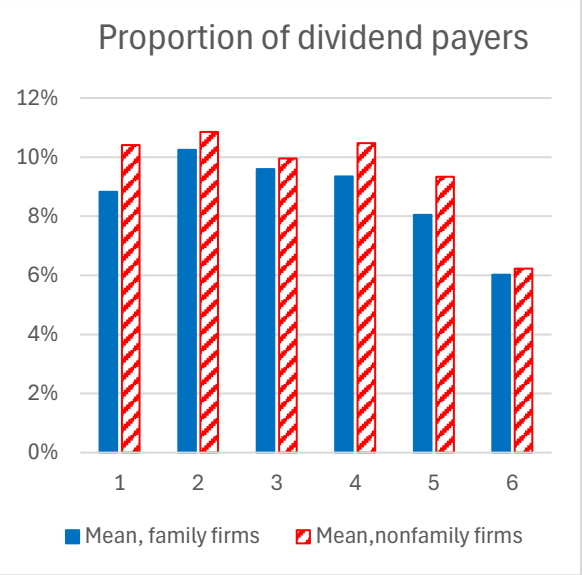


Looking at financing and payout policy, the net leverage of family firms is higher in less central areas, and the dividend payout ratio is lower in less central areas for both family and nonfamily firms.

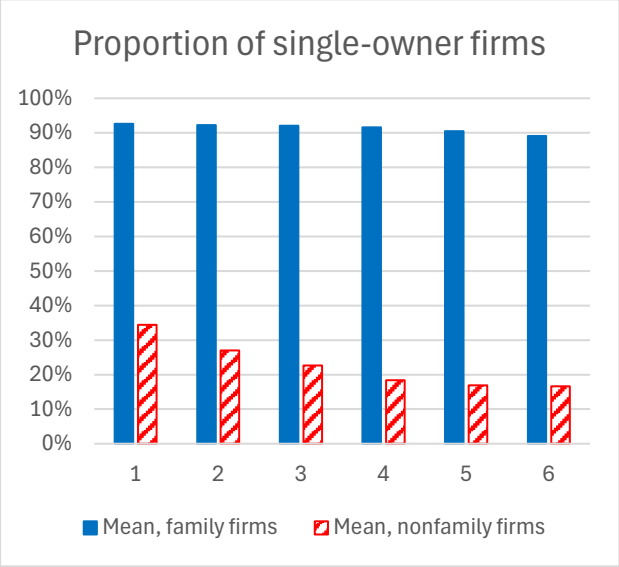


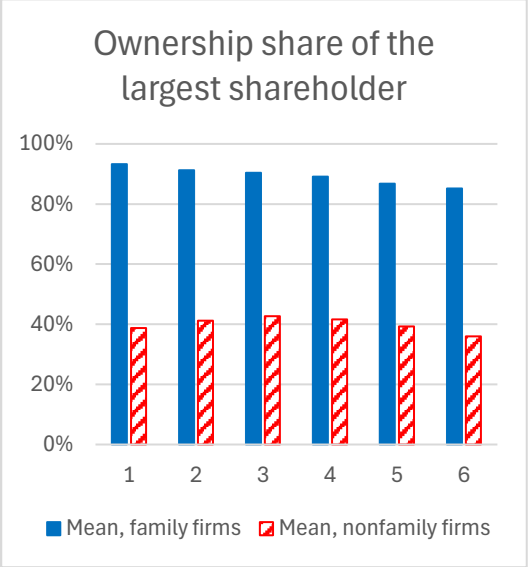


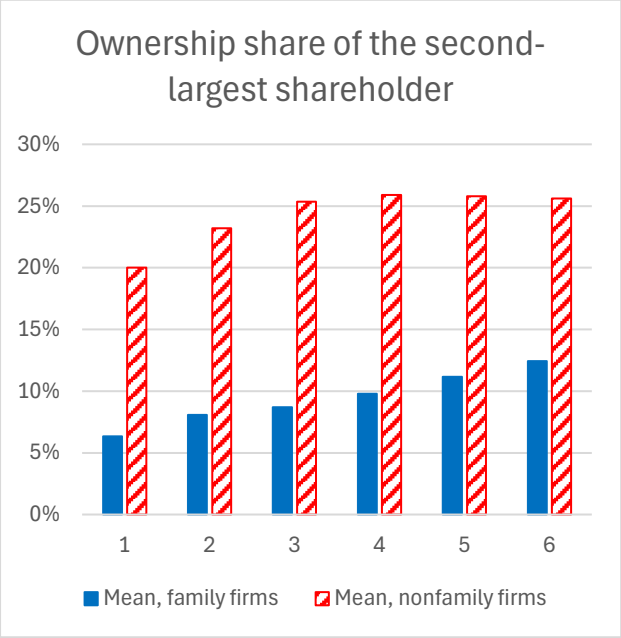

Dividend payout ratios, means
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
1
2
3
4
5
6
Mean, family firms
Mean,nonfamily firms

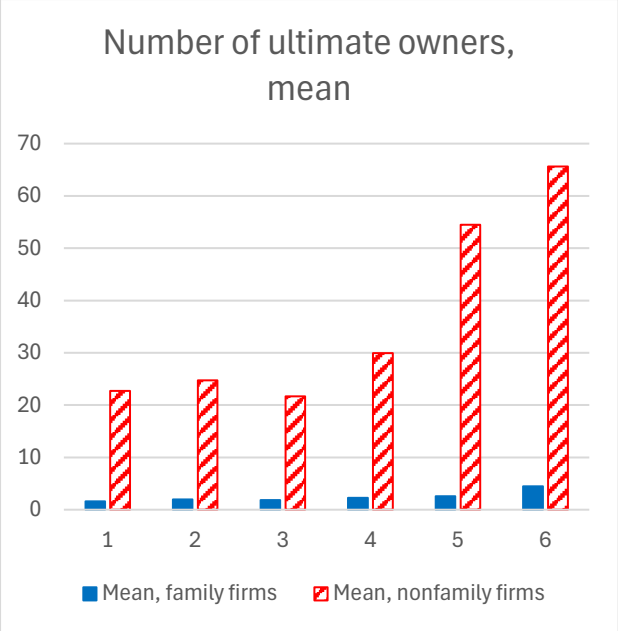

Proportion of dividend payers
12%
10%
8%
6%
4%
2%
0%
1
2
3
4
5
6
Mean, family firms
Mean,nonfamily firms

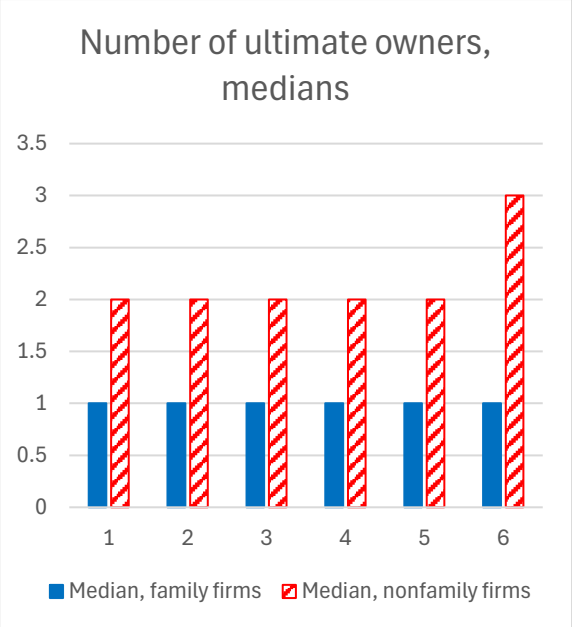
Ownership is slightly more concentrated in more central regions. Conversely, the share of the second-largest owners and the total number of ultimate owners increases in less central regions.



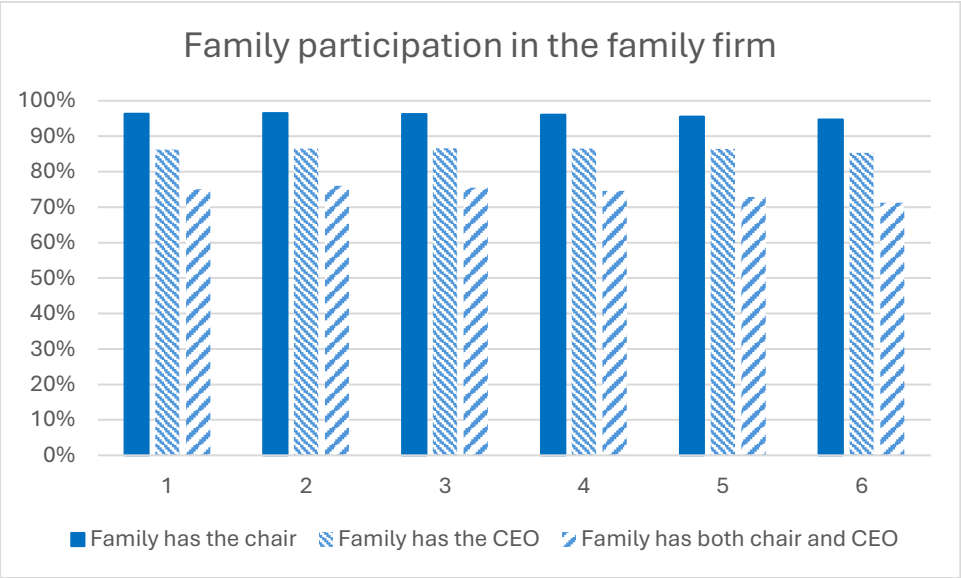




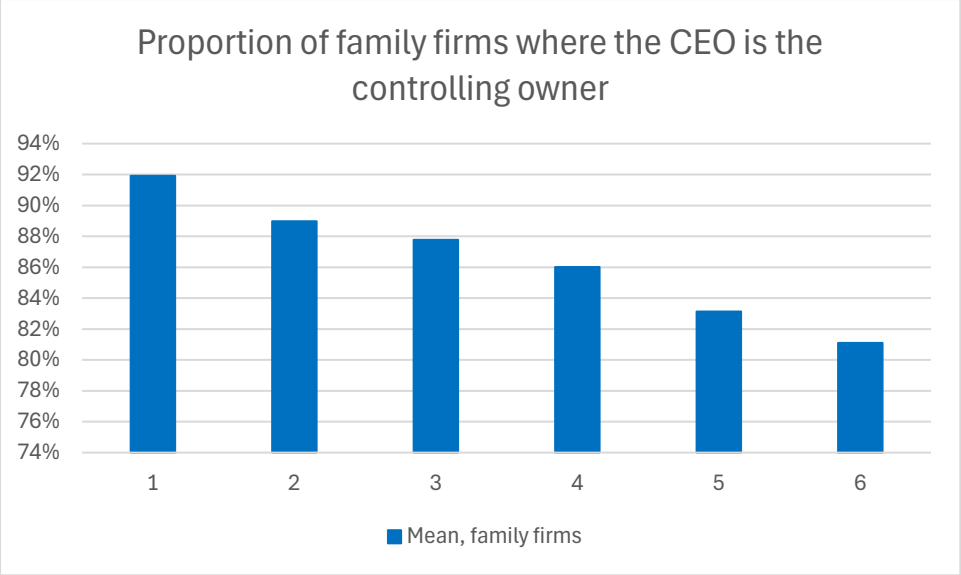




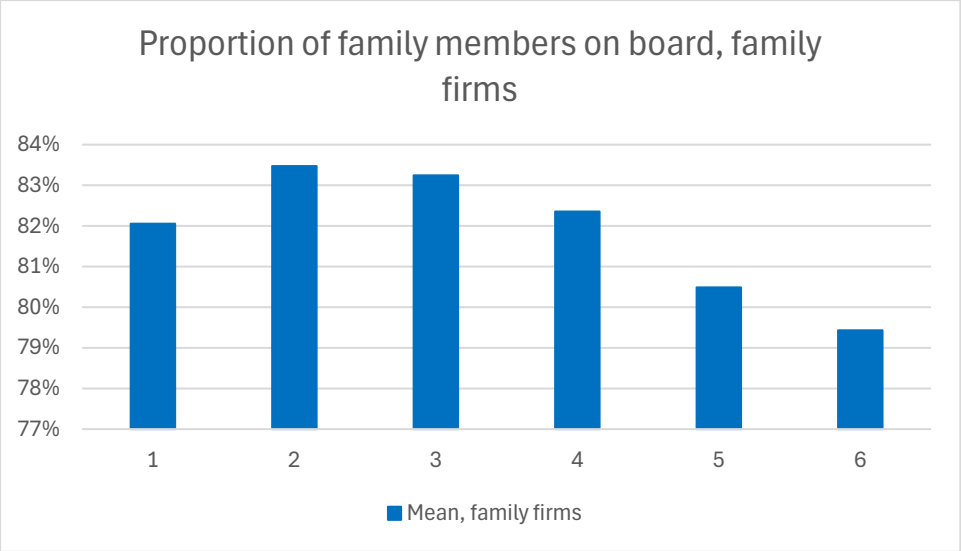
Family participation in the governance of family firms is quite strong across regions. Firms in least central regions are slightly less likely to have both family CEOs and family chairs of the board.

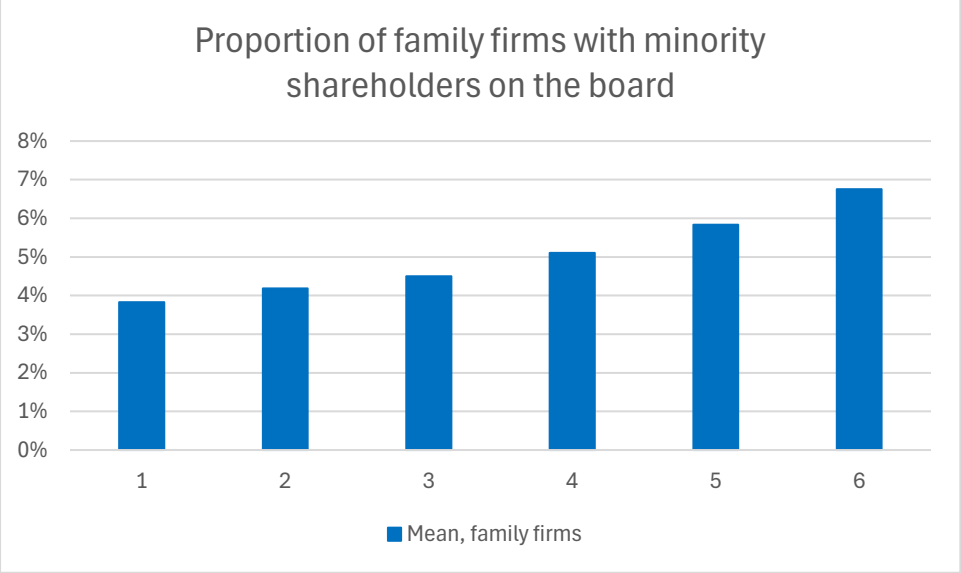


In line with the more concentrated ownership, a higher proportion of firms in more central regions have CEOs who are also the controlling owners.

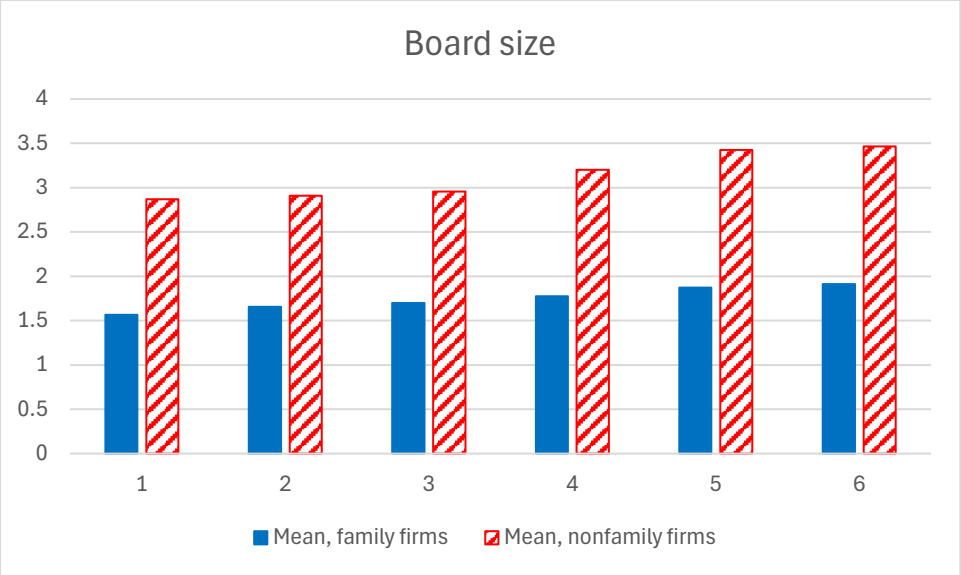


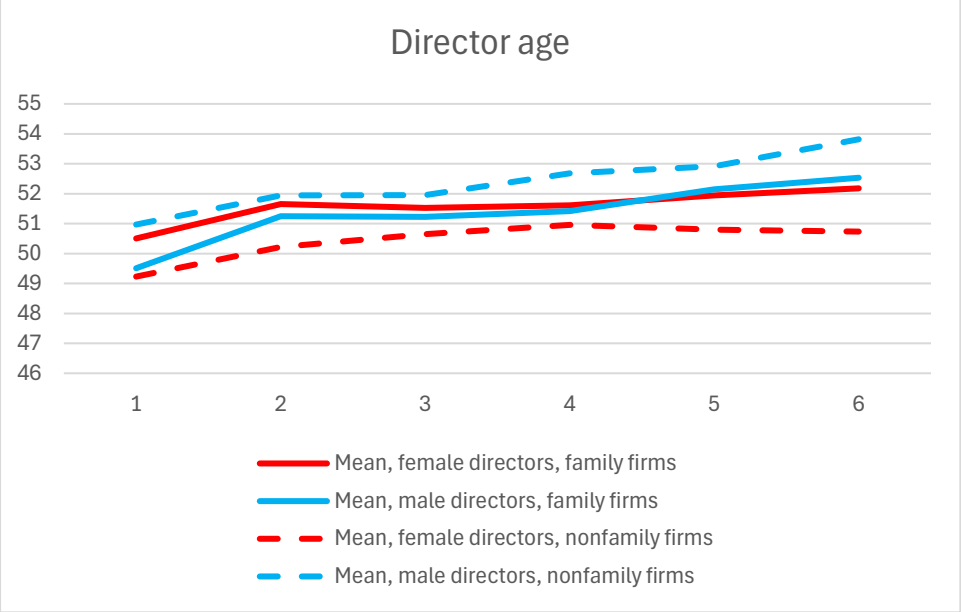
Family firms in less central areas have a slightly lower proportion of family members on the board, and a higher representation of minority shareholders.



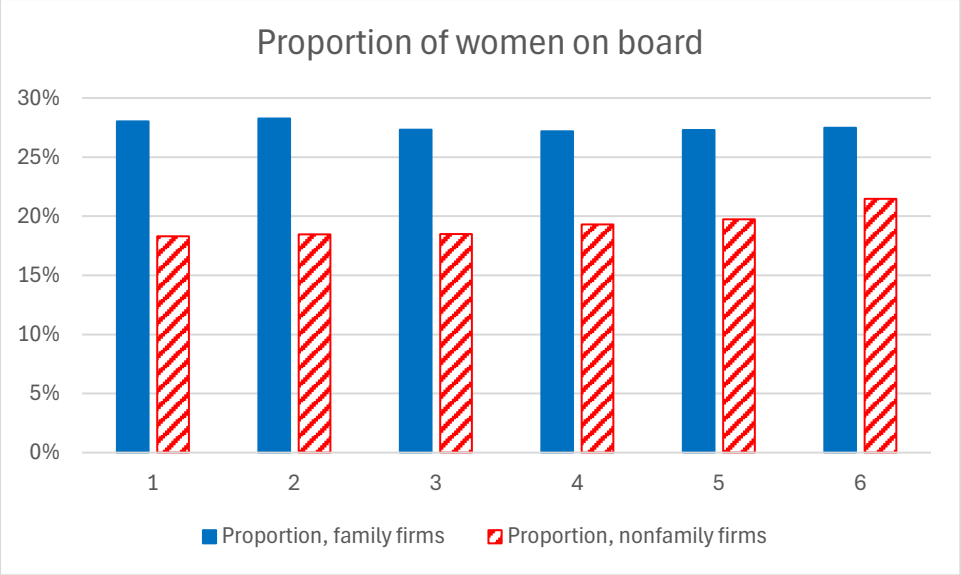


The average board size is larger, and directors tend to be slightly older in less central regions.

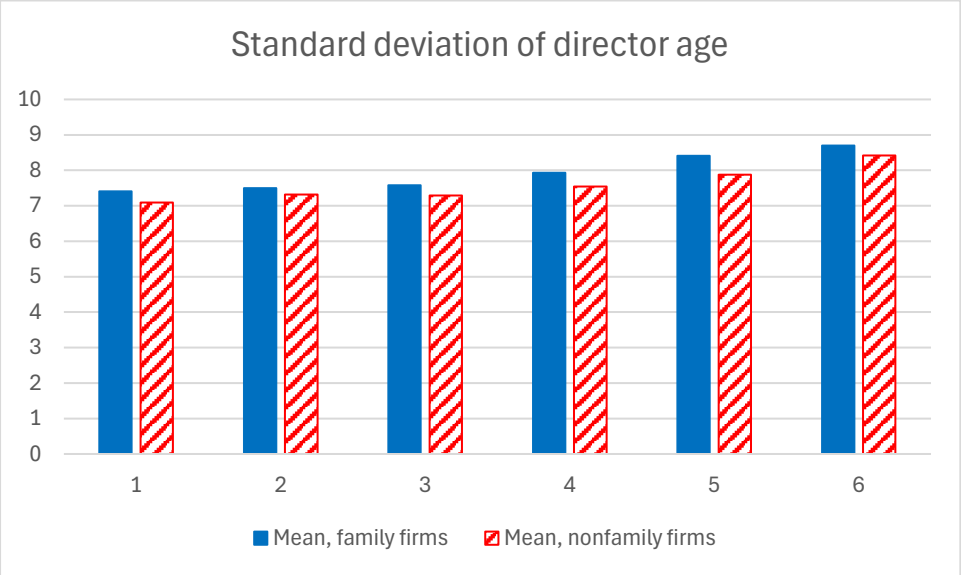




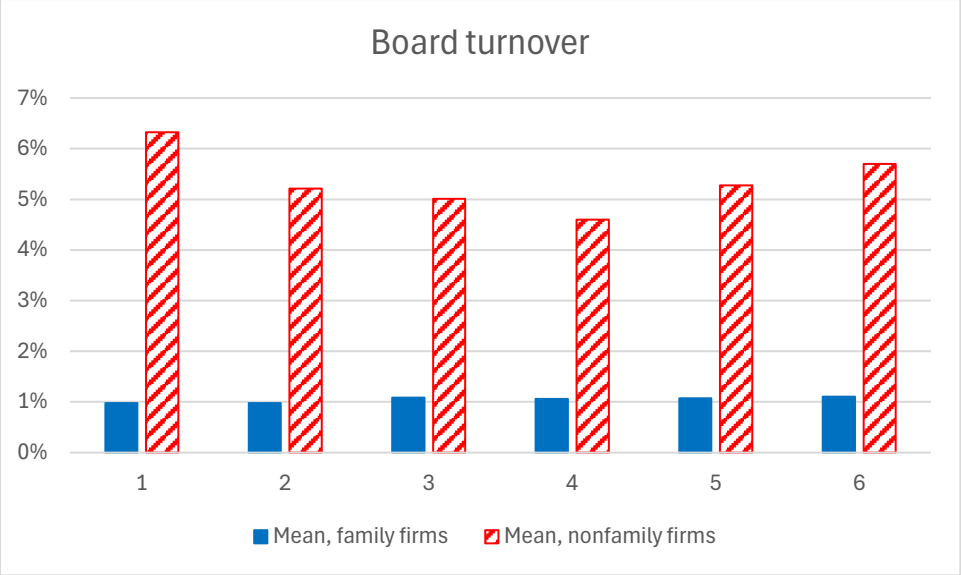
The proportion of women on board is higher in family firms across all regions. For nonfamily firms, the proportion is increasing as we move to less central regions.



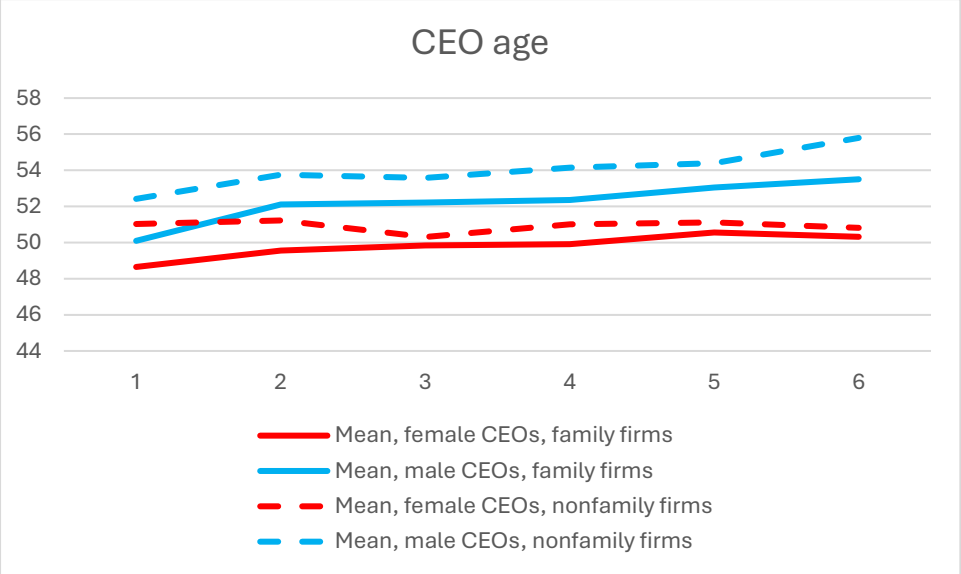
The age heterogeneity of directors is higher in less central regions.

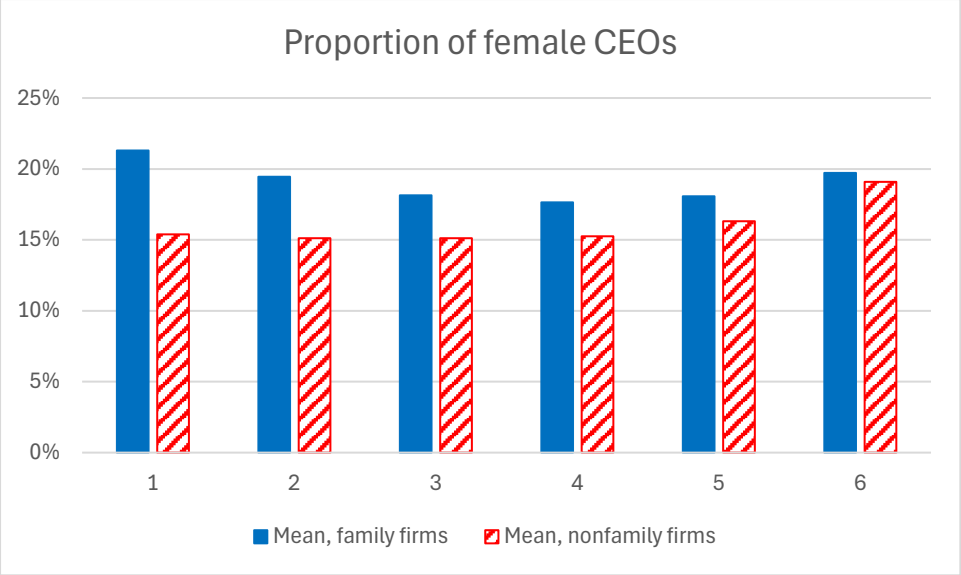


Board composition is more stable in family firms across all regions.



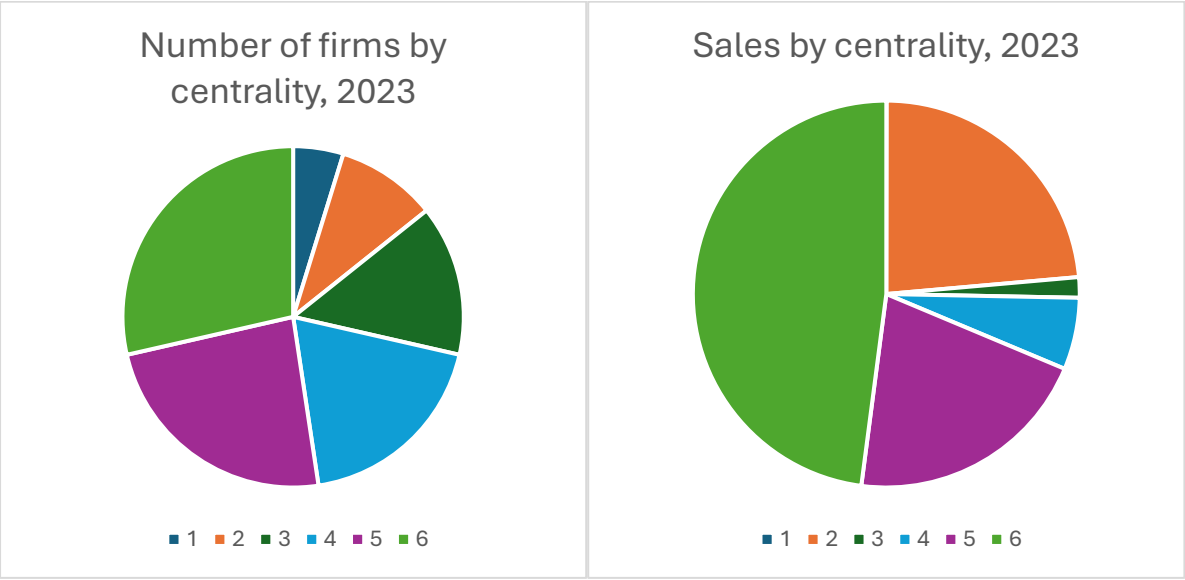
Similar to directors, CEOs in less central regions tend to be slightly older. The proportion of female CEOs is higher in family firms, although the difference is smaller in less central areas.

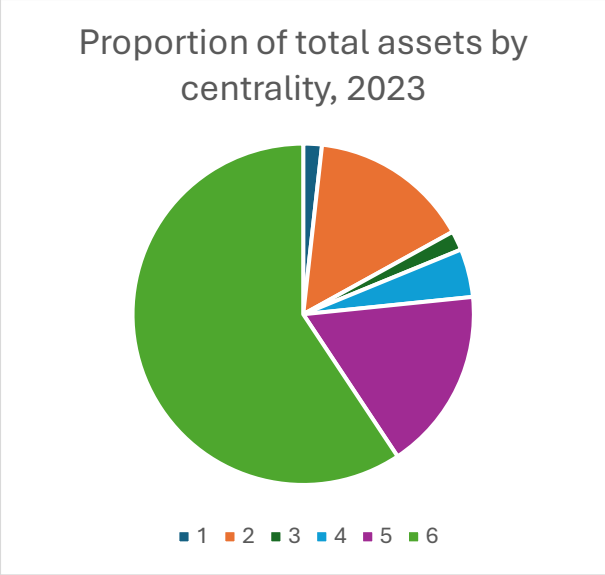


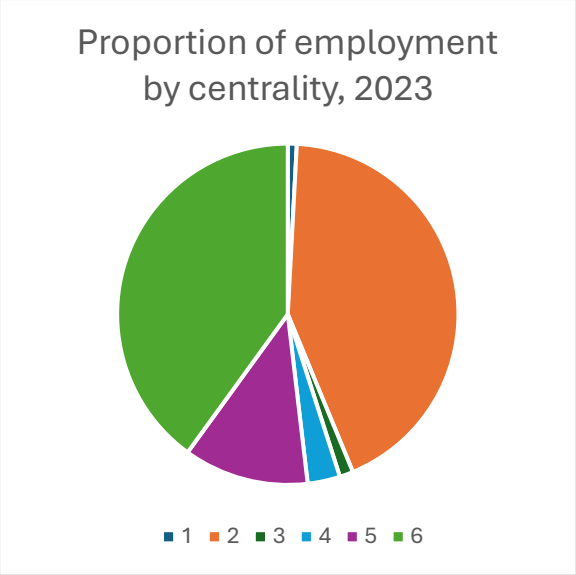


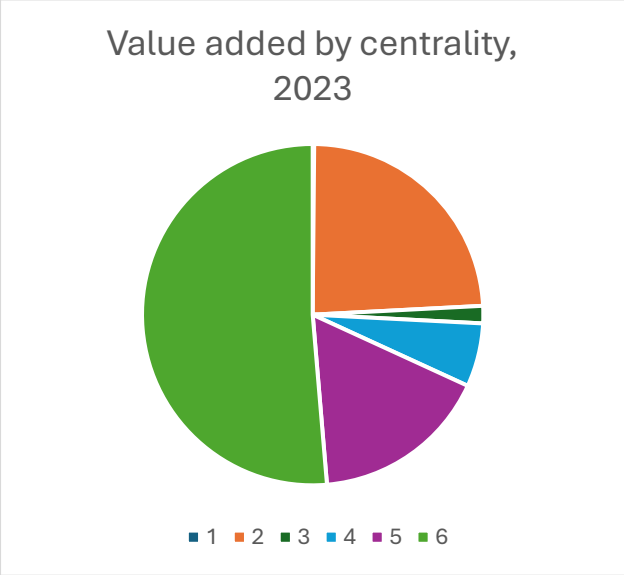
18.2. Fish farming: an industry for less central regions

Fish farming is an example of an industry that is strongly represented in less central areas. The graphs below show that a majority of fish farming firms are headquartered in centrality regions 5 and 6. The highest proportion of revenues come from firms headquartered in regions 6, 2, and 5 (Mowi is headquartered in Bergen – centrality index 2, and Salmar is headquartered in Frøya – centrality index 6). The same regions dominate in terms of total assets, employment, and value added.

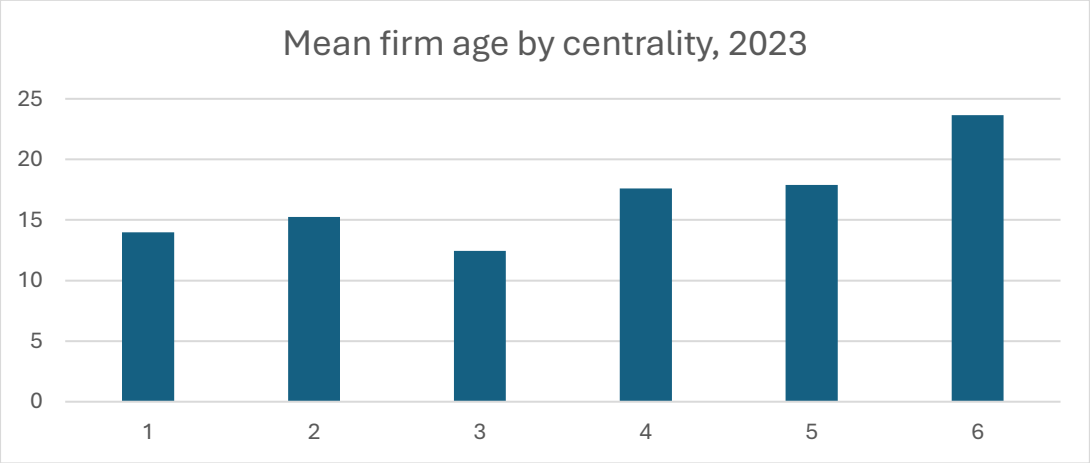




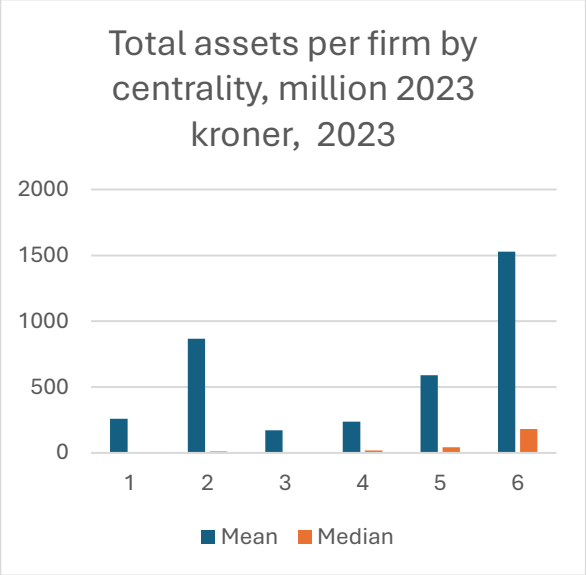


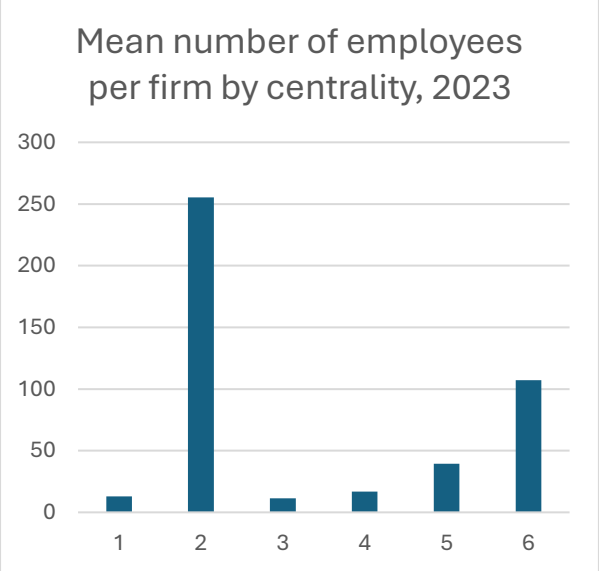


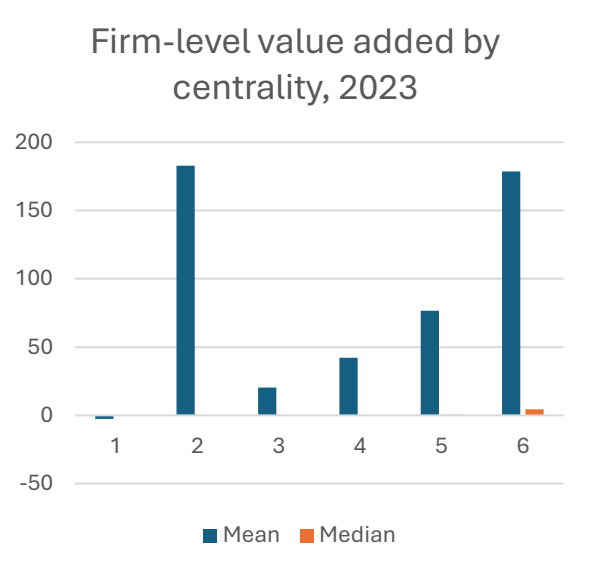
Firms in less central regions also tend to be slightly older than those from more central areas.



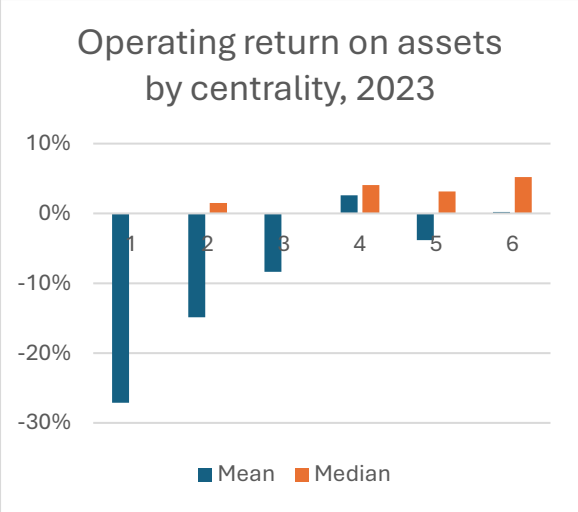
Fish farming firms in less central areas are larger on average, as shown by their sales, assets, employment, and value added. (Mean numbers for region 2 are largely driven by Mowi. As usual, size distributions are skewed, with a large difference between means and medians.)

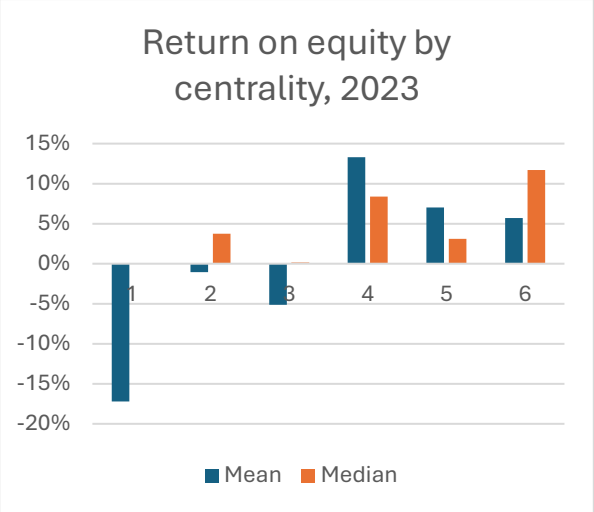




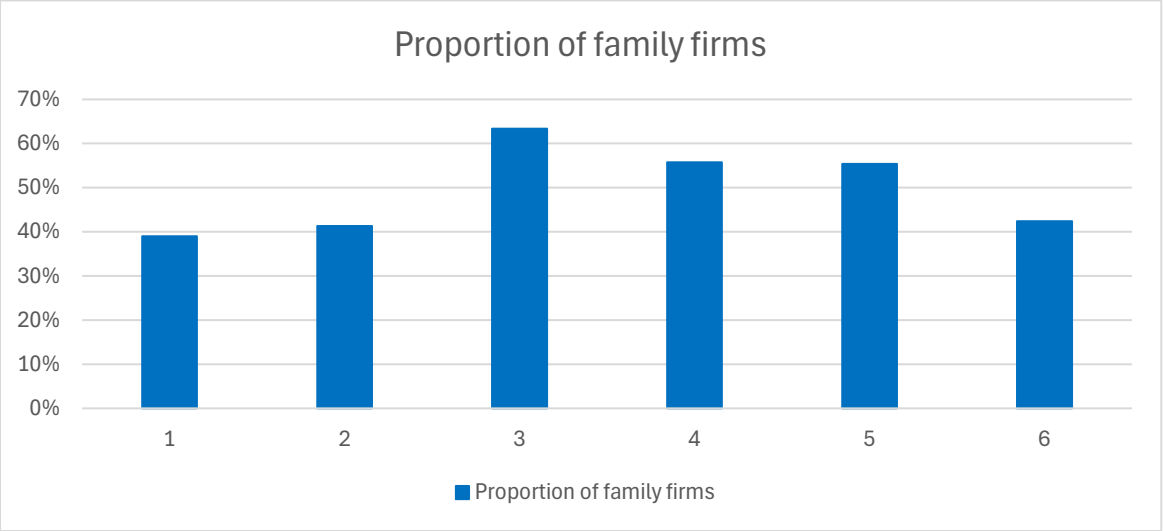


Consistent with having larger, more mature firms, profitability is also higher for firms in less central areas.

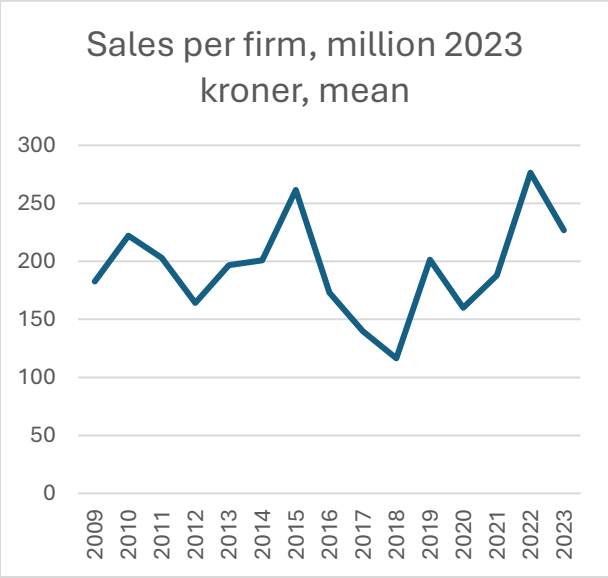


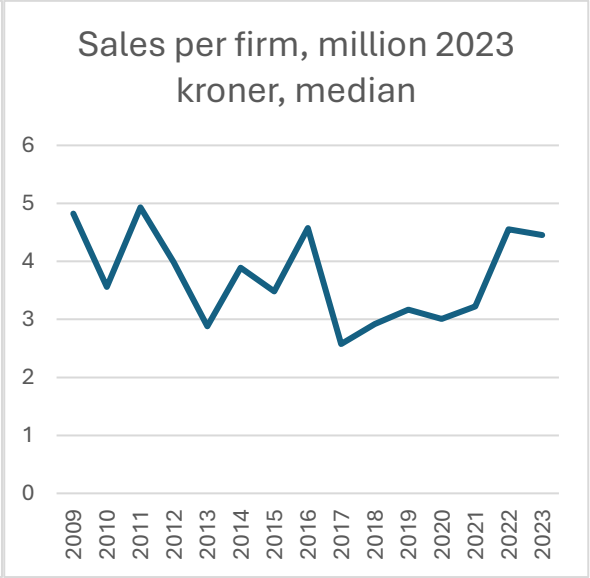


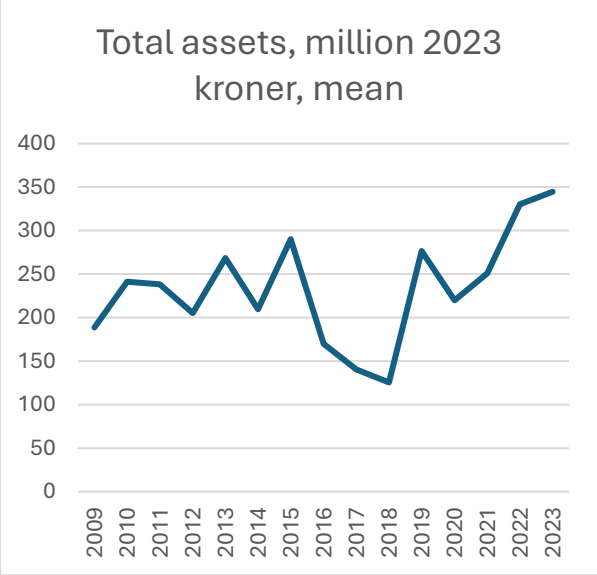
Family firms represent a large proportion across all regions.

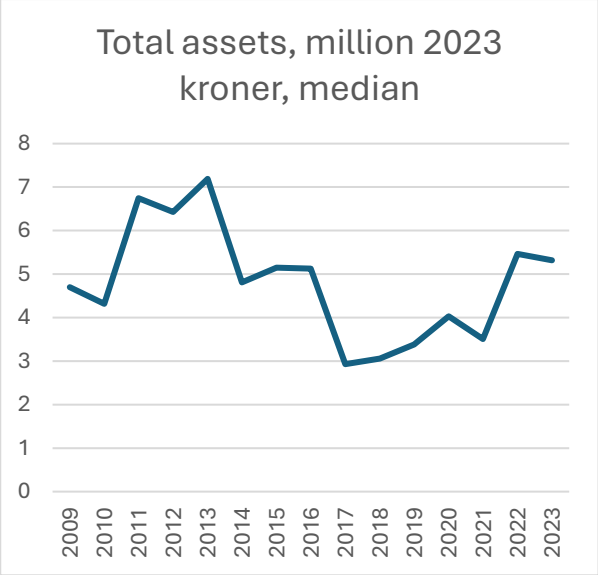


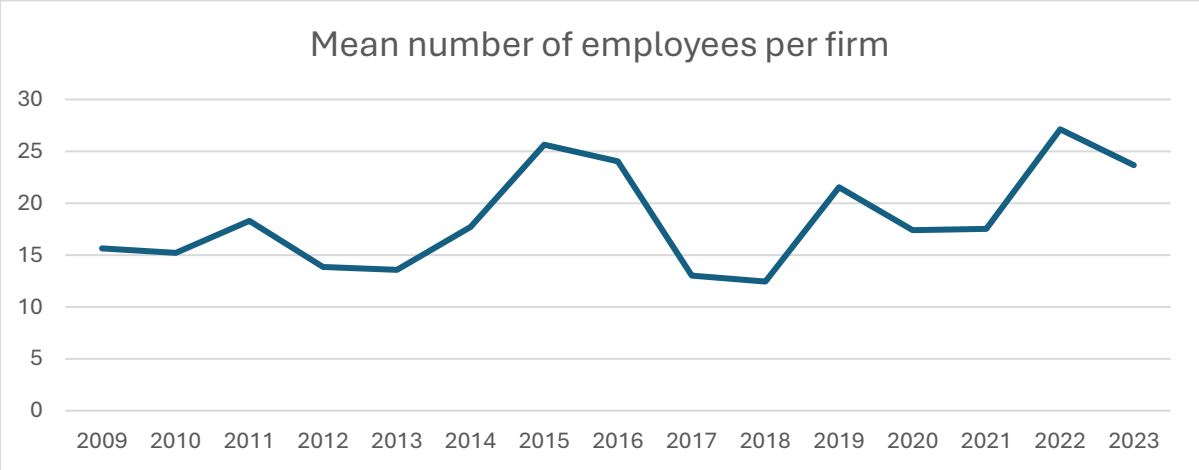
Looking at trends over time, the average firm size has been relatively stable.

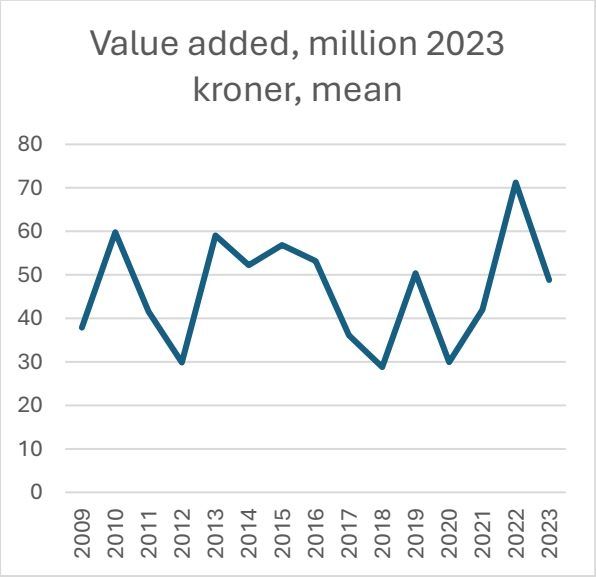


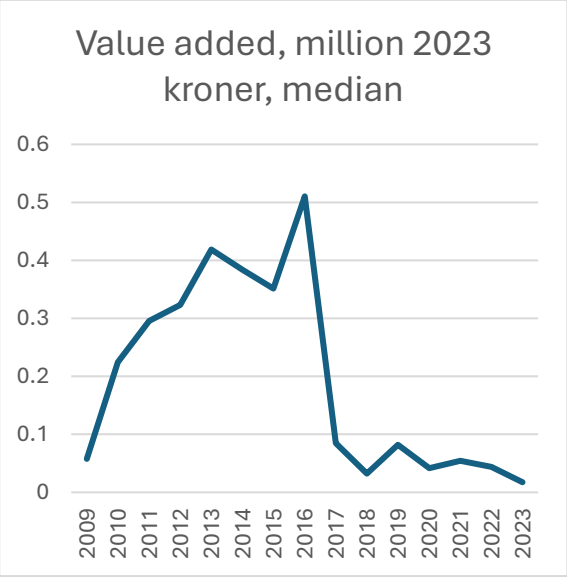






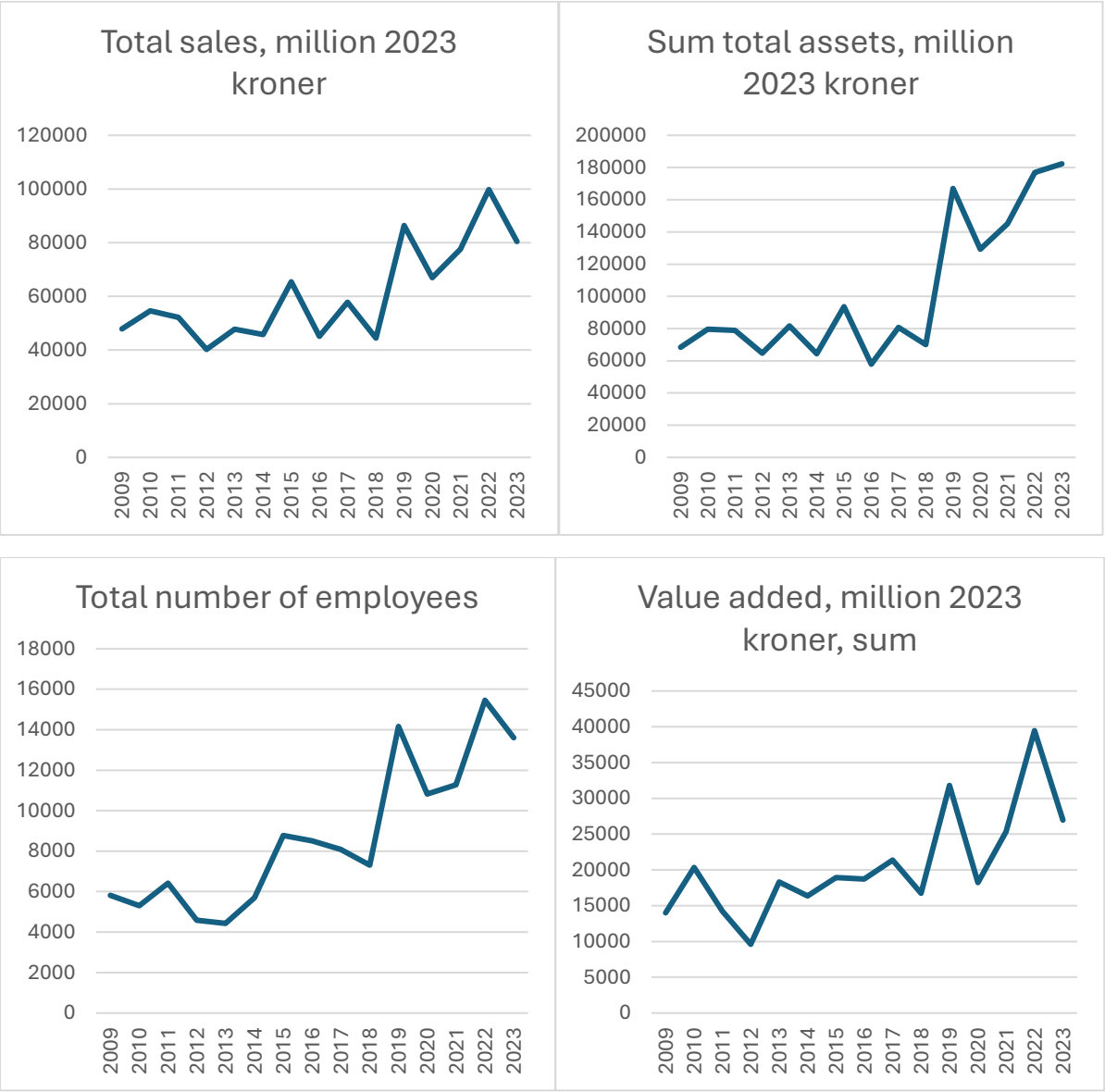




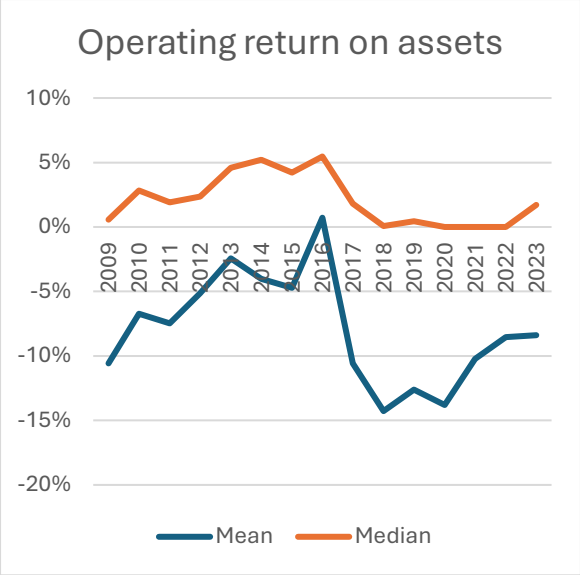


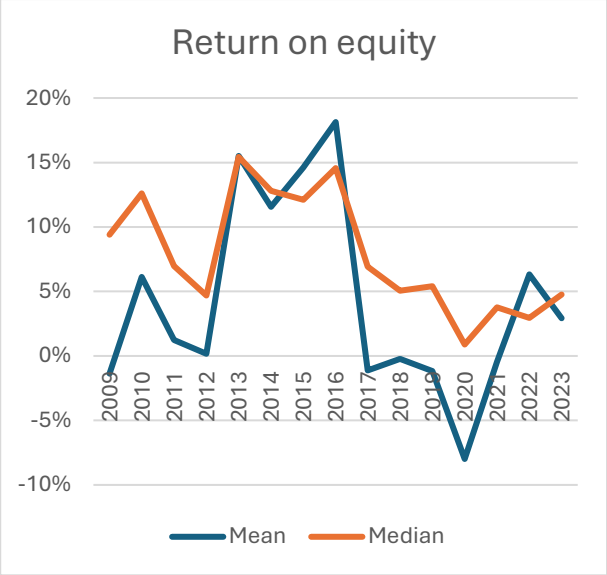
If we look at the total sales, assets, employment, and value added by fish farming firms during the same period, we can see an upward trend, especially in more recent years, with a doubling

or near-doubling for all indicators. The year 2023, the first year after the introduction of the resource tax in fish farming, is marked by a small decrease.

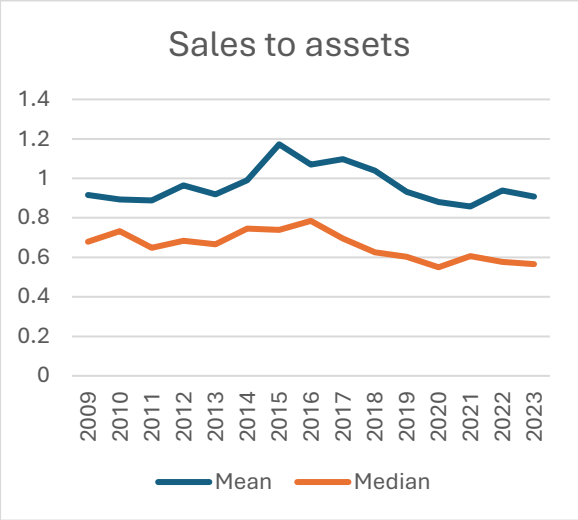


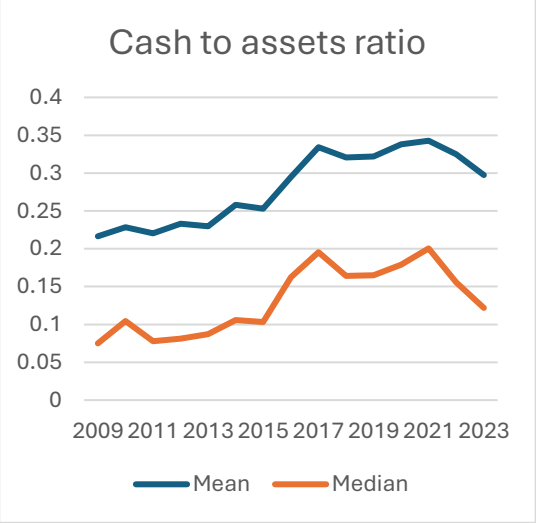
The average profitability of fish farming firms was high around the time of the exchange rate shock of 2014-2015, and lower in more recent years.

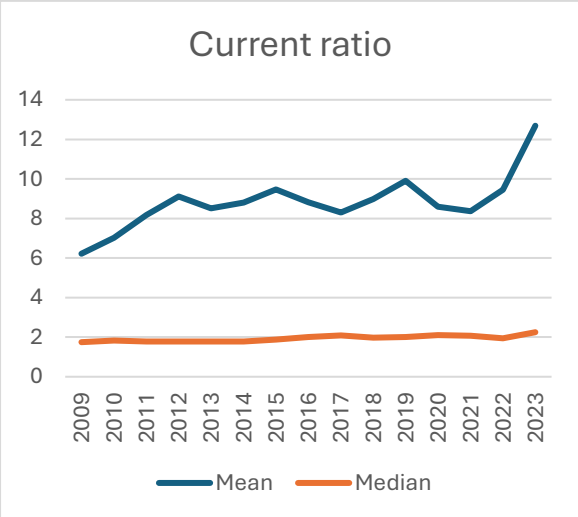


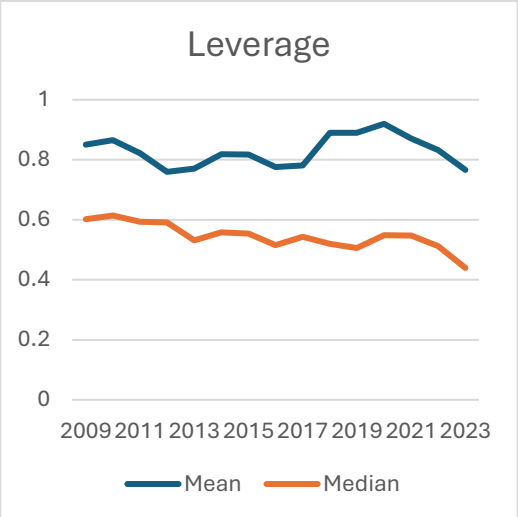


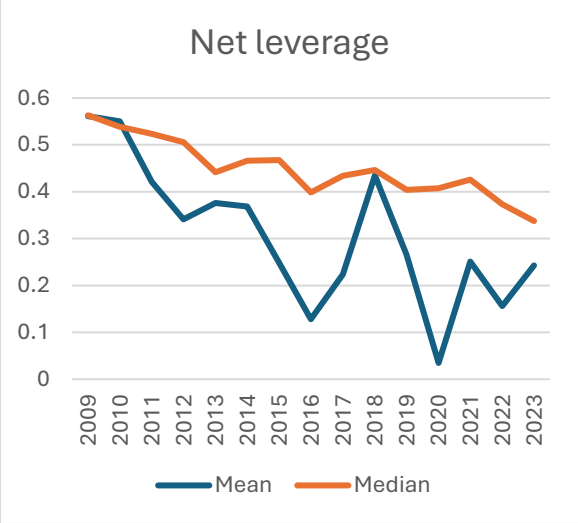
Other financial indicators have been fairly stable over time.

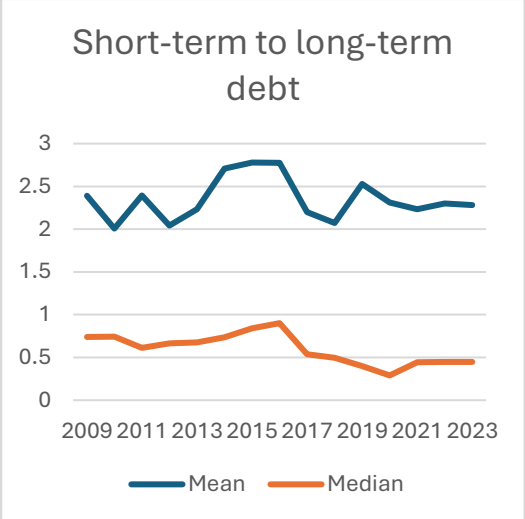


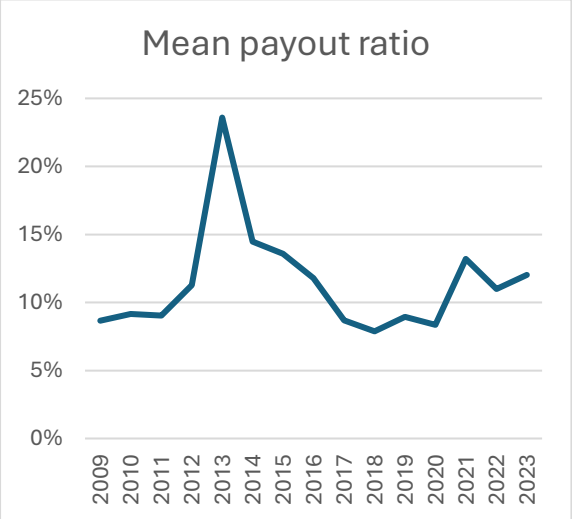


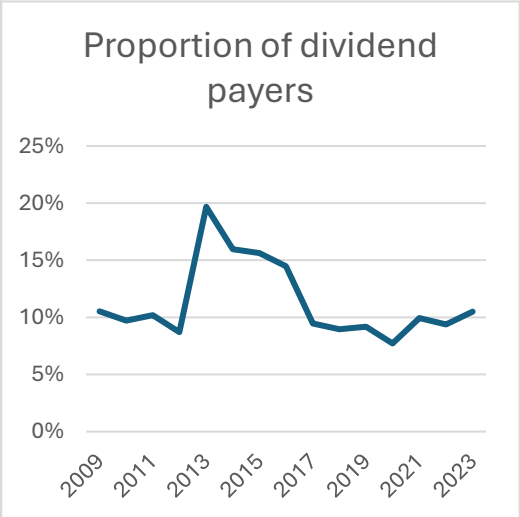





Net leverage
0.6
0.5
0.4
0.3
0.2
0.1
0
2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023
Mean
Median

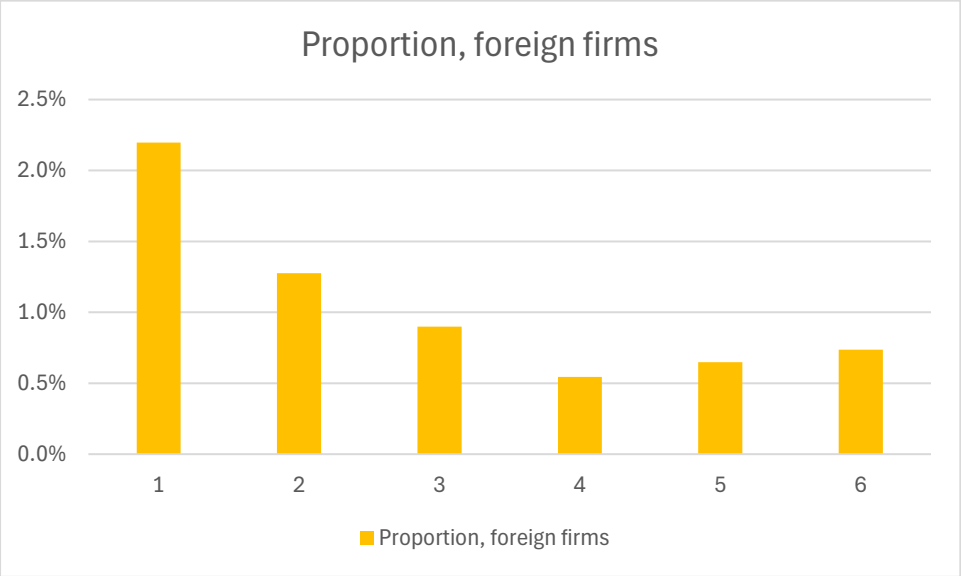

Short-term to long-term debt
3
2.5
2
1.5
1
0.5
0
2009 2011 2013 2015 2017 2019 2021 2023
Mean
Median


Mean payout ratio
25%
20%
15%
10%
5%
0%
2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

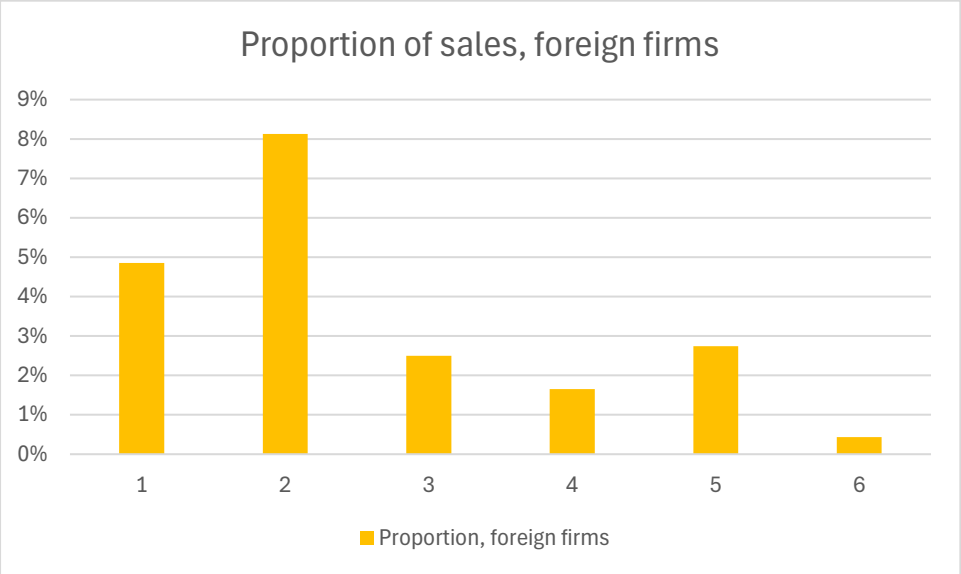

Proportion of dividend payers
25%
20%
15%
10%
5%
0%
2009 2011 2013 2015 2017 2019 2021 2023

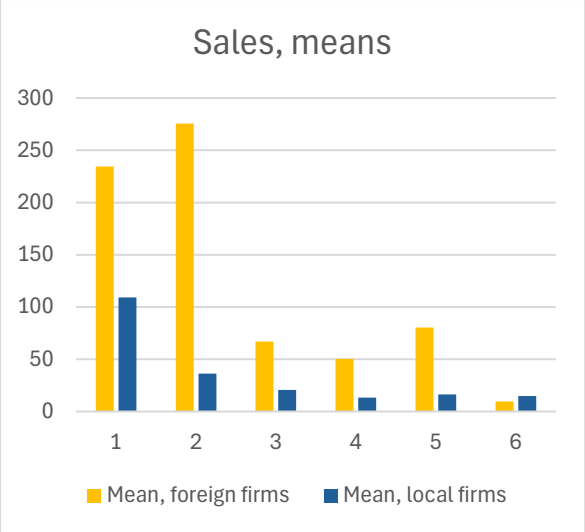
18.3. Centrality and foreign ownership

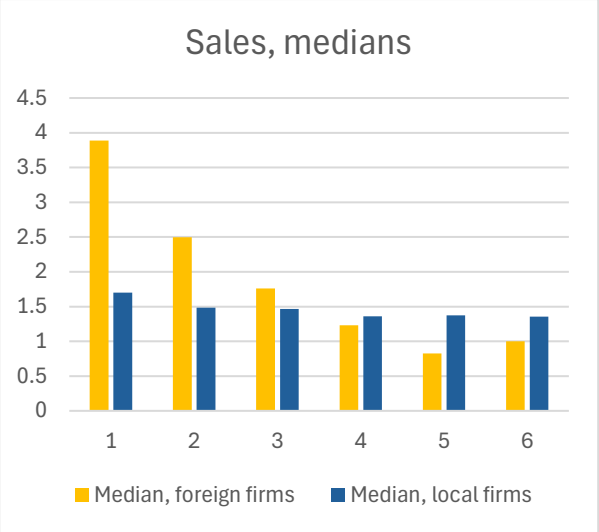
Firms controlled by non-Norwegian individuals or corporations represent a relatively higher proportion in more central regions.



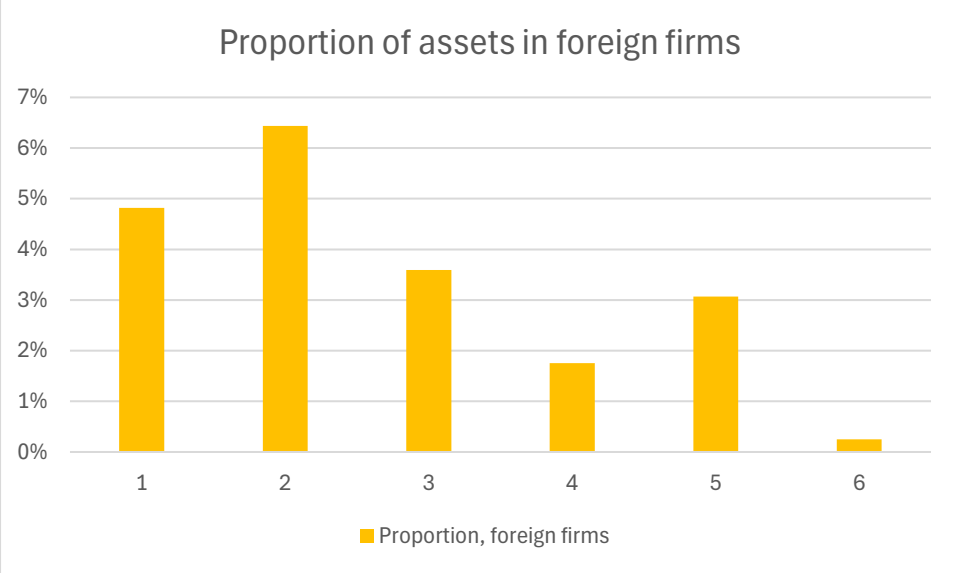
Foreign-controlled firms tend to be larger and to represent a larger proportion of revenues in more central regions.

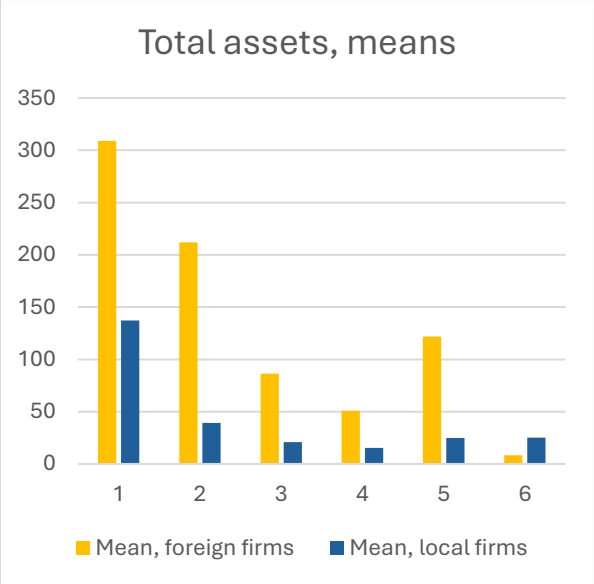


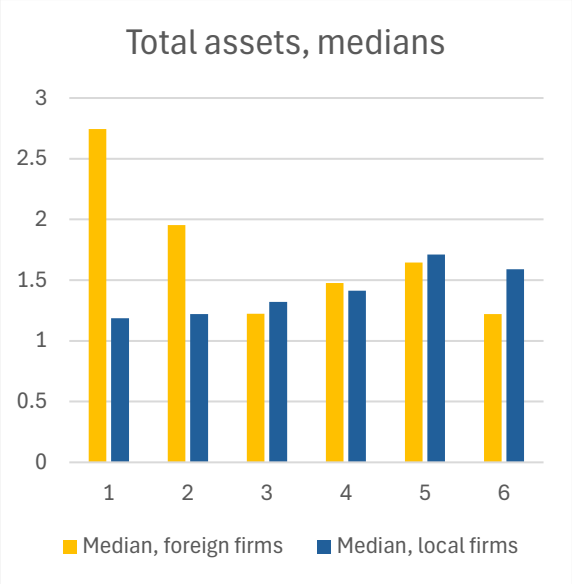




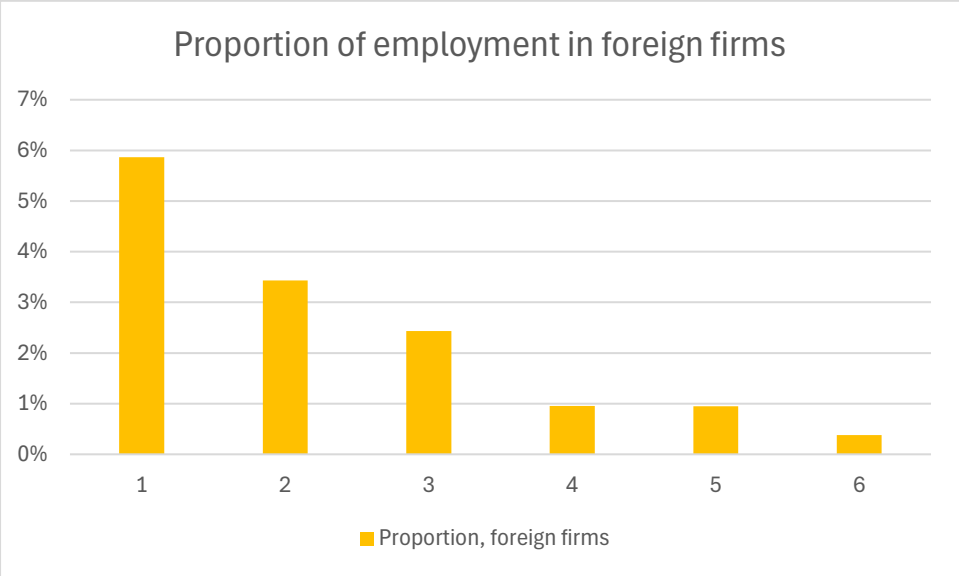
A similar picture emerges if we look at the assets of foreign- and locally-controlled firms.

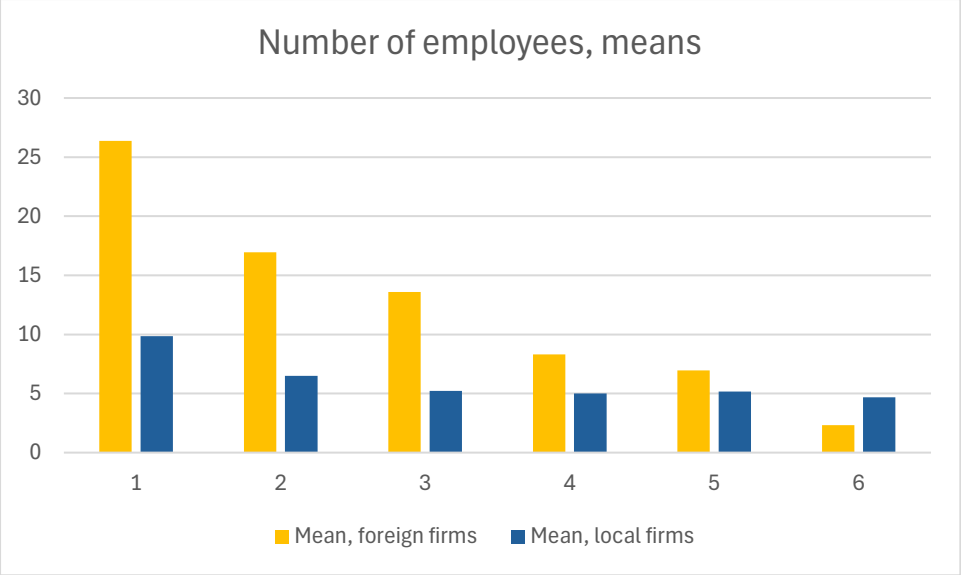




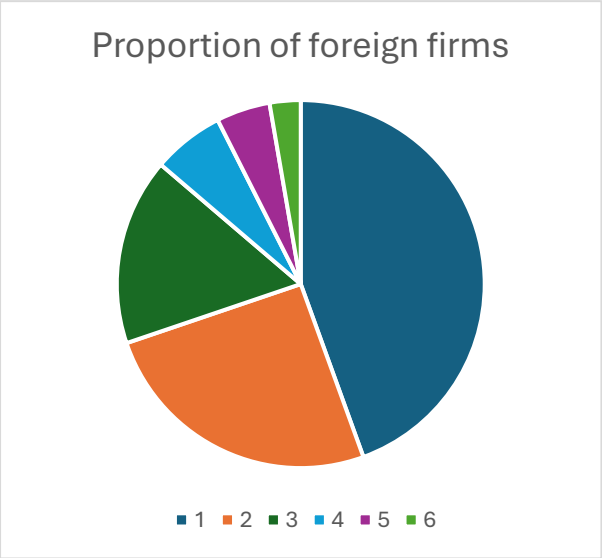


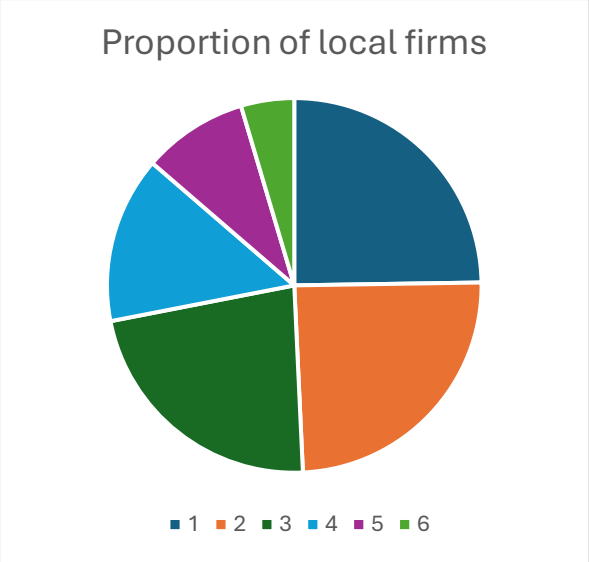
Foreign-controlled firms represent a small, but significant proportion of the employment of firms headquartered in central regions. In contrast, they stand for less than 1% in the three least central regions.



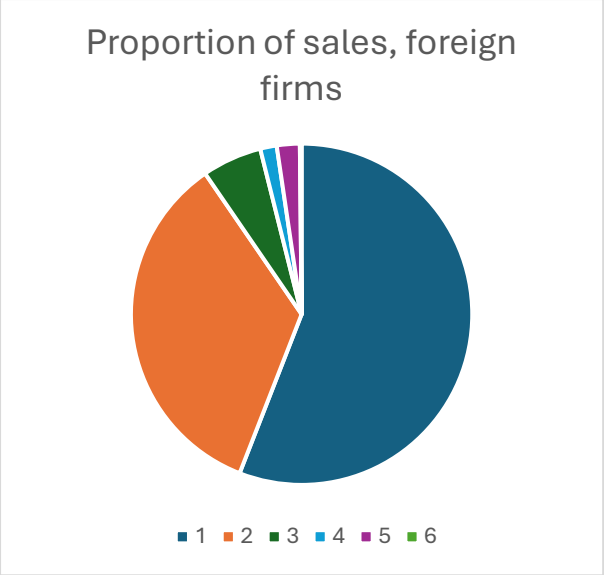


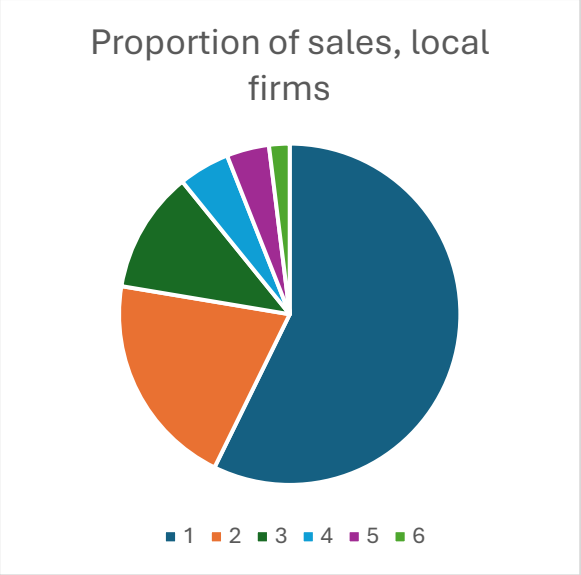
Two thirds of foreign-controlled firms are headquartered in large cities (centrality regions 1 and 2), compared to less than one half for locally controlled firms.

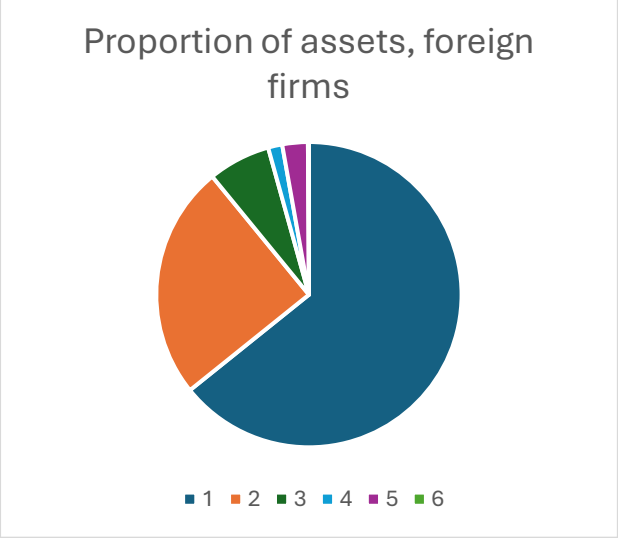


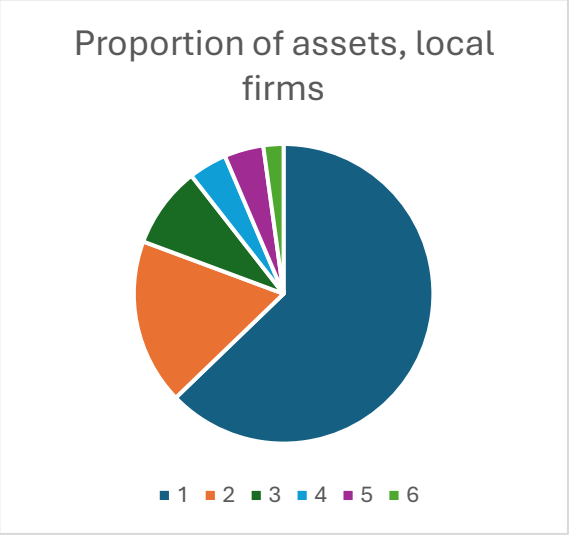


The distribution of sales, assets, and employment is even more concentrated in firms headquartered in large cities (centrality 1 and 2).


Proportion of sales, foreign firms
1 2 3 4 5 6


Proportion of sales, local firms
1 2 3 4 5 6


Proportion of assets, foreign firms
1 2 3 4 5 6


Proportion of assets, local firms
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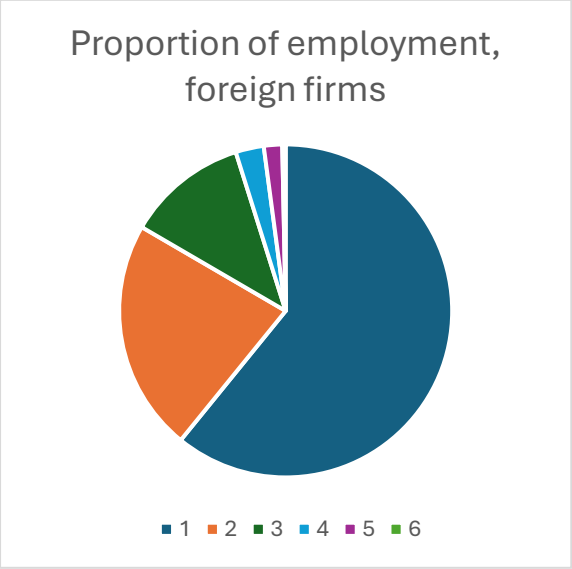
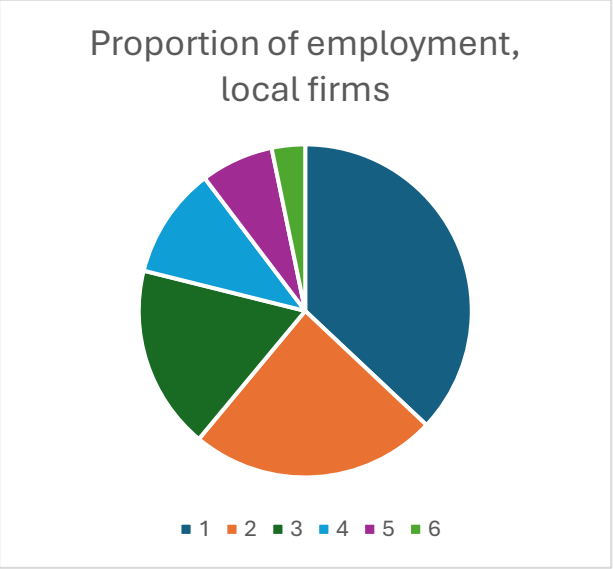

Proportion of employment, foreign firms
1 2 3 4 5 6


Proportion of employment, local firms
1 2 3 4 5 6

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Appendix

Variable definition list

Sample	Definition
Firm	Limited liability firm registered in Norway. If a firm has corporate owners, we look up the shareholders of those owners to establish the ultimate ownership. In the case of business groups, we choose the highest level in the group where consolidated accounts are reported.
Family firms	Firms where an individual or a group of individuals related by blood or marriage ultimately control more than 50% of the equity.
Nonfamily firms	Firms that are not classified as family firms.
Large firms	Firms with sales above NOK 100 mill. (in 2023 NOK) and more than 100 employees.
Medium firms	Firms with sales between NOK 10 mill. and 100 mill. (in 2023 NOK) and between 10 and 100 employees.
Listed firms	Firms that are listed on the Oslo Stock Exchange, or business groups that include at least one firm listed on the Oslo Stock Exchange.
Foreign firms	Firms where foreign companies or individuals ultimately control at least 50% of the equity.

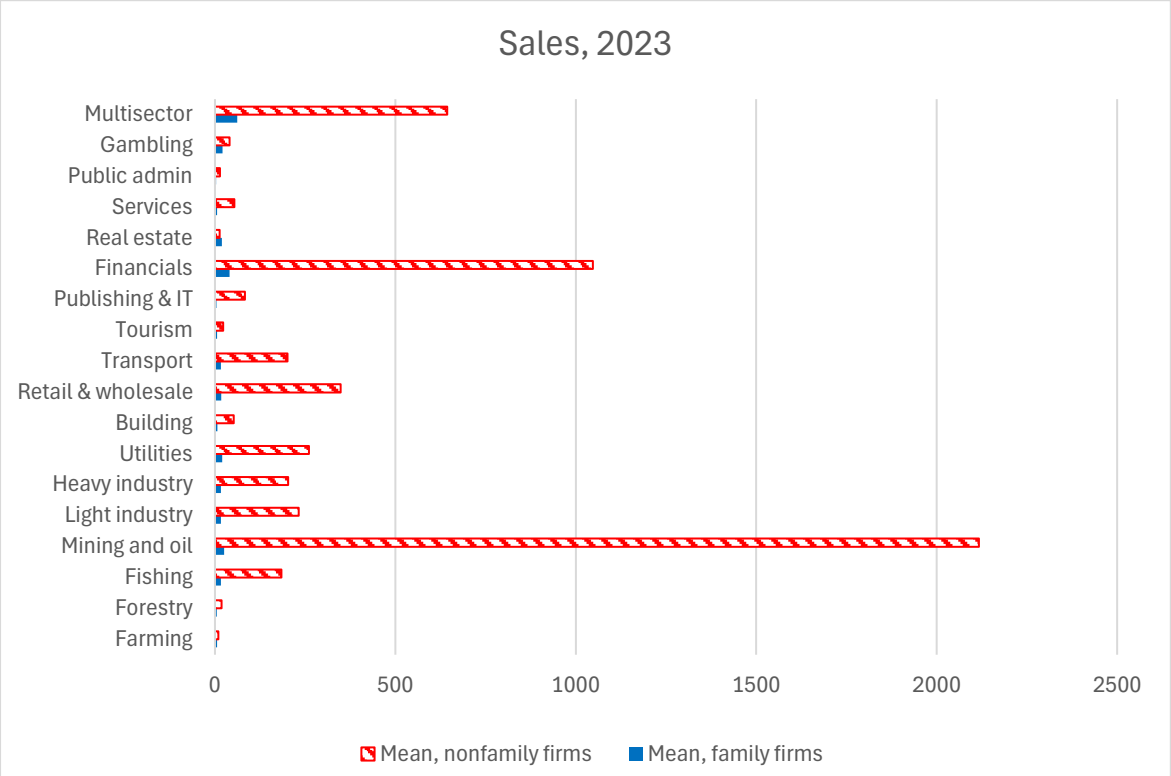
Variable	Definition
Sales	Annual revenues in million kroner, inflation adjusted (in 2023 kroner).
Total assets	Book value of total assets in million kroner, inflation adjusted (in 2023 kroner).
Employment	Number of employees in the firm or group. Note that the reporting system changed in 2015.
Value added	The sum of the firm's earnings and payroll expenses, in million 2023 kroner (inflation adjusted).
Sales growth	Real growth rate of sales, $(Sales_t - Sales_{t-1})/Sales_{t-1}$, inflation adjusted, winsorized at 97.5%.

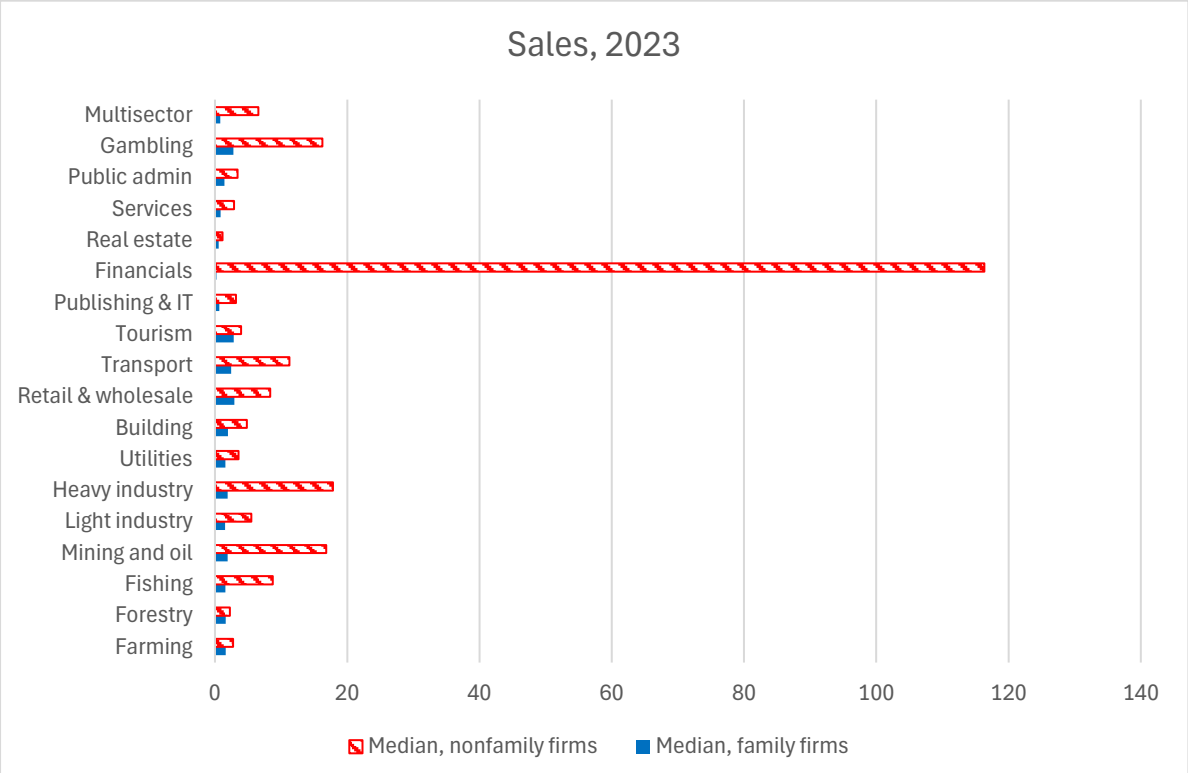
Asset growth	Real growth rate of total assets, ($Assets_t$ – $Assets_{t-1}$)/$Assets_{t-1}$, inflation adjusted, winsorized at 97.5%.
Employment growth	Growth of the number of employees, ($Employment_t$ – $Employment_{t-1}$)/$Employment_{t-1}$, inflation adjusted, winsorized at 97.5%.
Firm age	The age of the firm in years. In the case of business groups, it is the age of the oldest firm in the group.
Investment rate	The growth rate of fixed assets, adjusted for depreciation and writedowns. (Fixed $assets_t$ + $depreciation_t$ + $writedowns_t$ – fixed $assets_{t-1}$)/fixed $assets_{t-1}$. Winsorized at 97.5%.
Sales volatility	The coefficient of variation (standard deviation divided by the mean) of inflation-adjusted sales in years t-2, t-1, and t.
Assets per employee	Assets divided by employment.
Value added per employee	Value added divided by employment.
Sales to assets	Sales divided by total assets, winsorized at 97.5%.
Cash to total assets	The ratio of cash and cash equivalents to total assets, winsorized at 97.5%.
Working capital to total assets	The ratio of working capital to total assets, winsorized at 97.5%.
Current ratio	The ratio of current assets to current liabilities, winsorized at 97.5%.
Accounts payable days	The ratio of accounts payable to cost of goods sold (COGS), winsorized at 97.5%.
Accounts receivable days	The ratio of accounts receivable to sales, winsorized at 97.5%.
Inventory days	The ratio of inventory to cost of goods sold (COGS), winsorized at 97.5%.
COGS to sales	The ratio of cost of goods sold (COGS) to sales, winsorized at 97.5%.
Operating return on assets	The ratio of after-tax operating earnings to total assets, winsorized at 2.5% and 97.5%.
Return on equity	The ratio of net income to total net earnings, winsorized at 2.5% and 97.5%.
Return on invested capital	The ratio of operating earnings to assets net of cash and current debt, winsorized at 2.5% and 97.5%.
Earnings per employee	The ratio of net earnings to the number of employees, in million 2023 (inflation-adjusted) kroner.
Salaries to sales	The ratio of payroll expenses to sales, winsorized at 97.5%.
Salary per employee	The ratio between payroll expenses and the number of employees.
Leverage	The ratio of liabilities to total assets.
Net leverage	The ratio of liabilities less cash to total assets less cash.

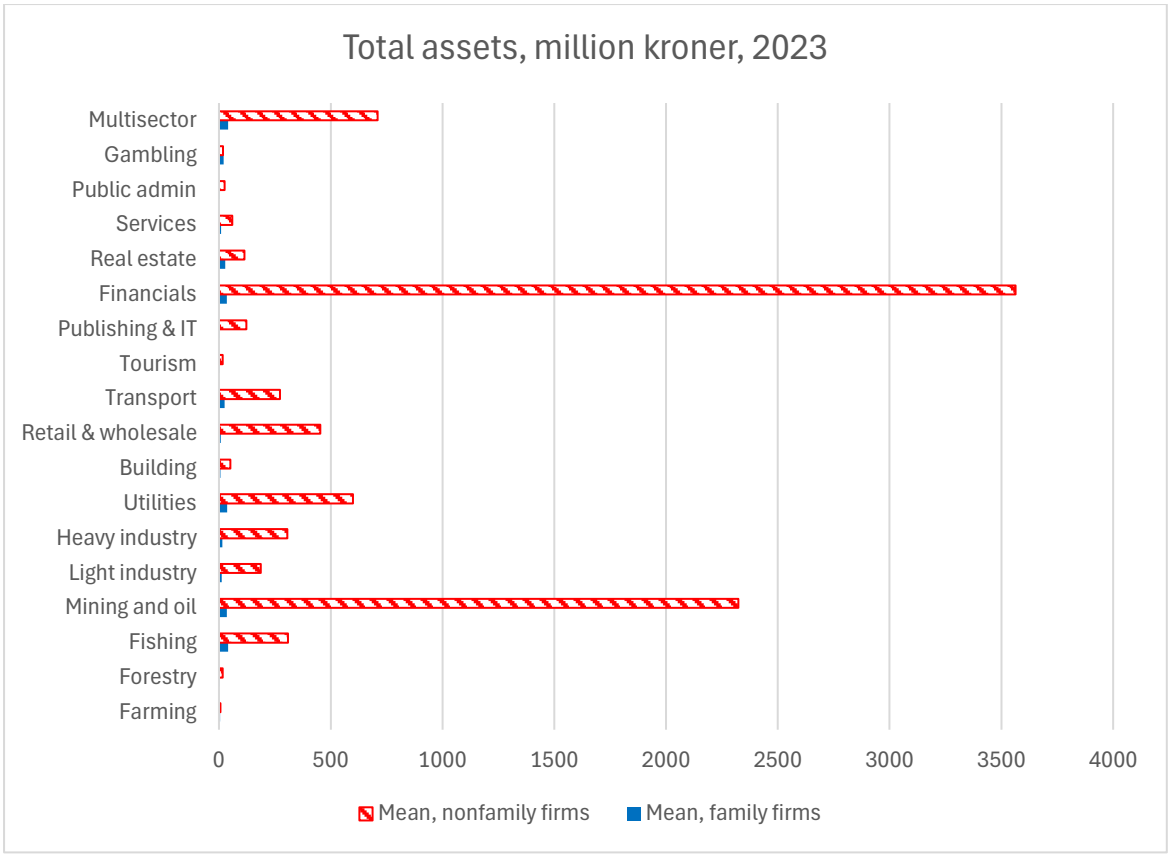
Short-term to long-term debt	The ratio of short-term financial debt to long-term financial debt, winsorized at 97.5%.
Interest coverage ratio	The ratio of EBITDA to interest expenses, winsorized at 97.5%.
Interest expense to sales	The ratio of interest expenses to sales, winsorized at 97.5%.
Dividend payout ratio	The ratio of dividends to (positive) net income, winsorized at 97.5%.
Proportion of dividend payers	The proportion of firms with strictly positive dividend payments in a group or year.

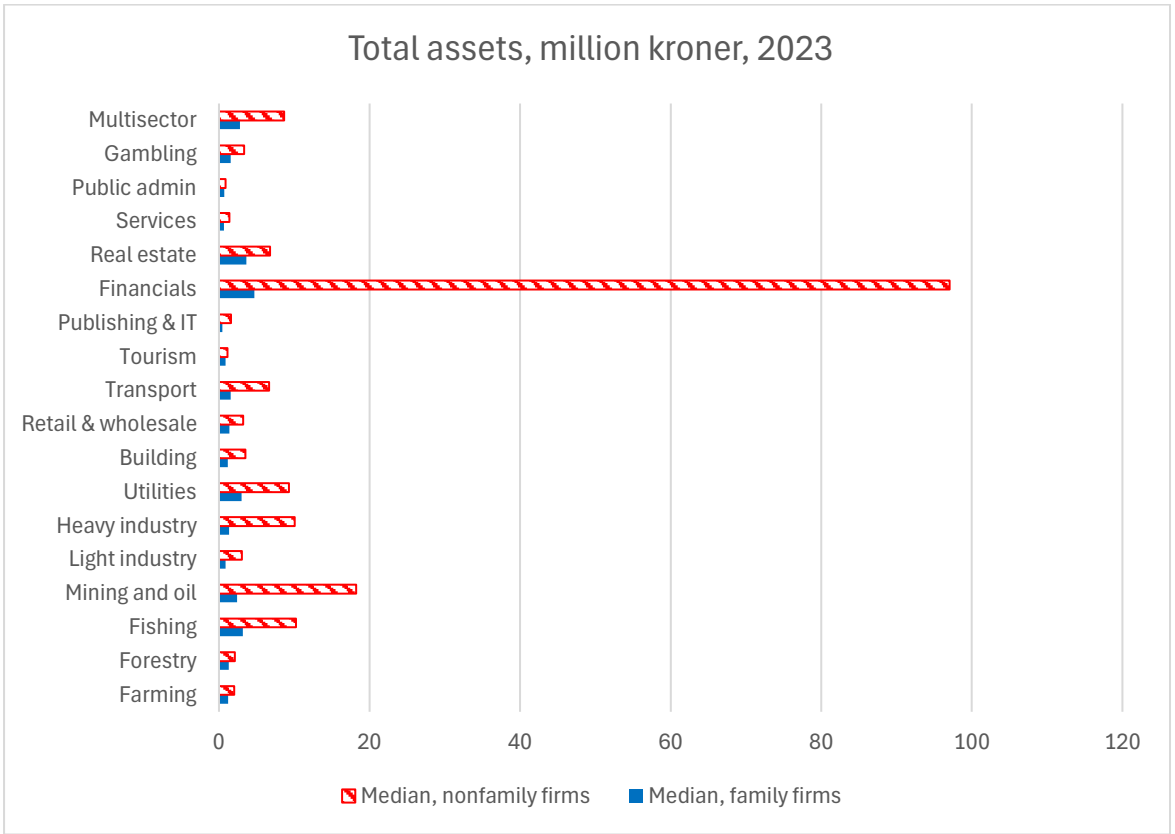
Financial indicators for family and nonfamily firms by industry, 2023

The graphs below present financial indicators (means and medians for 2023) by industry for family firms (in blue) and nonfamily firms (in red).






Total assets, million kroner, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
500
1000
1500
2000
2500
3000
3500
4000
Mean, nonfamily firms
Mean, family firms


Total assets, million kroner, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
20
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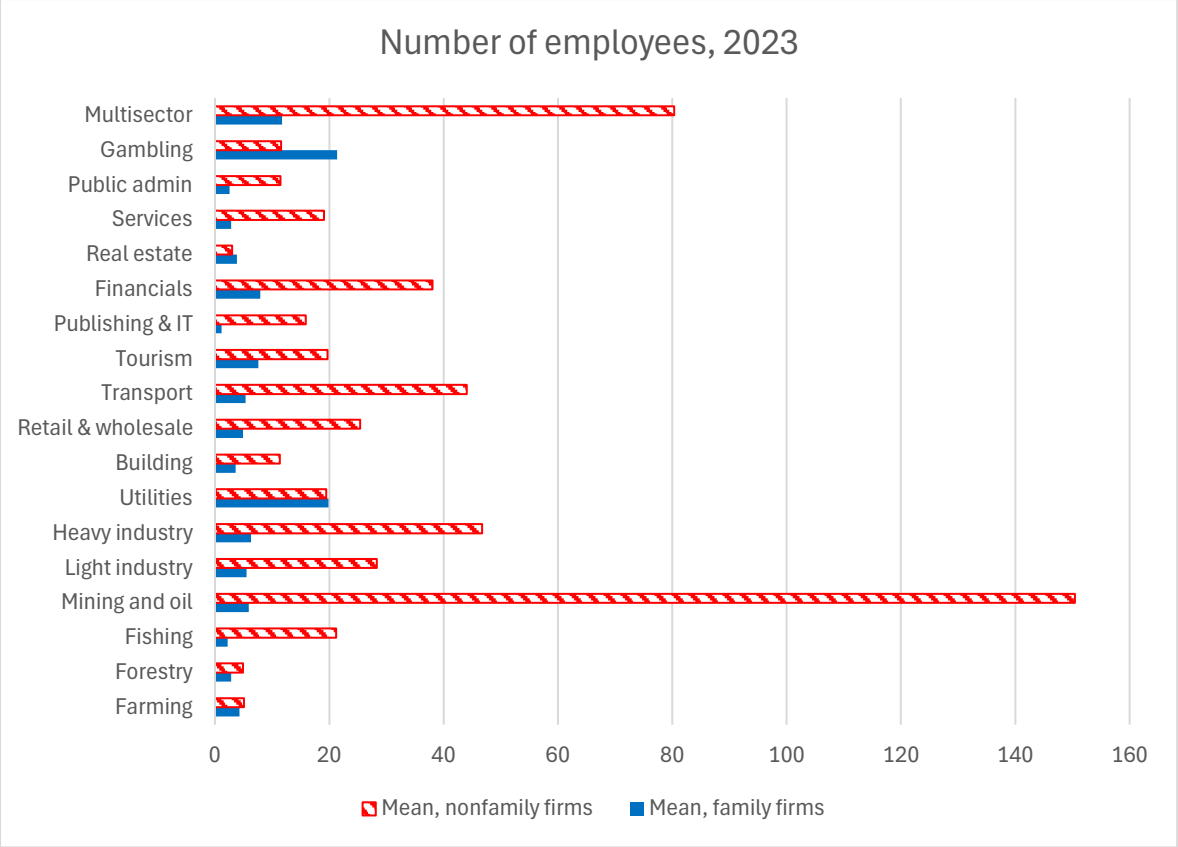
60
80
100
120
Median, nonfamily firms
Median, family firms


Number of employees, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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20
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60
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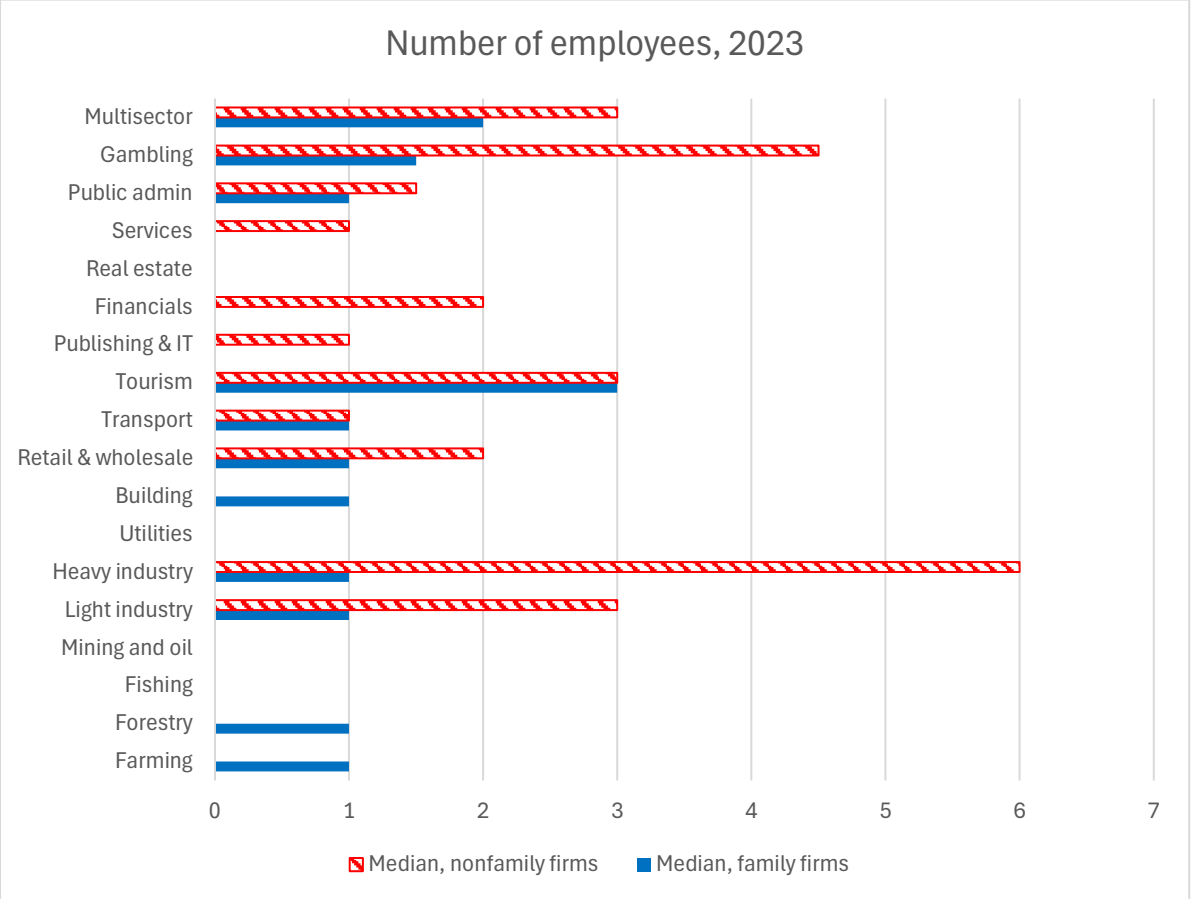
100
120
140
160
Mean, nonfamily firms
Mean, family firms


Number of employees, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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5
6
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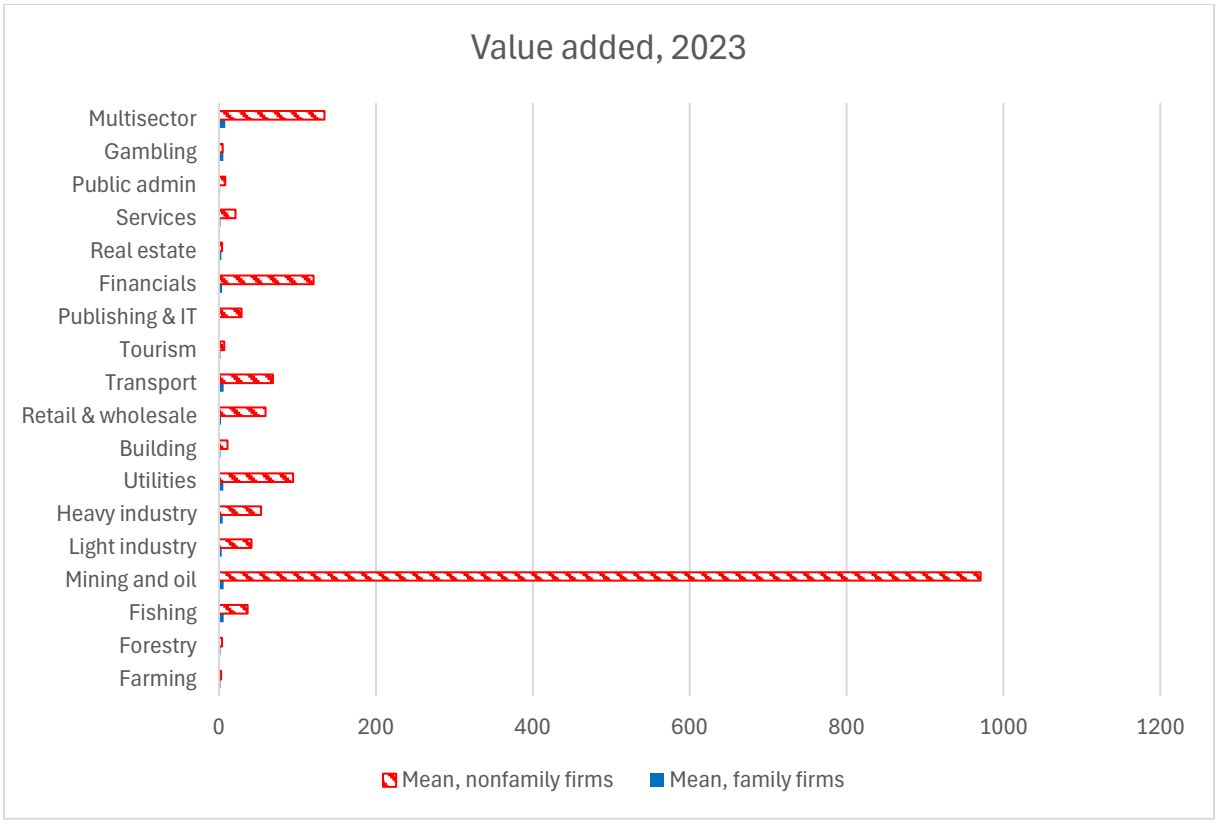
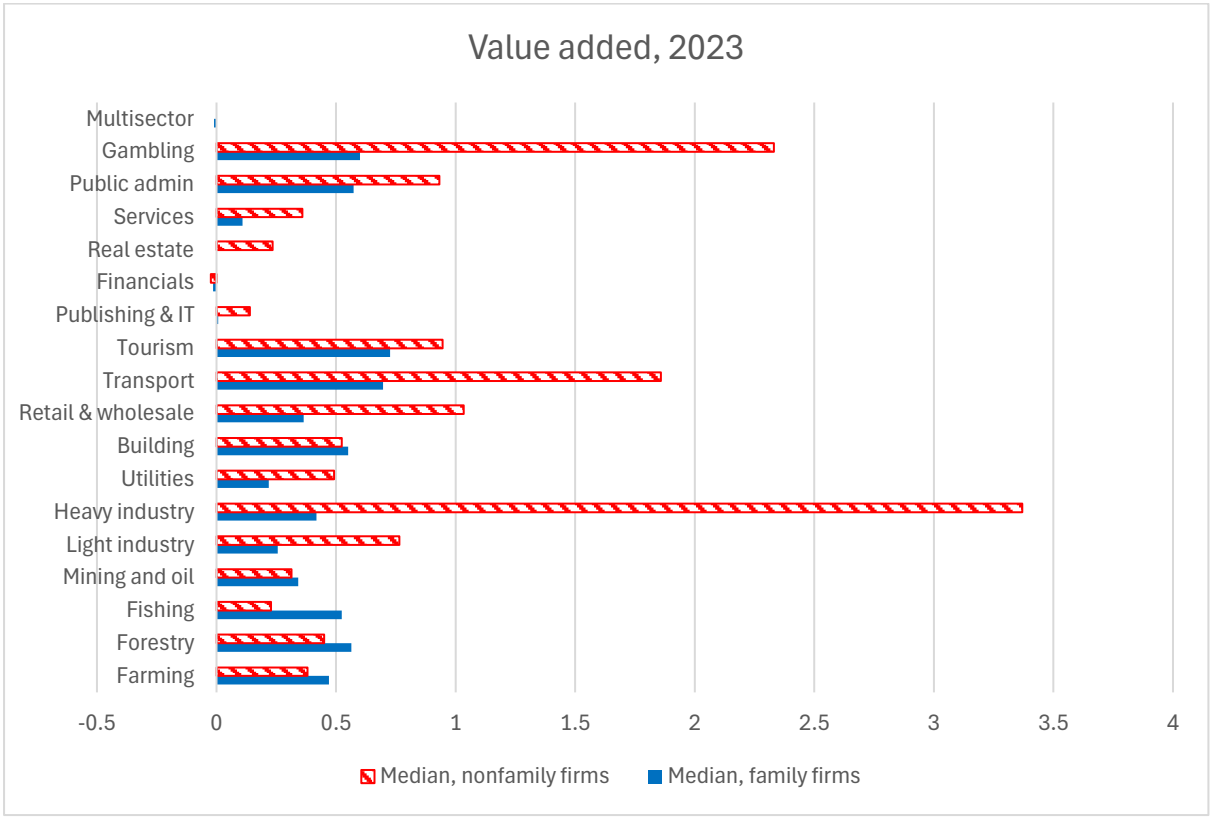
Median, nonfamily firms
Median, family firms


Value added, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
200
400
600
800
1000
1200
Mean, nonfamily firms
Mean, family firms


Value added, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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0.5
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1.5
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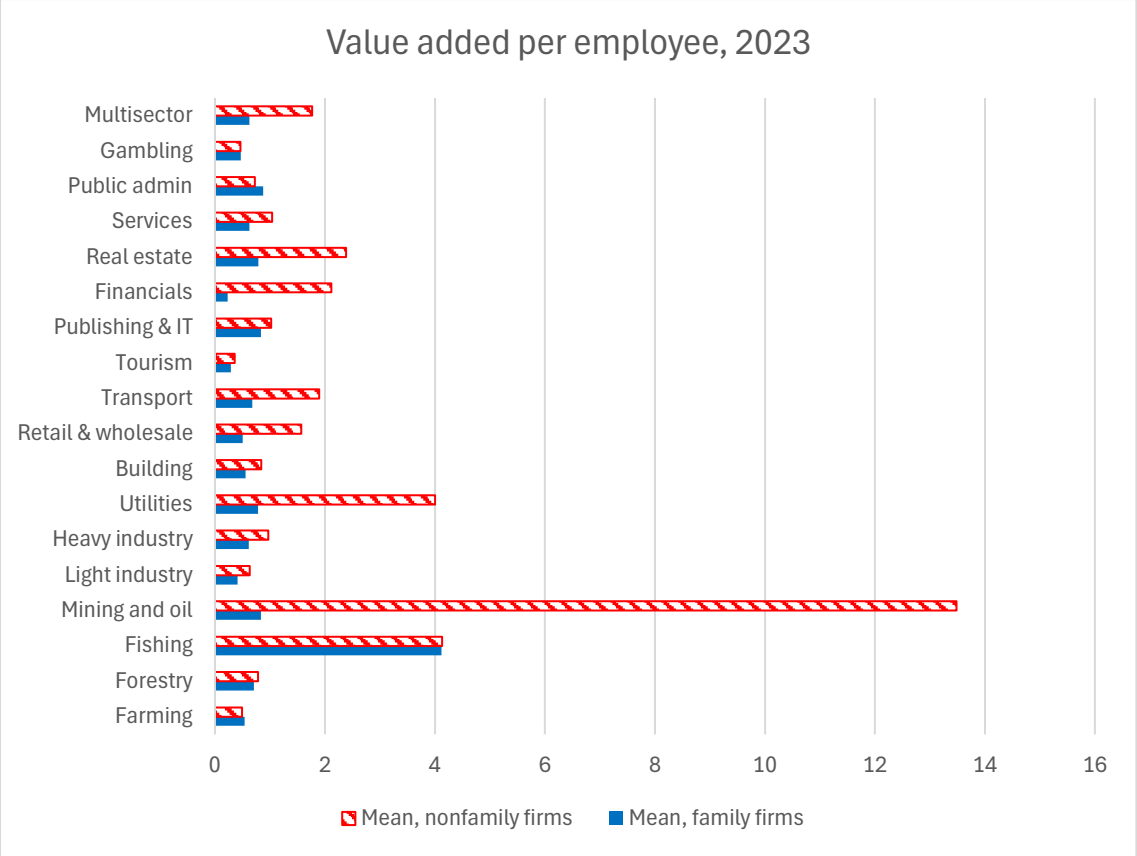
3.5
4
Median, nonfamily firms
Median, family firms


Value added per employee, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
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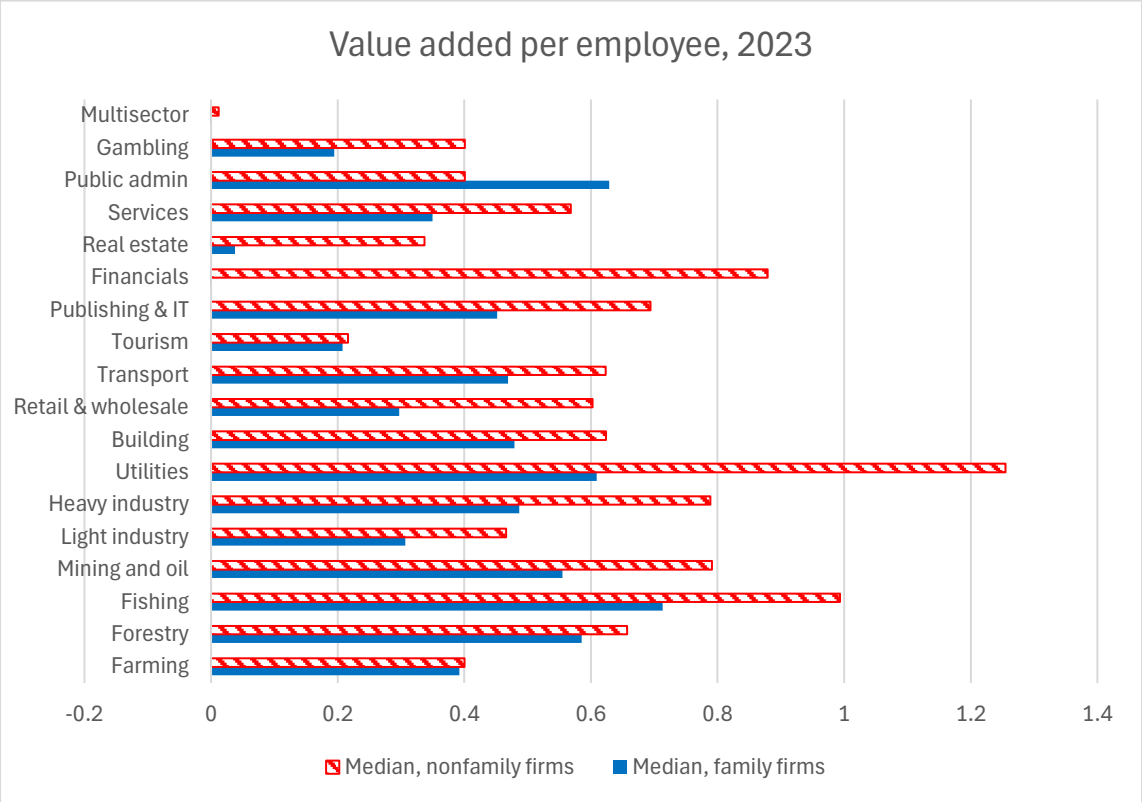
8
10
12
14
16
Mean, nonfamily firms
Mean, family firms


Value added per employee, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-0.2
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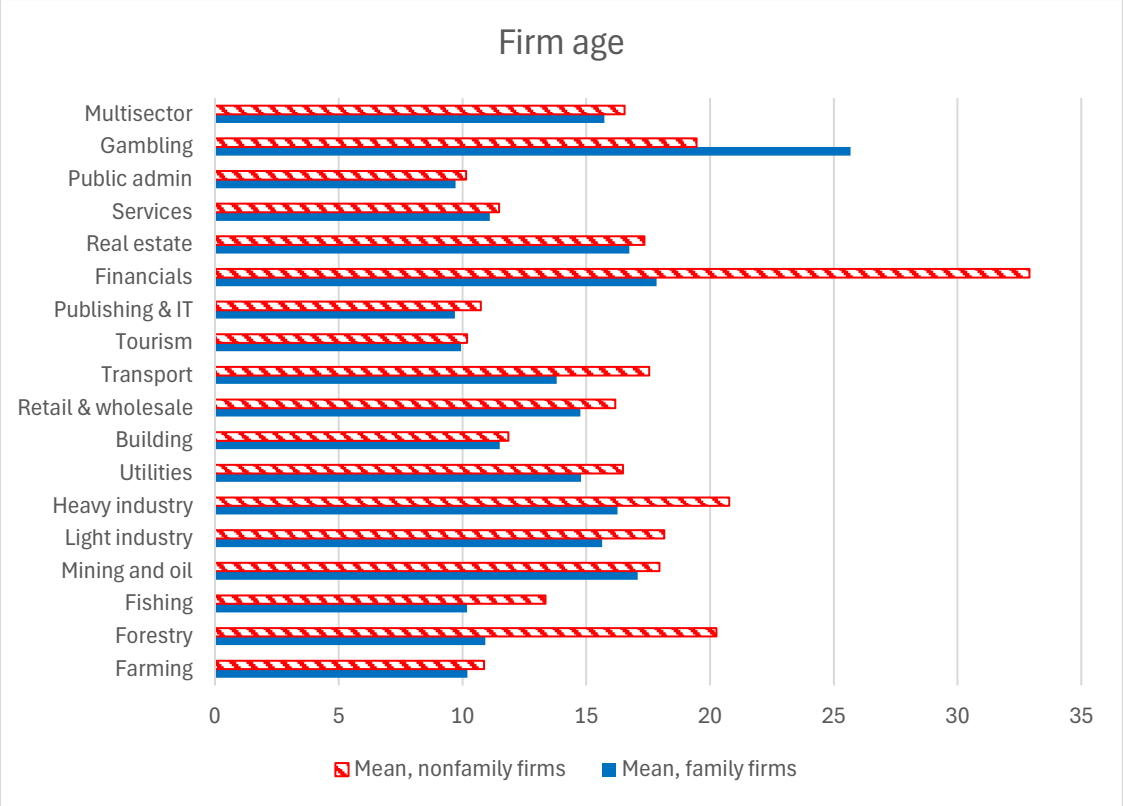
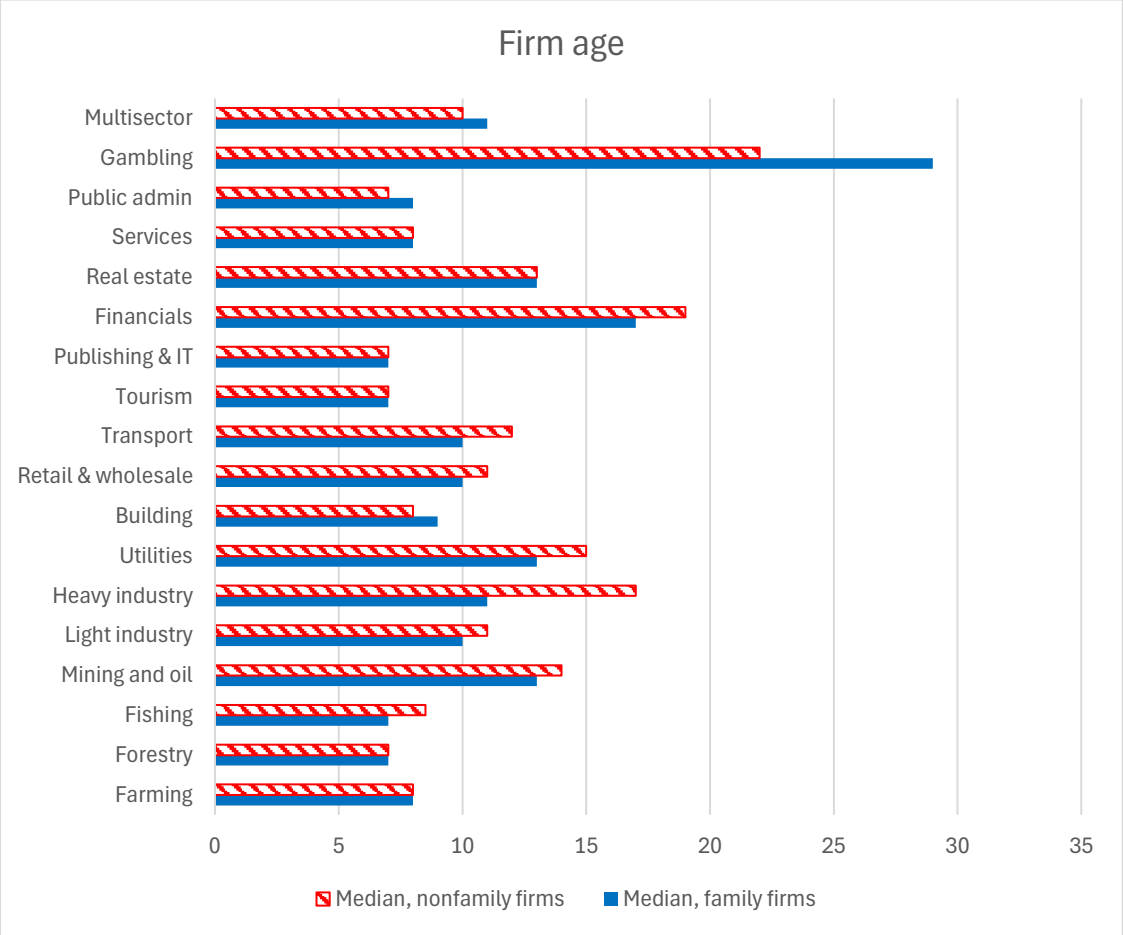
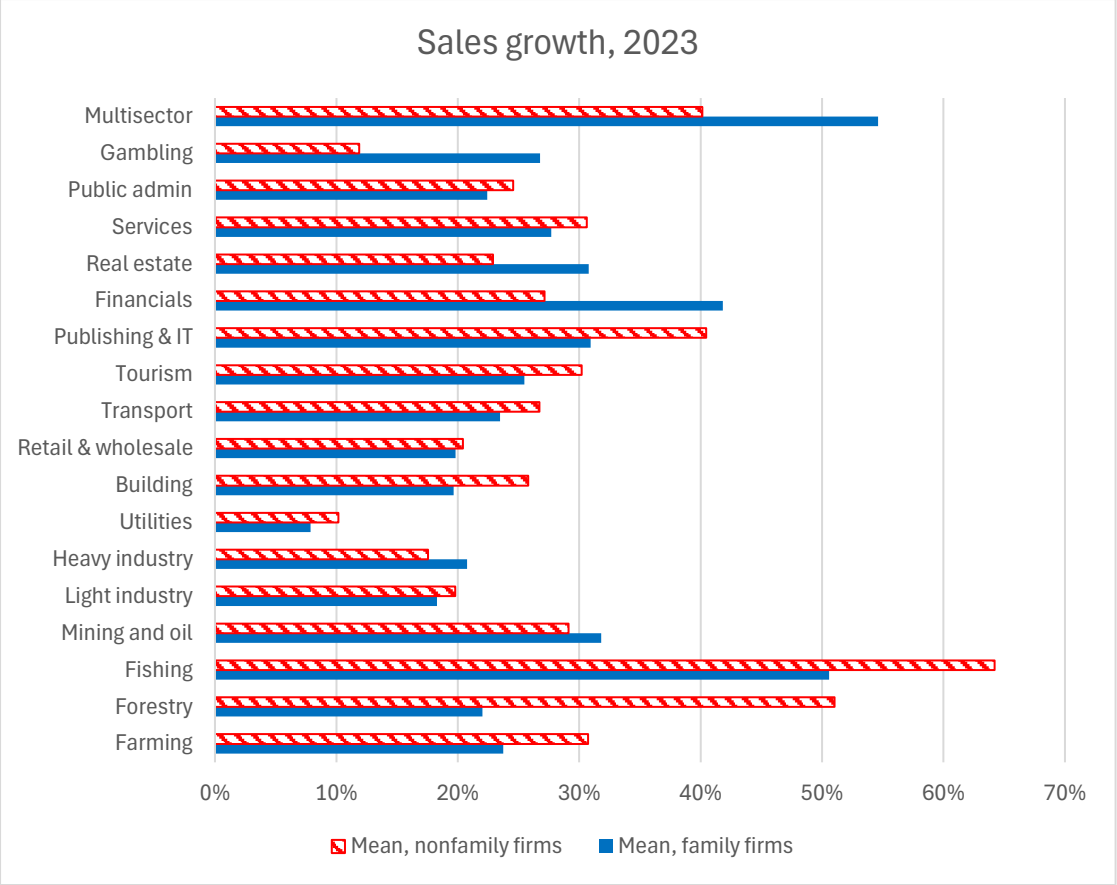
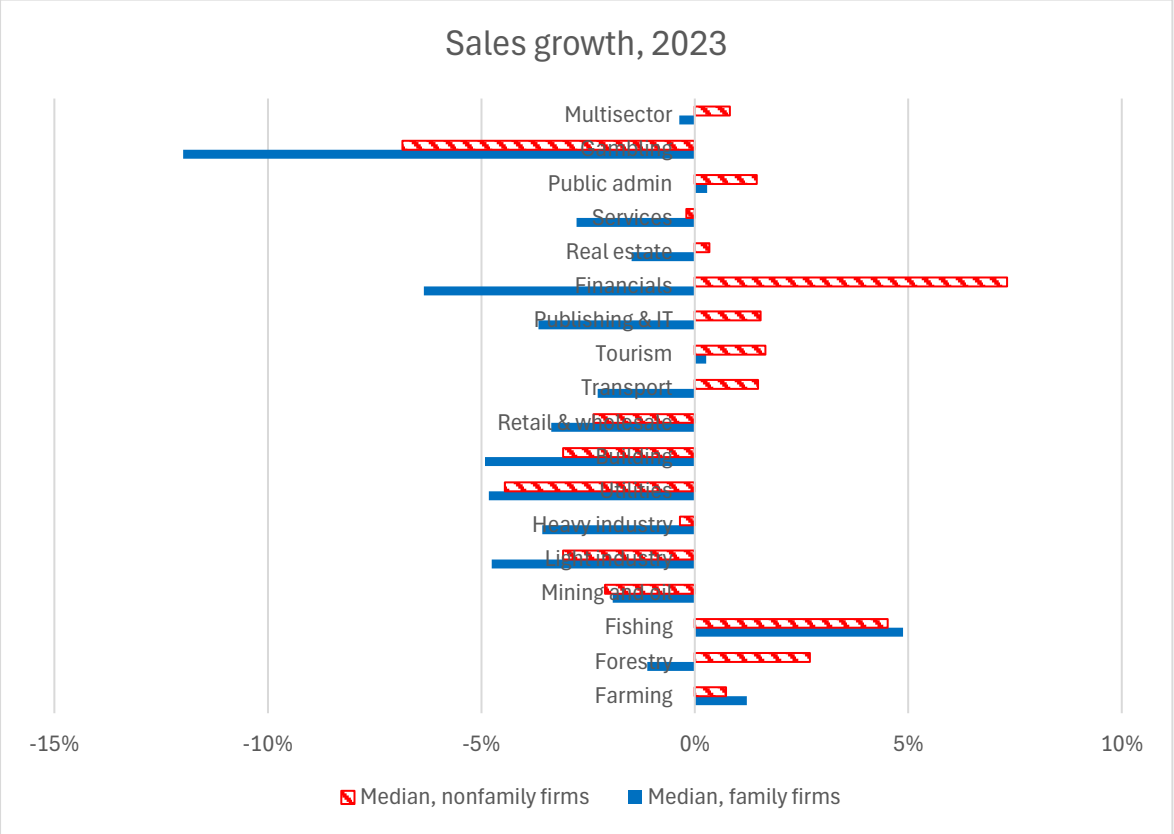
0.2
0.4
0.6
0.8
1
1.2
1.4
Median, nonfamily firms
Median, family firms


Firm age
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
5
10
15
20
25
30
35
Mean, nonfamily firms
Mean, family firms


Firm age
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
5
10
15
20
25
30
35
Median, nonfamily firms
Median, family firms


Sales growth, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0%
10%
20%
30%
40%
50%
60%
70%
Mean, nonfamily firms
Mean, family firms


Sales growth, 2023
Multisector
Public admin
Tourism
Fishing
Forestry
Farming
-15%
-10%
-5%
0%
5%
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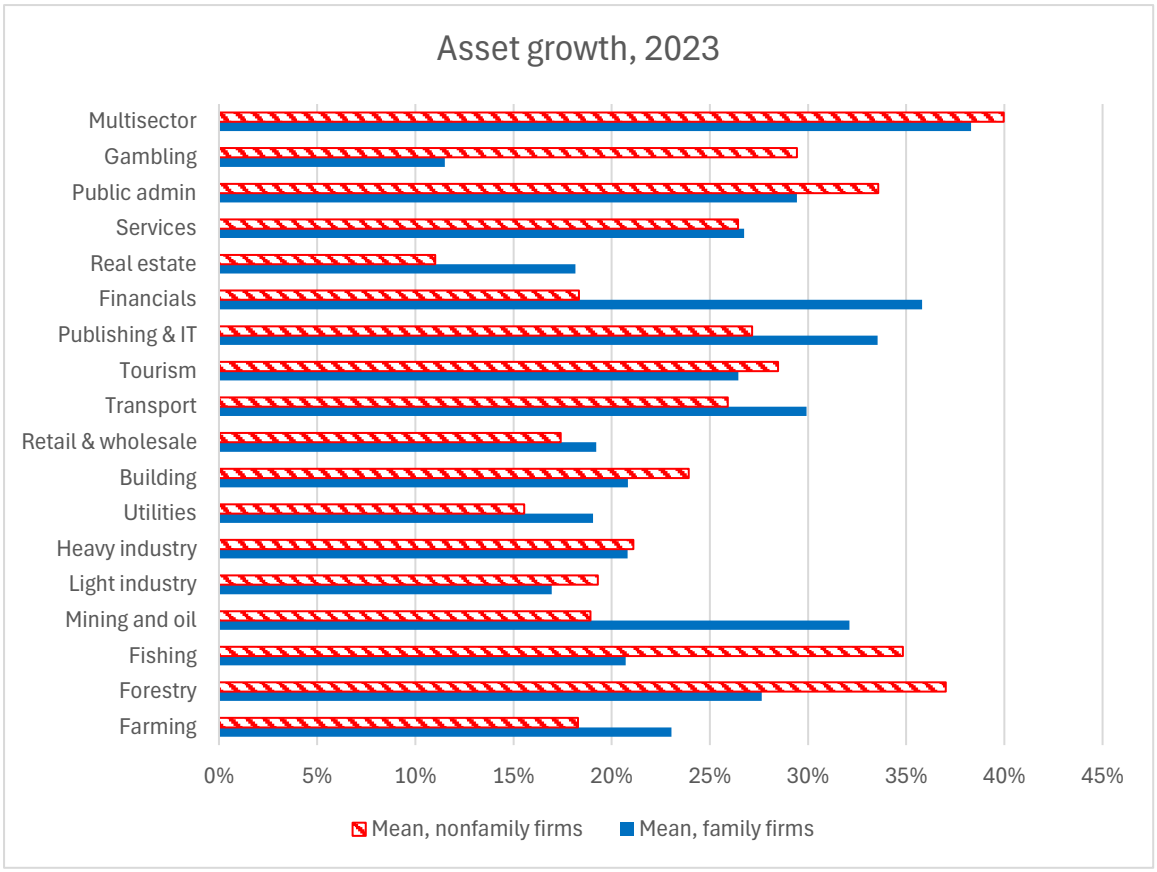
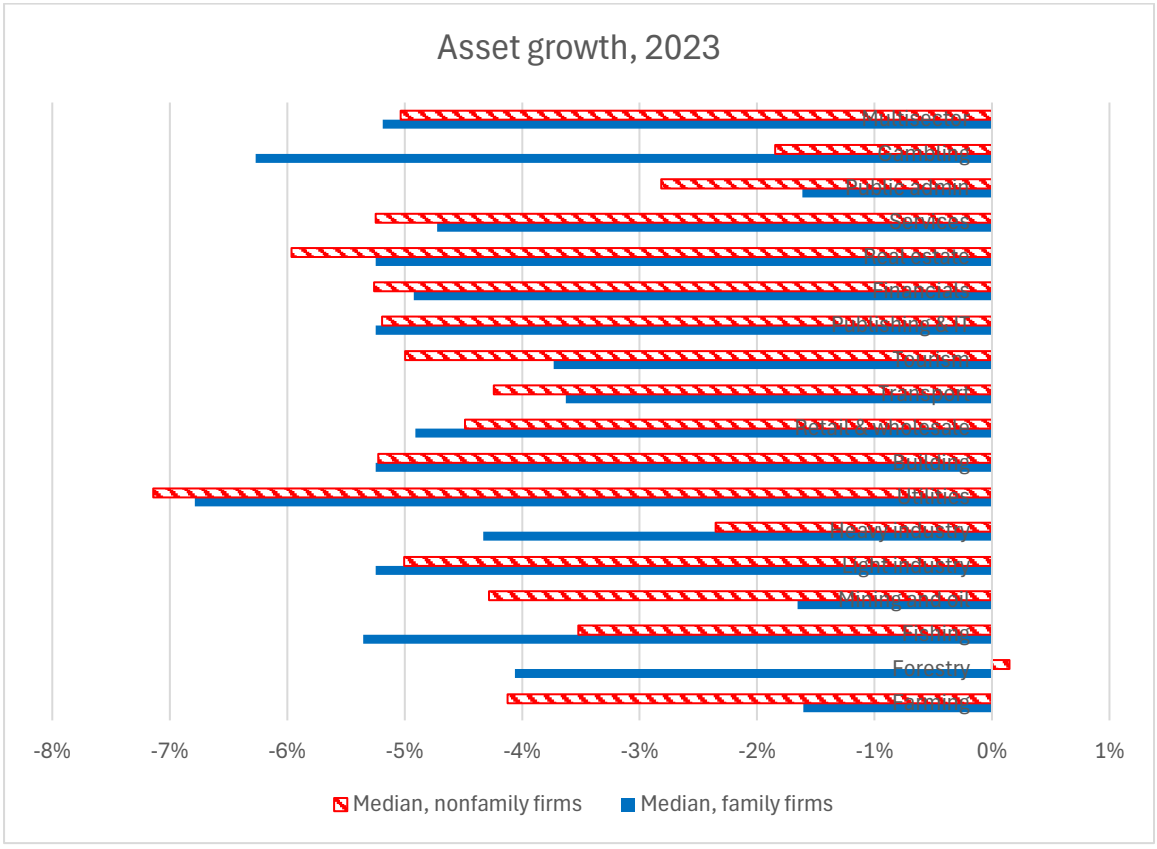
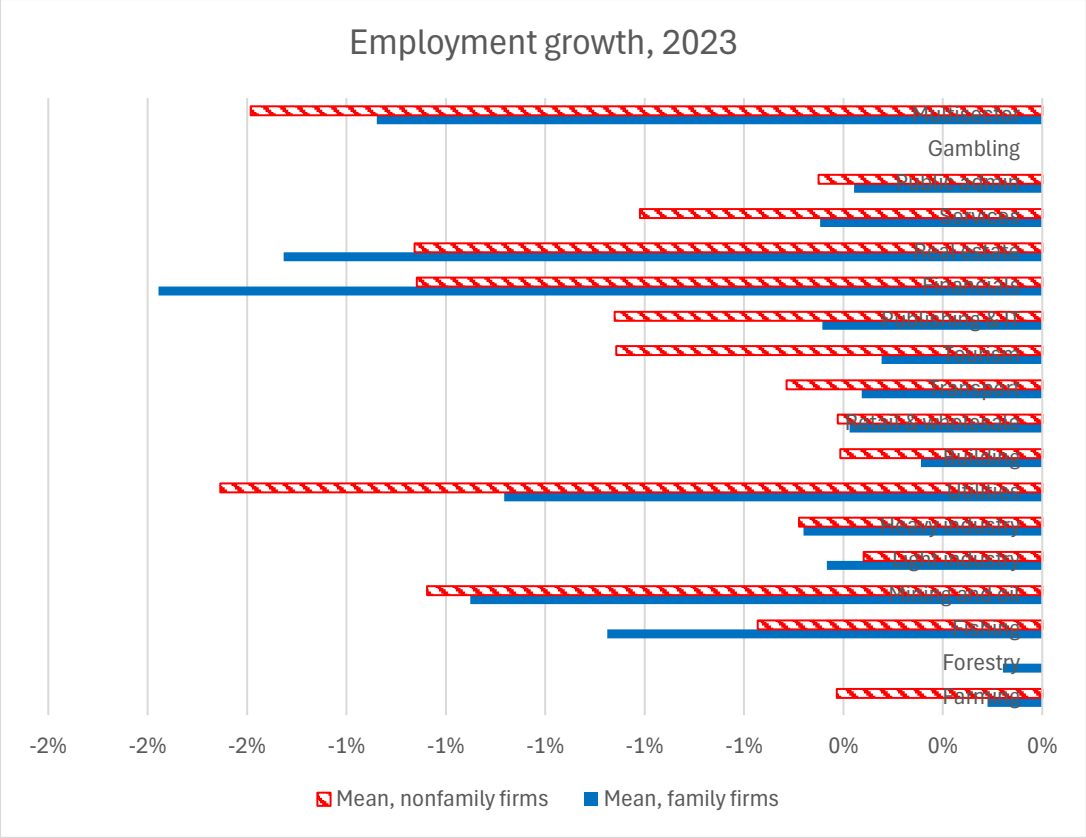
Median, nonfamily firms
Median, family firms


Asset growth, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
Mean, nonfamily firms
Mean, family firms


Asset growth, 2023
Forestry
-8%
-7%
-6%
-5%
-4%
-3%
-2%
-1%
0%
1%
Median, nonfamily firms
Median, family firms


Employment growth, 2023
Gambling
Forestry
-2%
-2%
-2%
-1%
-1%
-1%
-1%
-1%
0%
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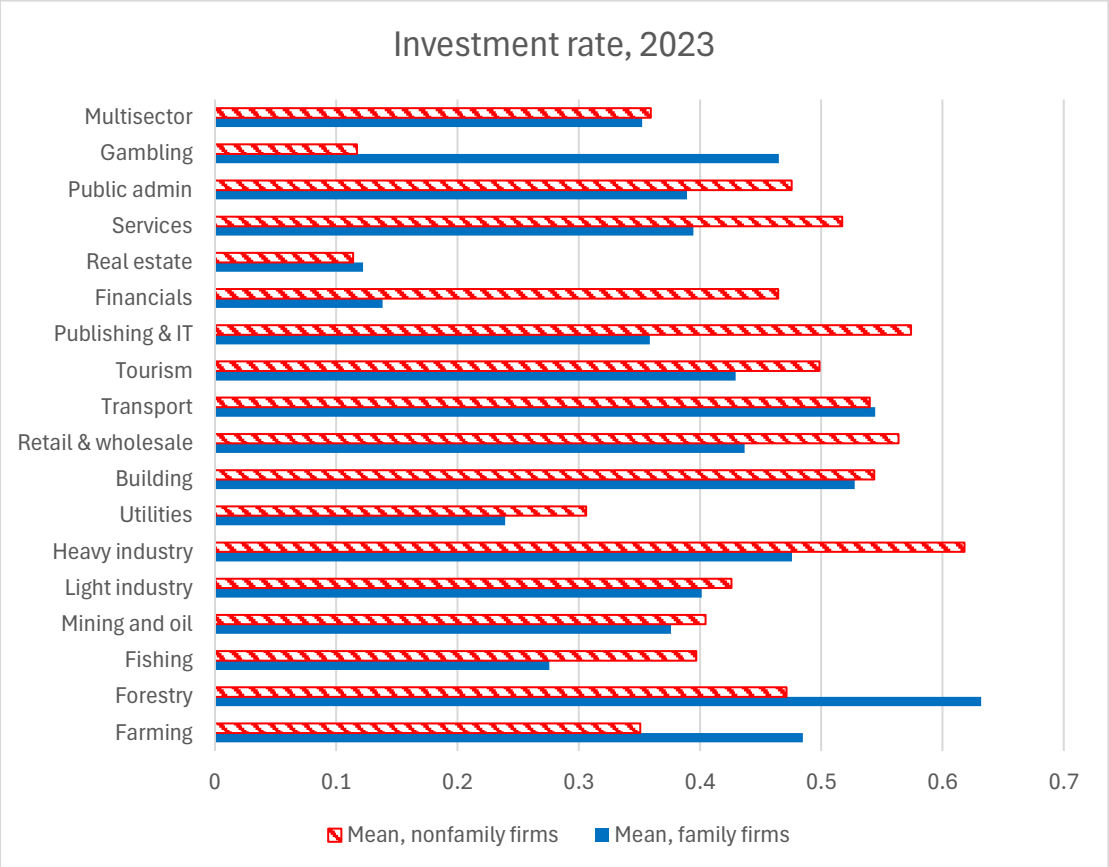
Mean, nonfamily firms
Mean, family firms


Investment rate, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
0.1
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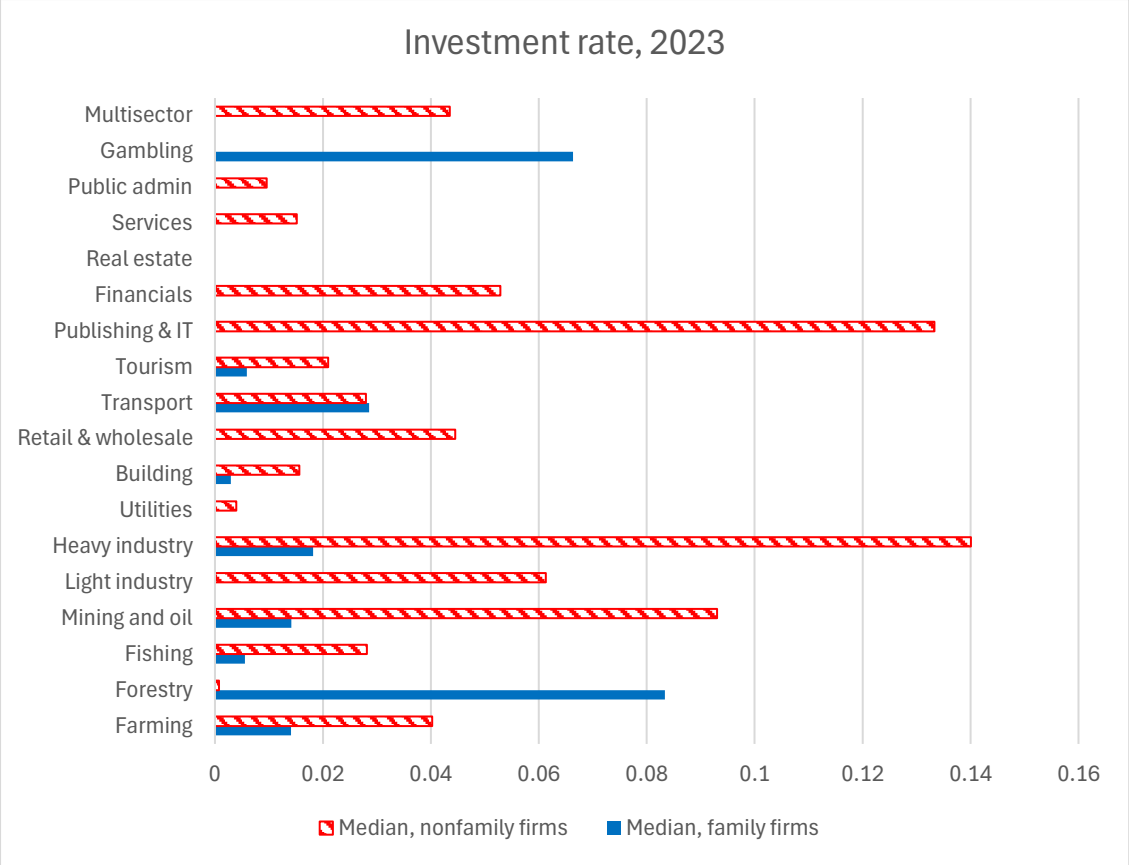
Mean, nonfamily firms
Mean, family firms


Investment rate, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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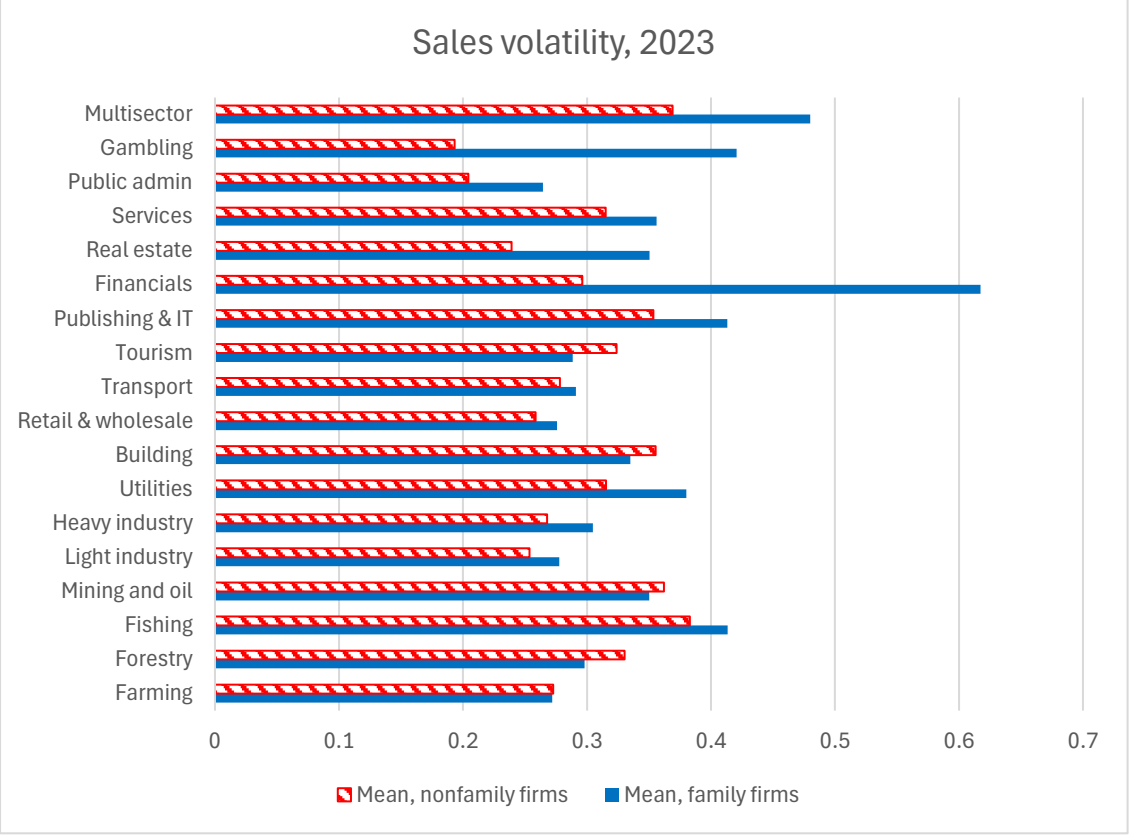
Median, nonfamily firms
Median, family firms


Sales volatility, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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0.1
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0.6
0.7
Mean, nonfamily firms
Mean, family firms


Sales volatility, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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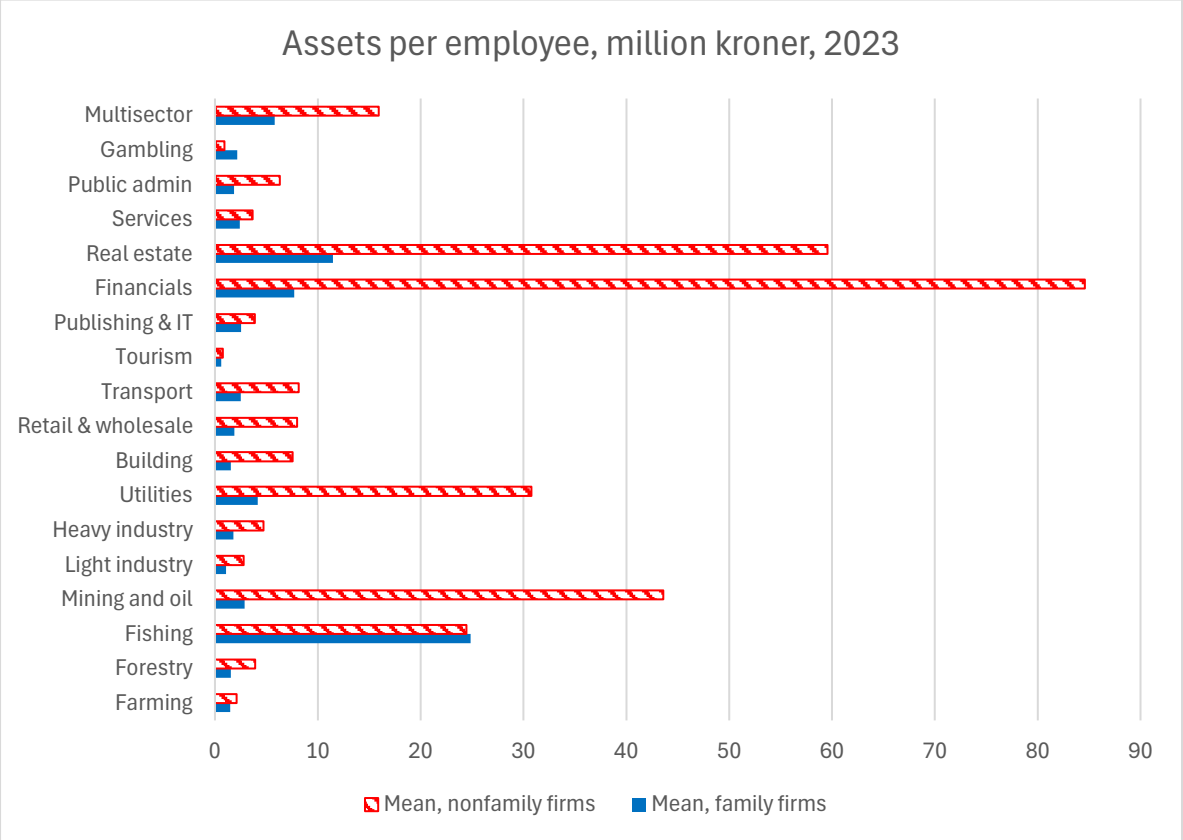
0.5
0.6
Median, nonfamily firms
Median, family firms


Assets per employee, million kroner, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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10
20
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60
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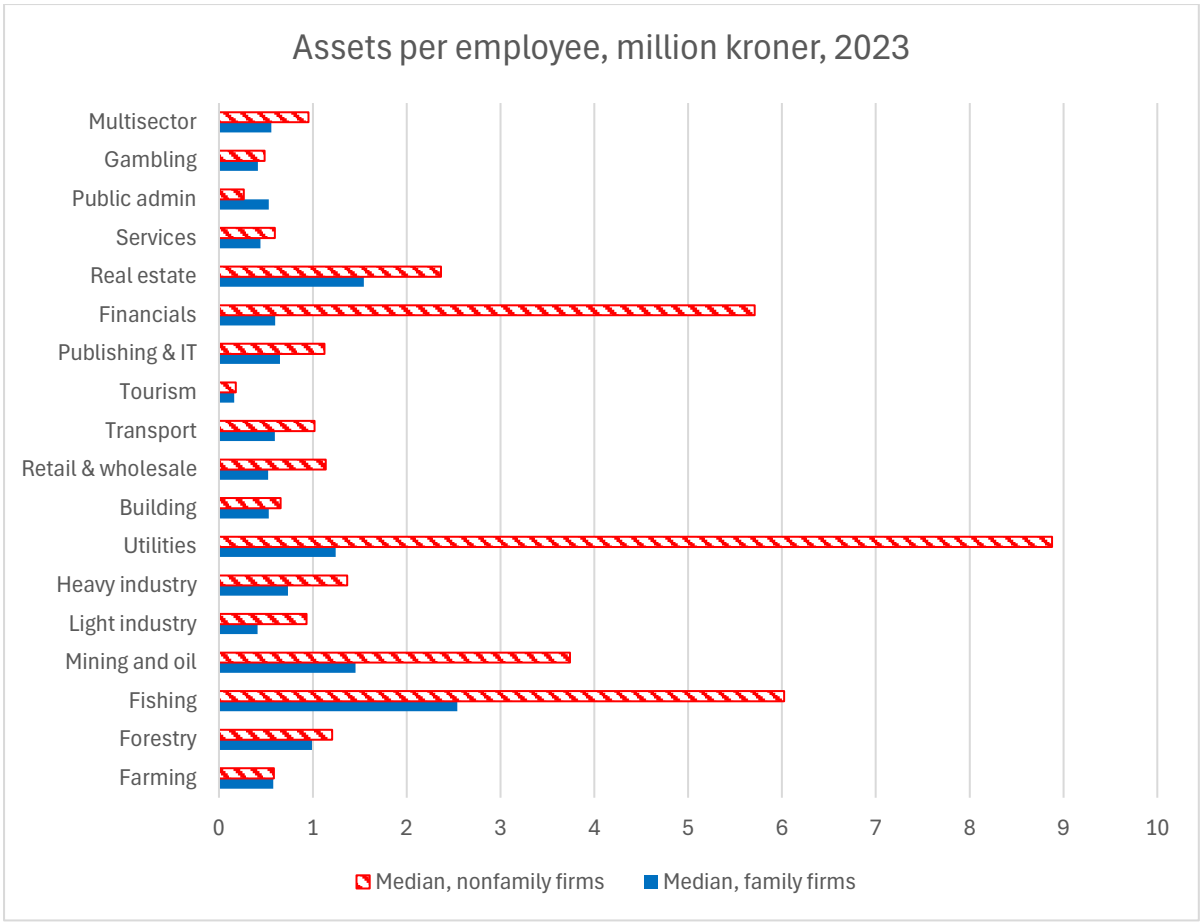
90
Mean, nonfamily firms
Mean, family firms


Assets per employee, million kroner, 2023
Multisector
Gambling
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Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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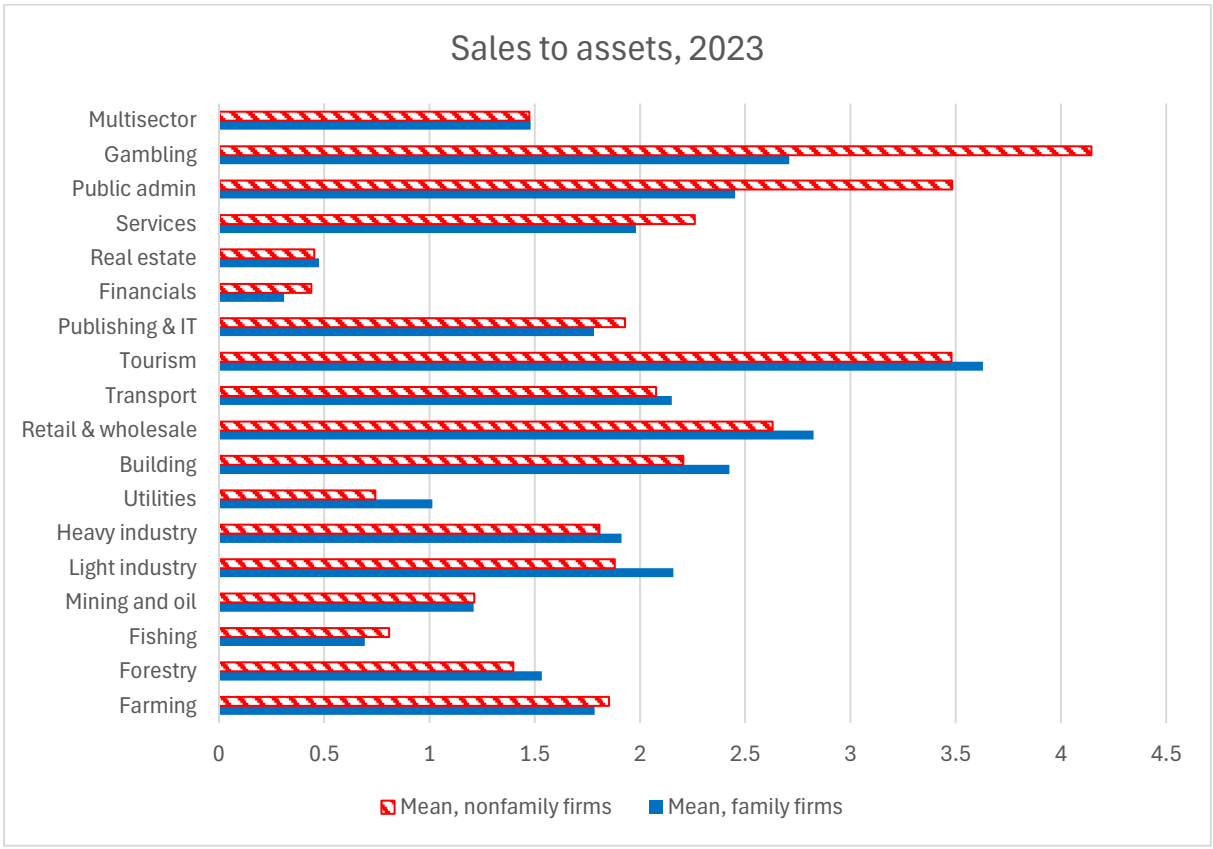
Median, nonfamily firms
Median, family firms


Sales to assets, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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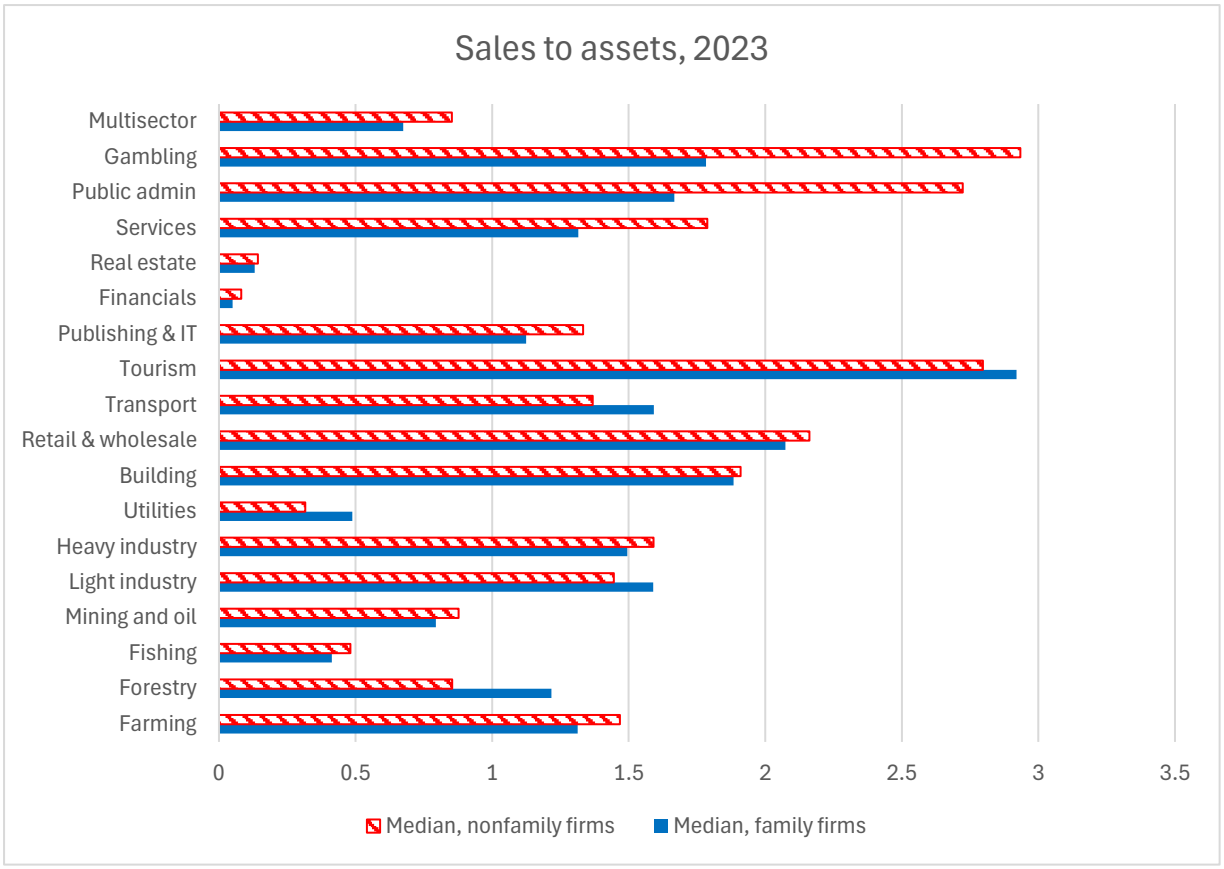
4.5
Mean, nonfamily firms
Mean, family firms


Sales to assets, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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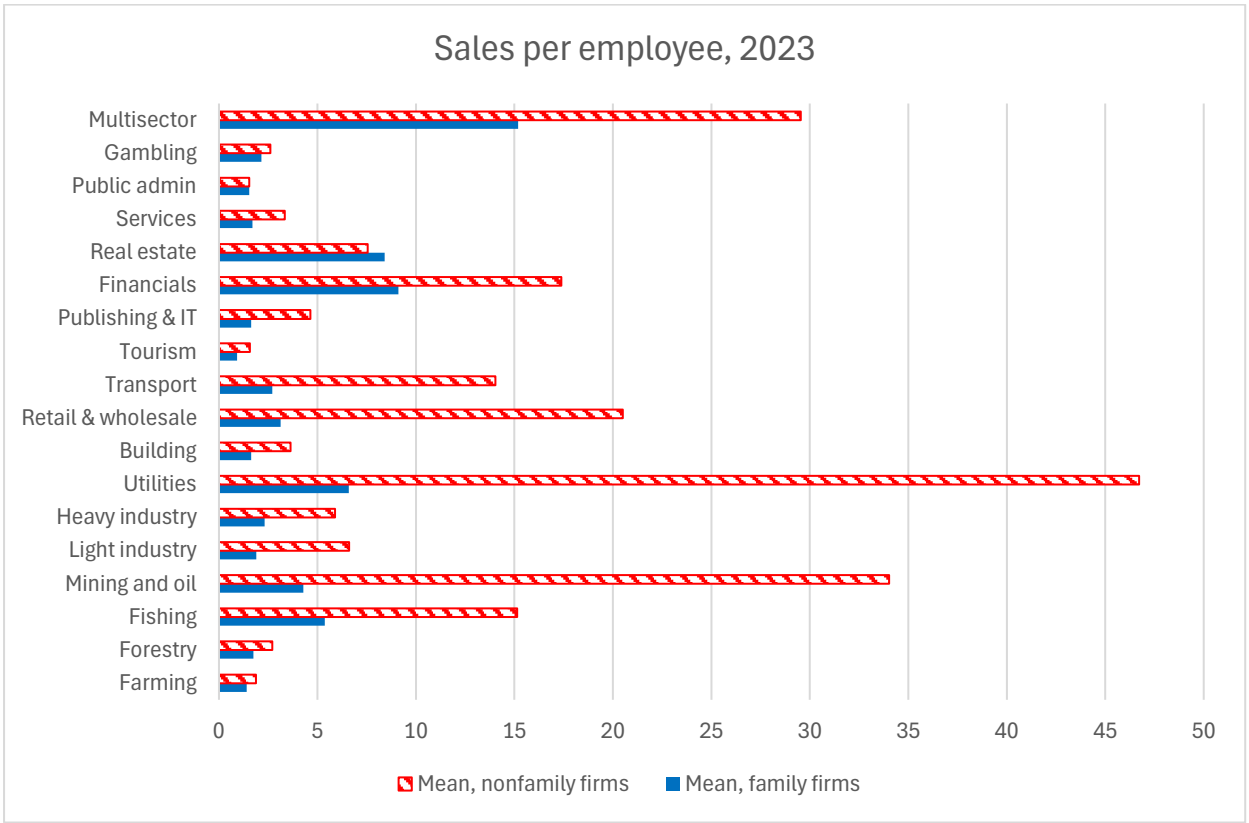
3.5
Median, nonfamily firms
Median, family firms


Sales per employee, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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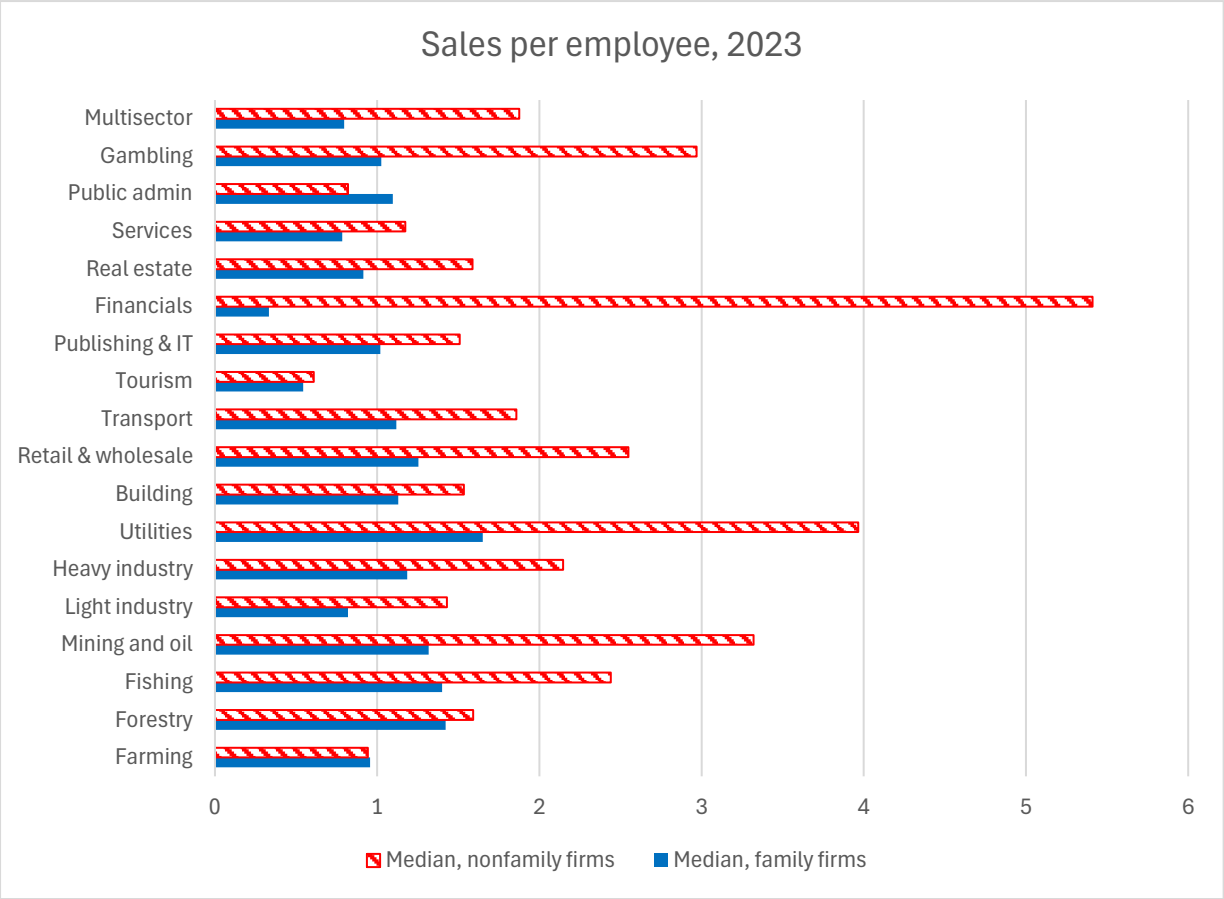
Mean, nonfamily firms
Mean, family firms


Sales per employee, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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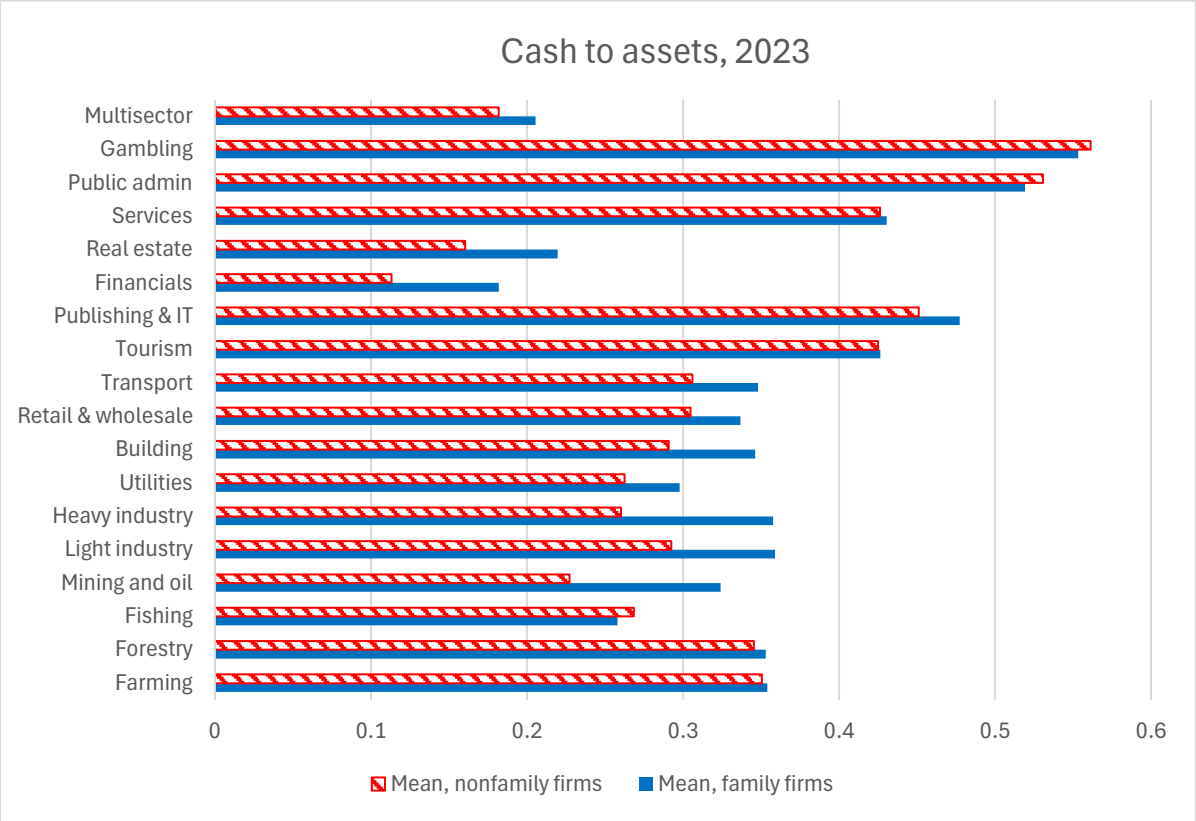
Median, nonfamily firms
Median, family firms


Cash to assets, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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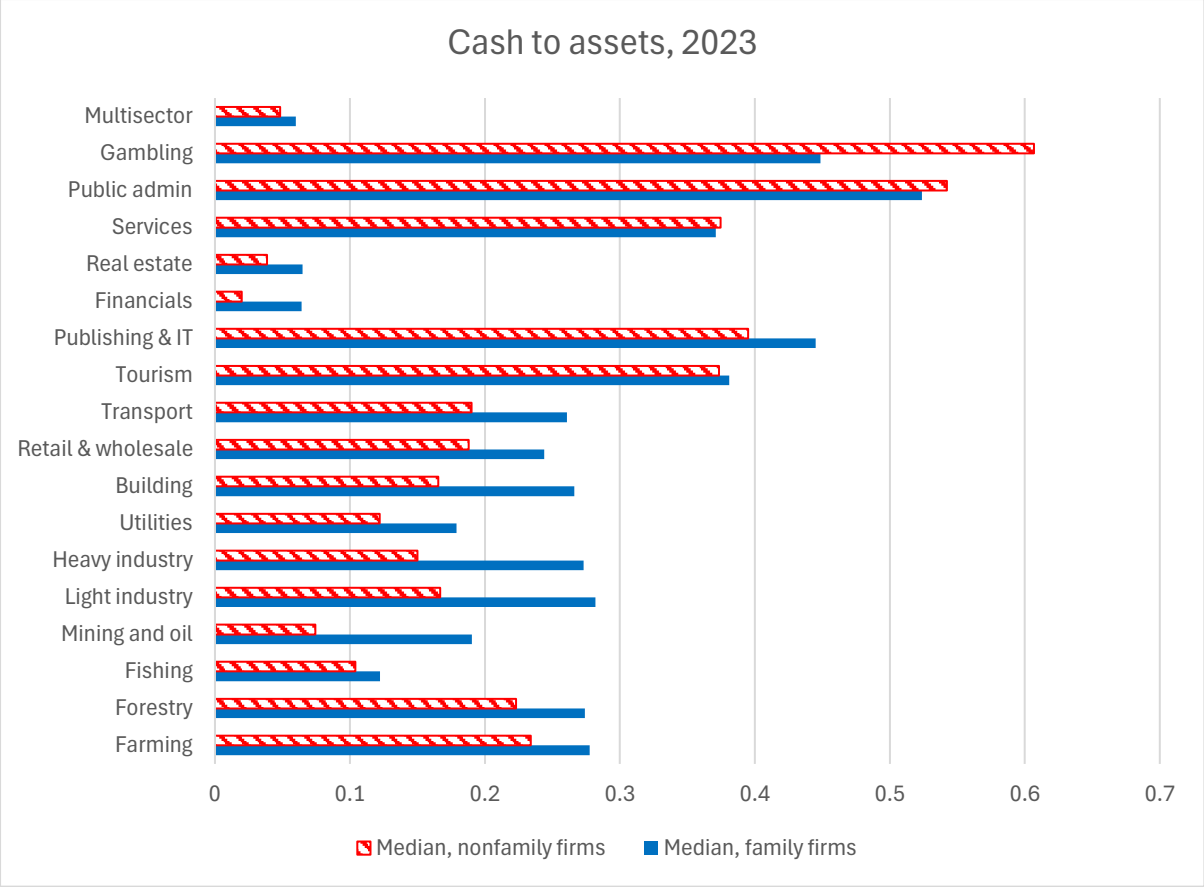
Mean, nonfamily firms
Mean, family firms


Cash to assets, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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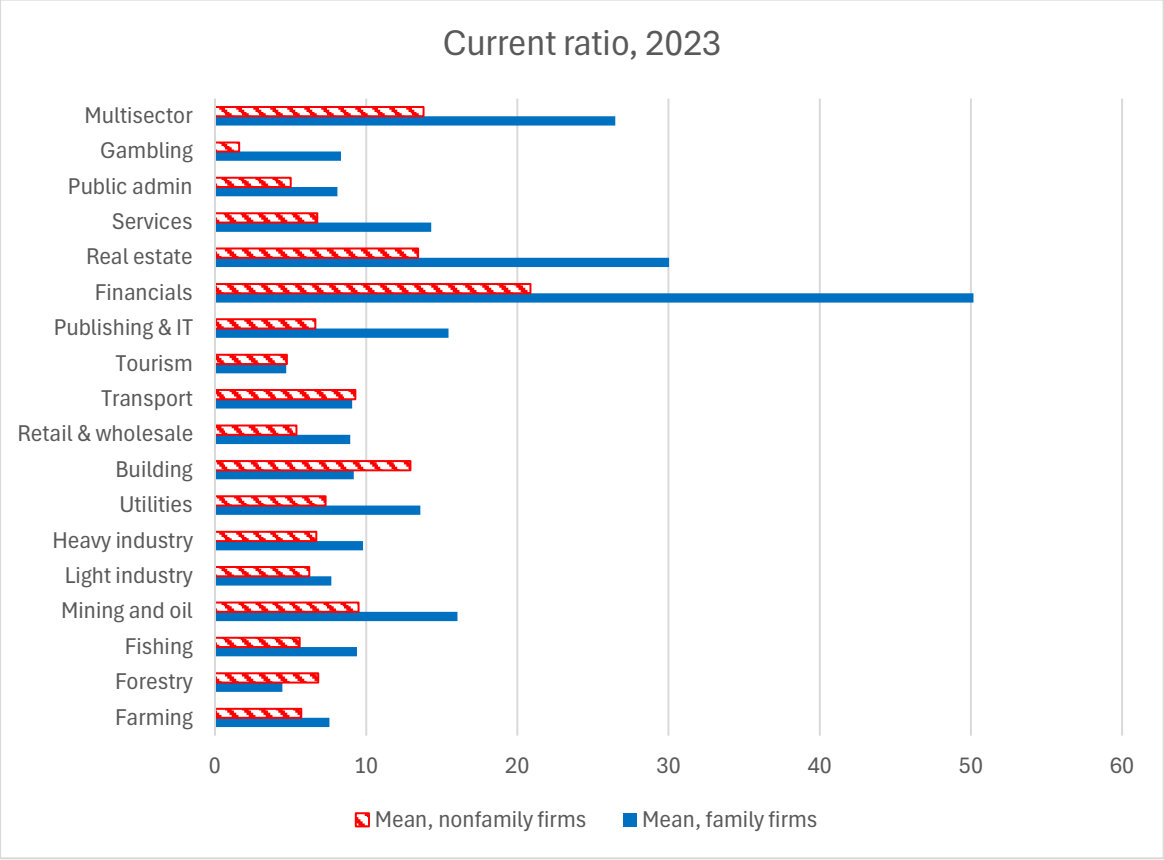
Median, nonfamily firms
Median, family firms


Current ratio, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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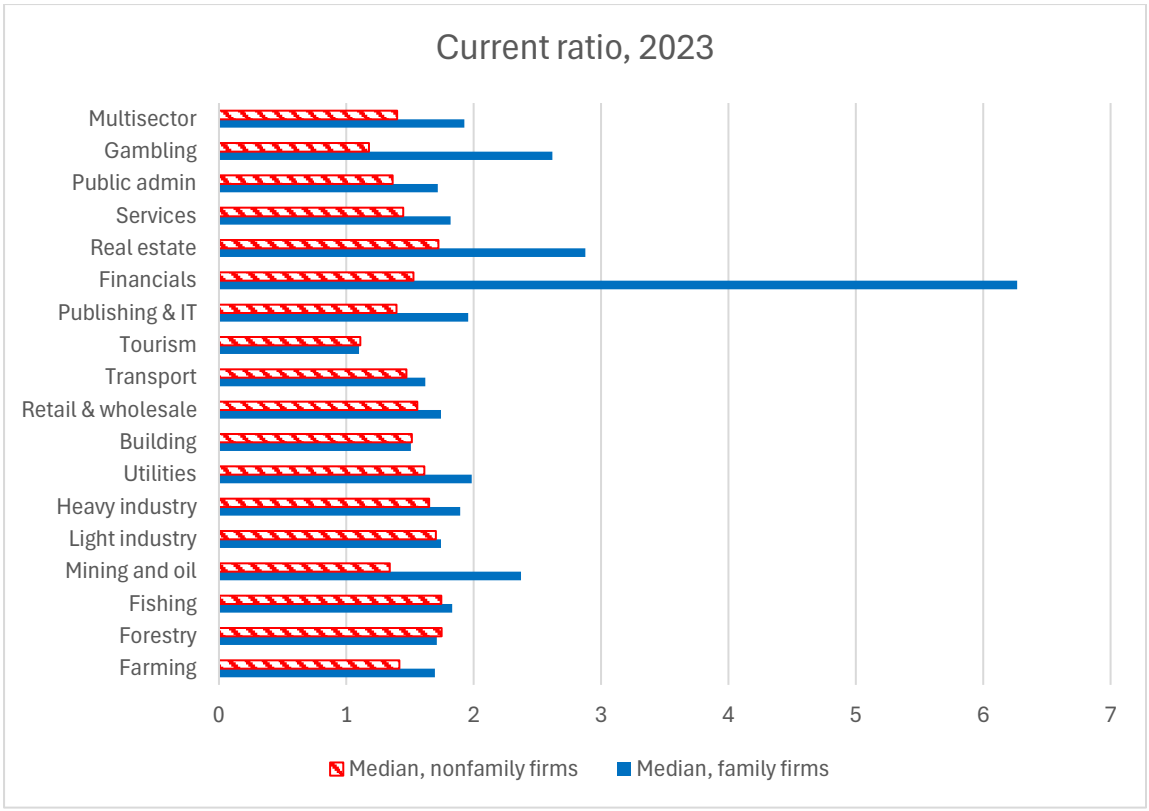
Mean, nonfamily firms
Mean, family firms


Current ratio, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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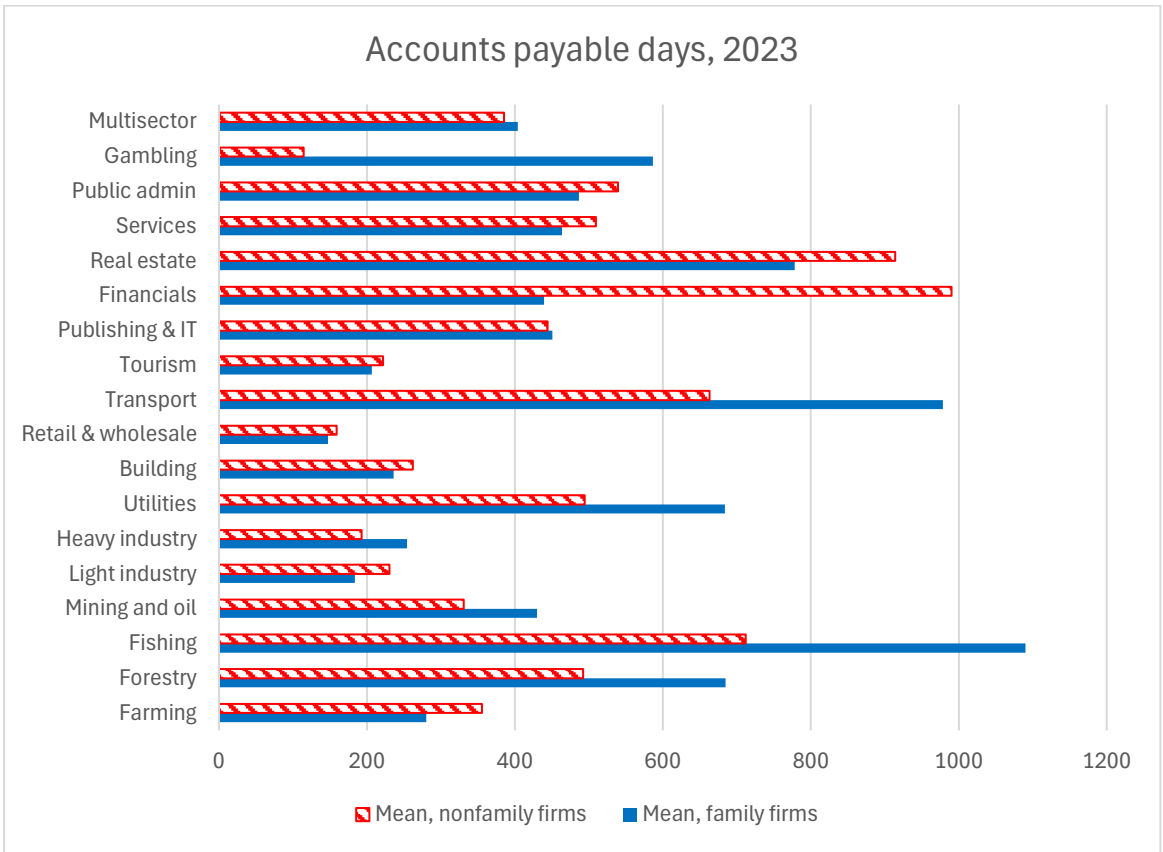
Median, nonfamily firms
Median, family firms


Accounts payable days, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
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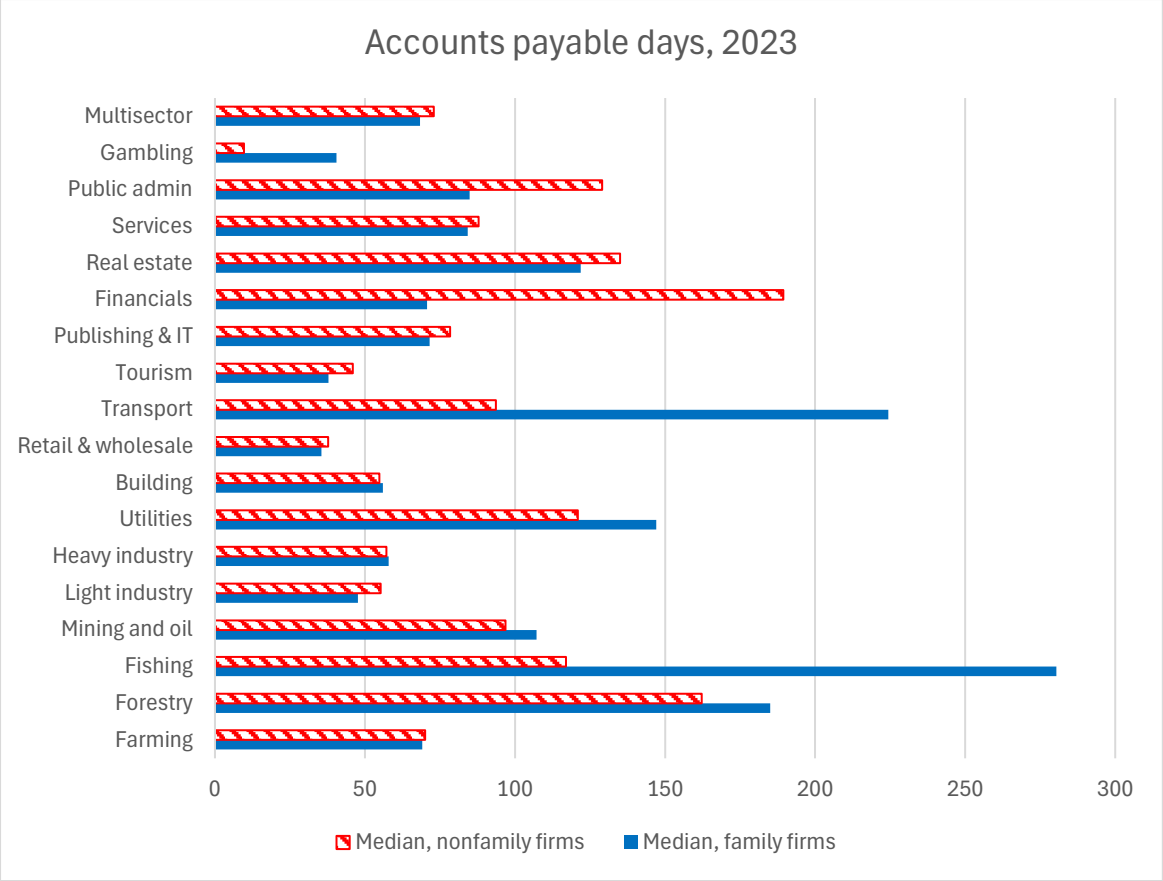
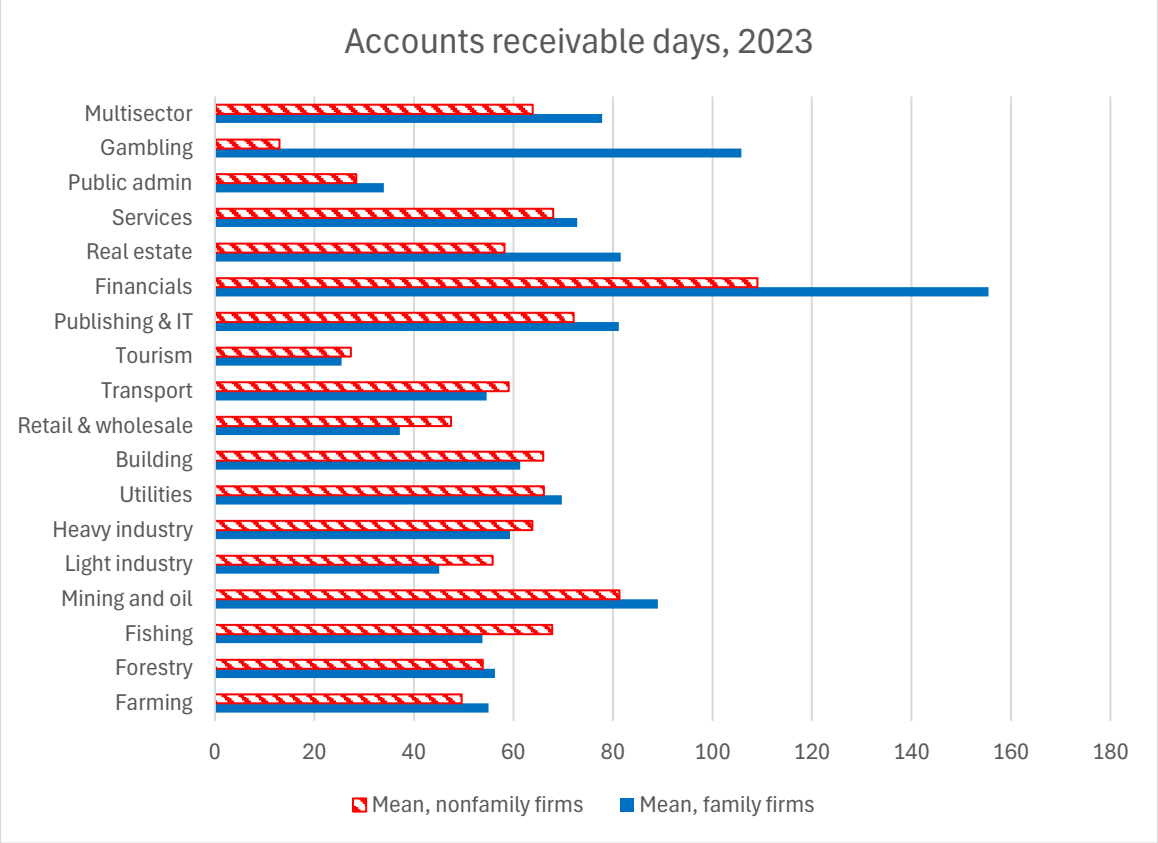
1200
Mean, nonfamily firms
Mean, family firms


Accounts payable days, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0
50
100
150
200
250
300
Median, nonfamily firms
Median, family firms


Accounts receivable days, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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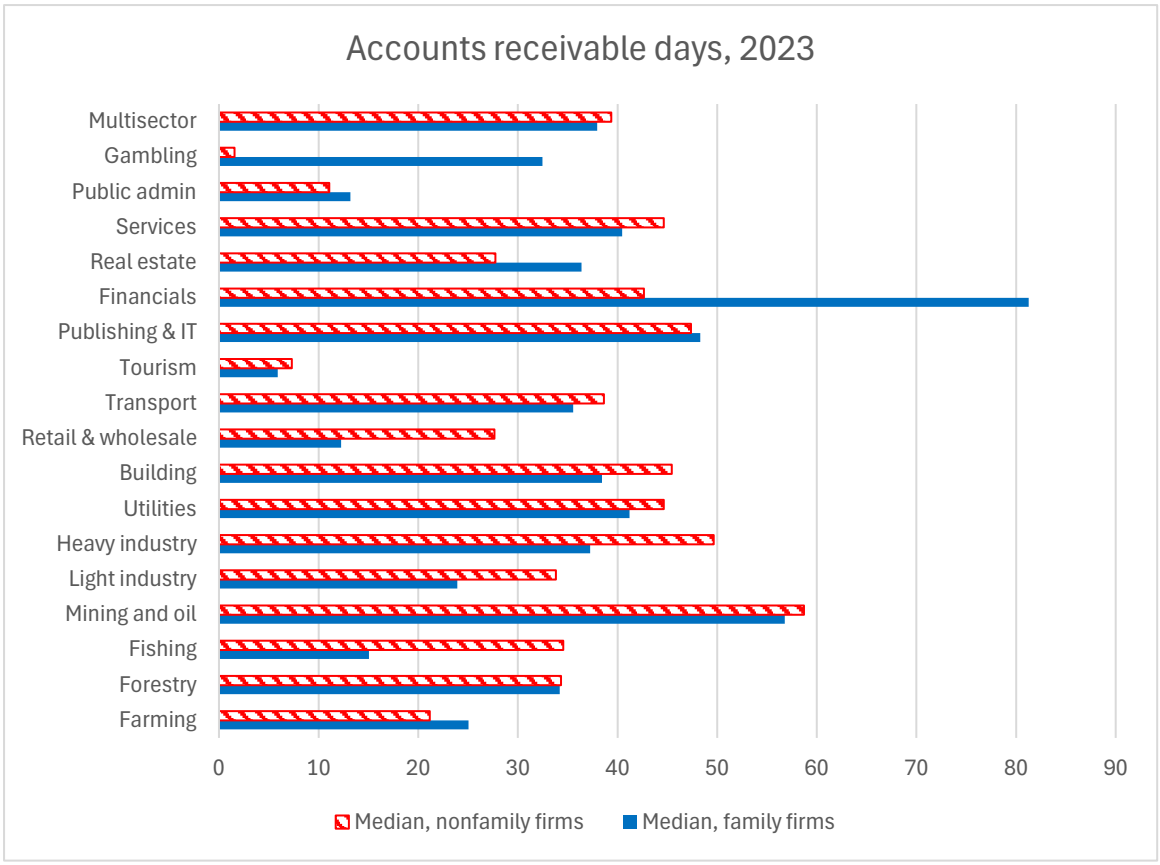
Mean, nonfamily firms
Mean, family firms


Accounts receivable days, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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80
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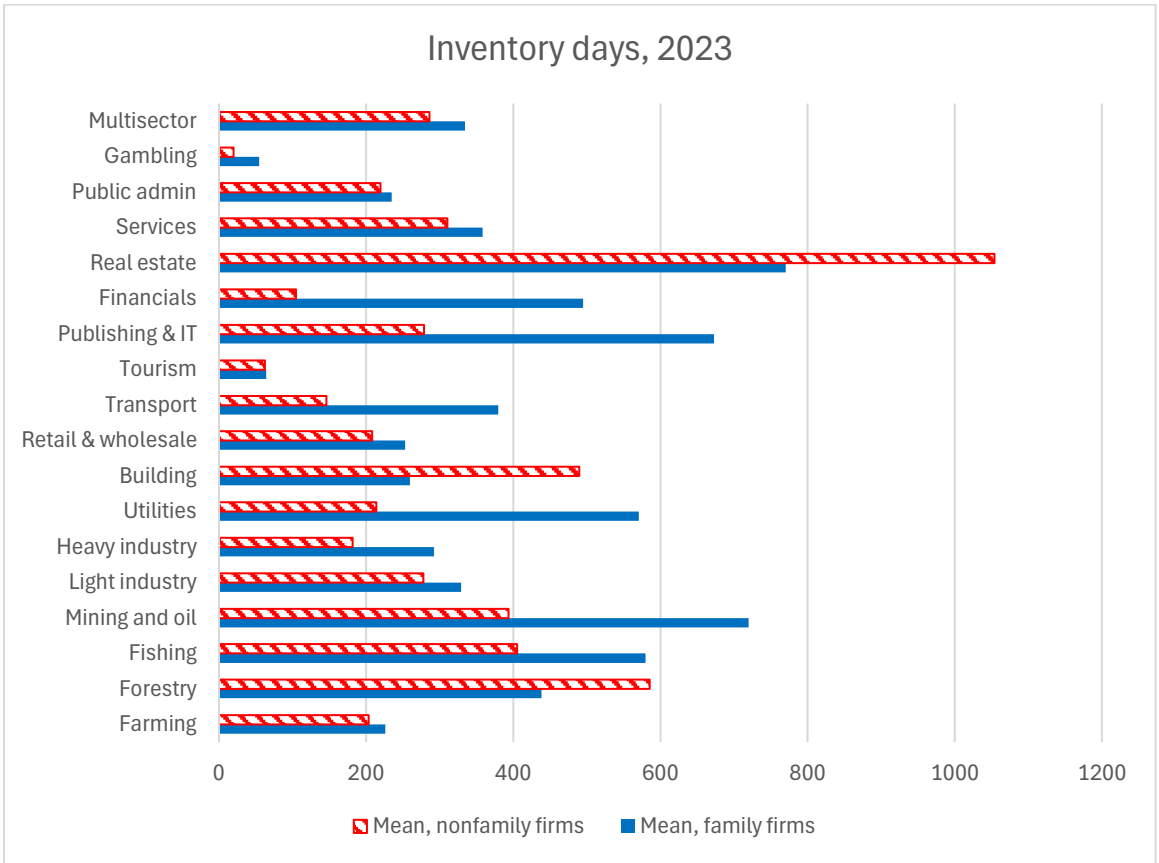
Median, nonfamily firms
Median, family firms


Inventory days, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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800
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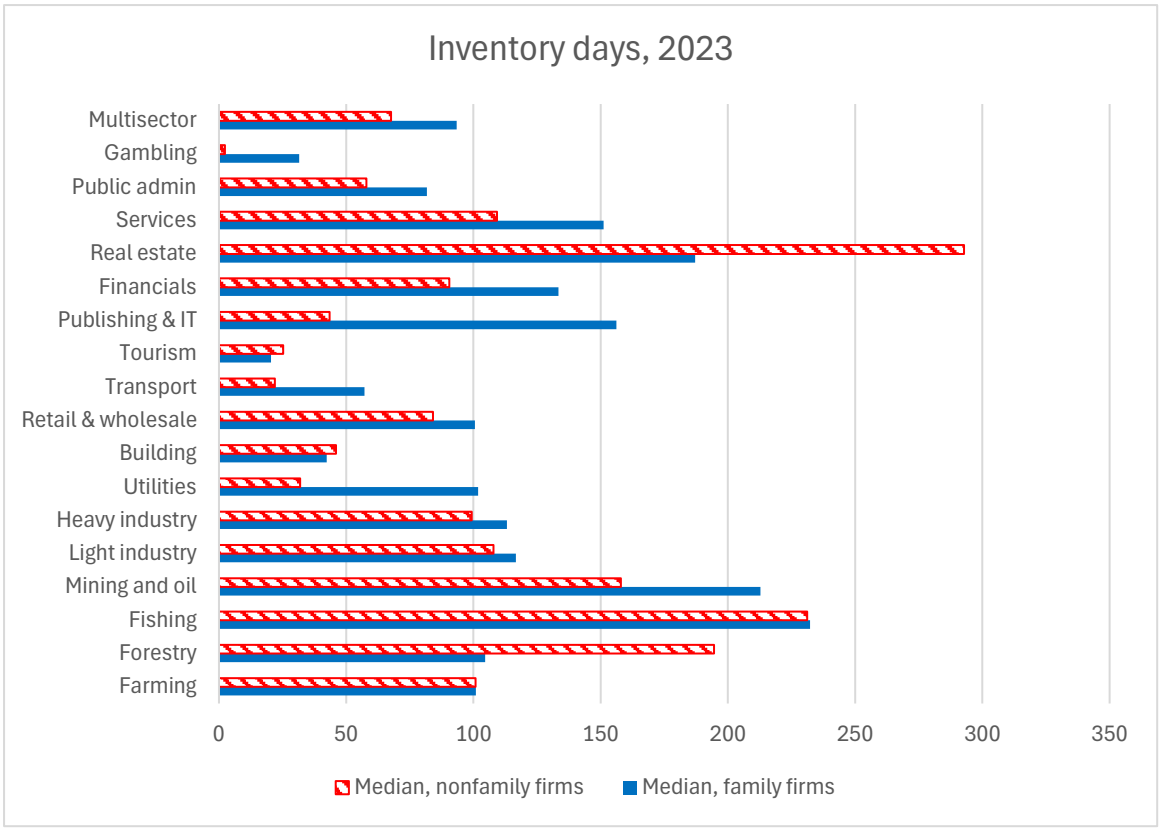
Mean, nonfamily firms
Mean, family firms


Inventory days, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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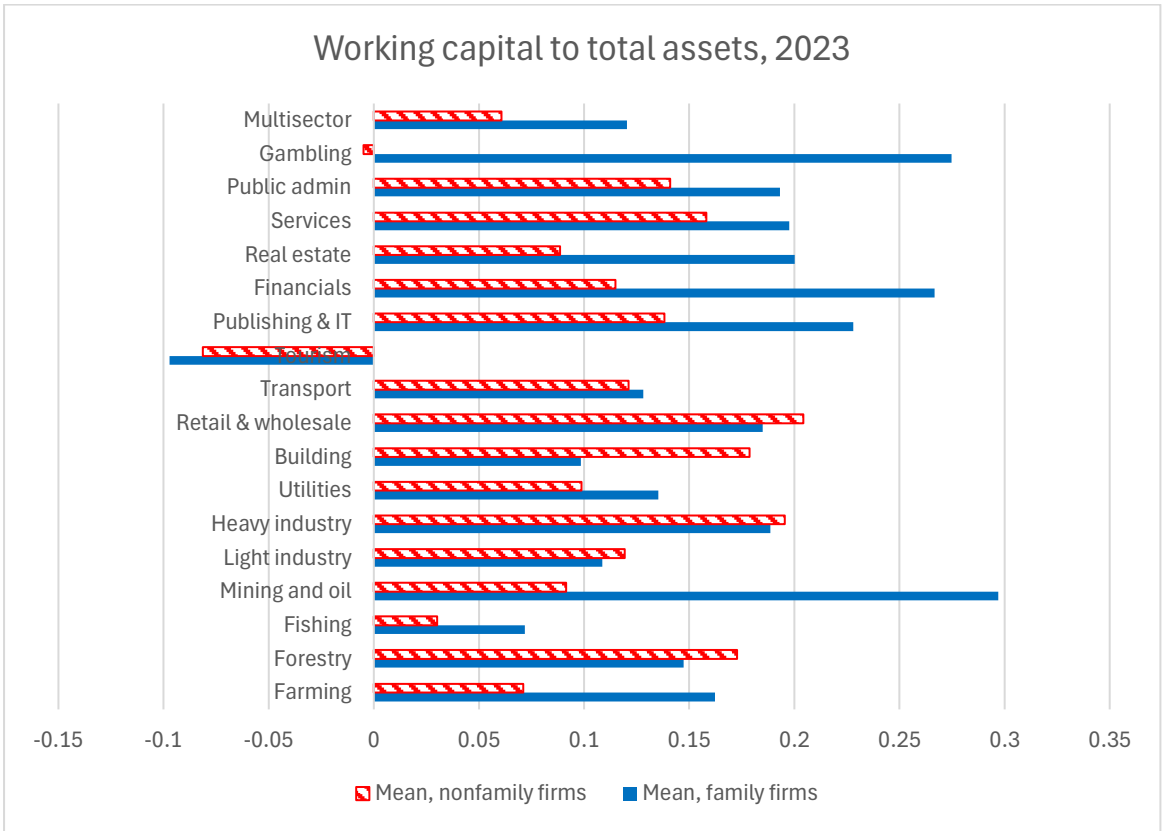
Median, nonfamily firms
Median, family firms


Working capital to total assets, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-0.15
-0.1
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0.05
0.1
0.15
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0.3
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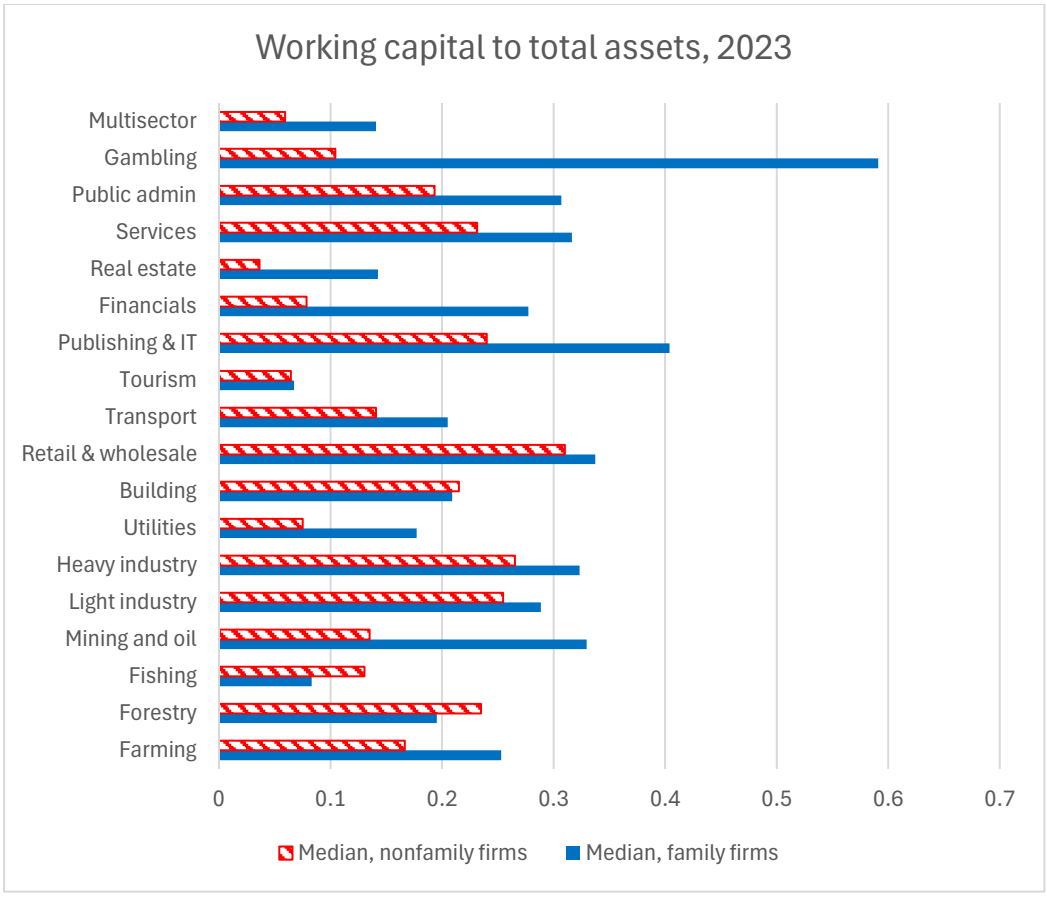
Mean, nonfamily firms
Mean, family firms


Working capital to total assets, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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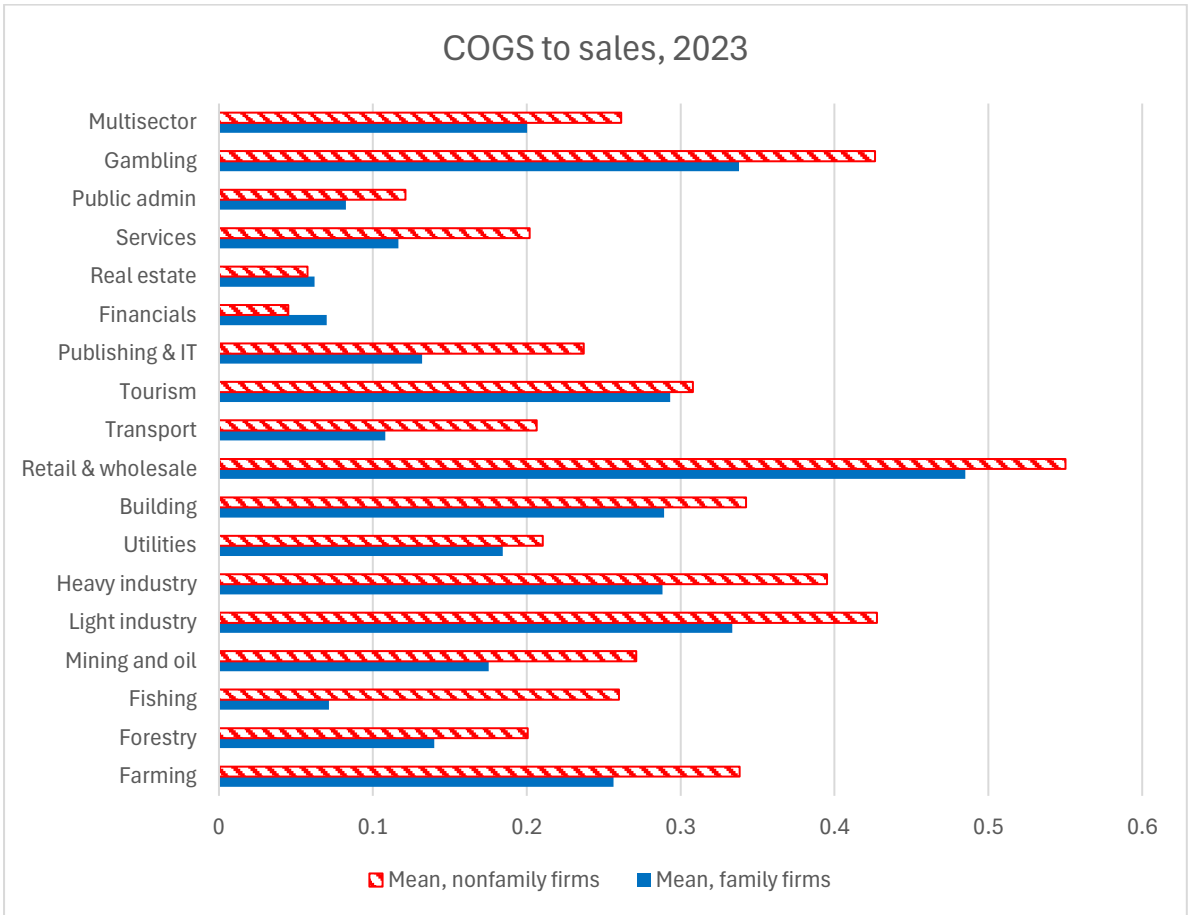
Median, nonfamily firms
Median, family firms


COGS to sales, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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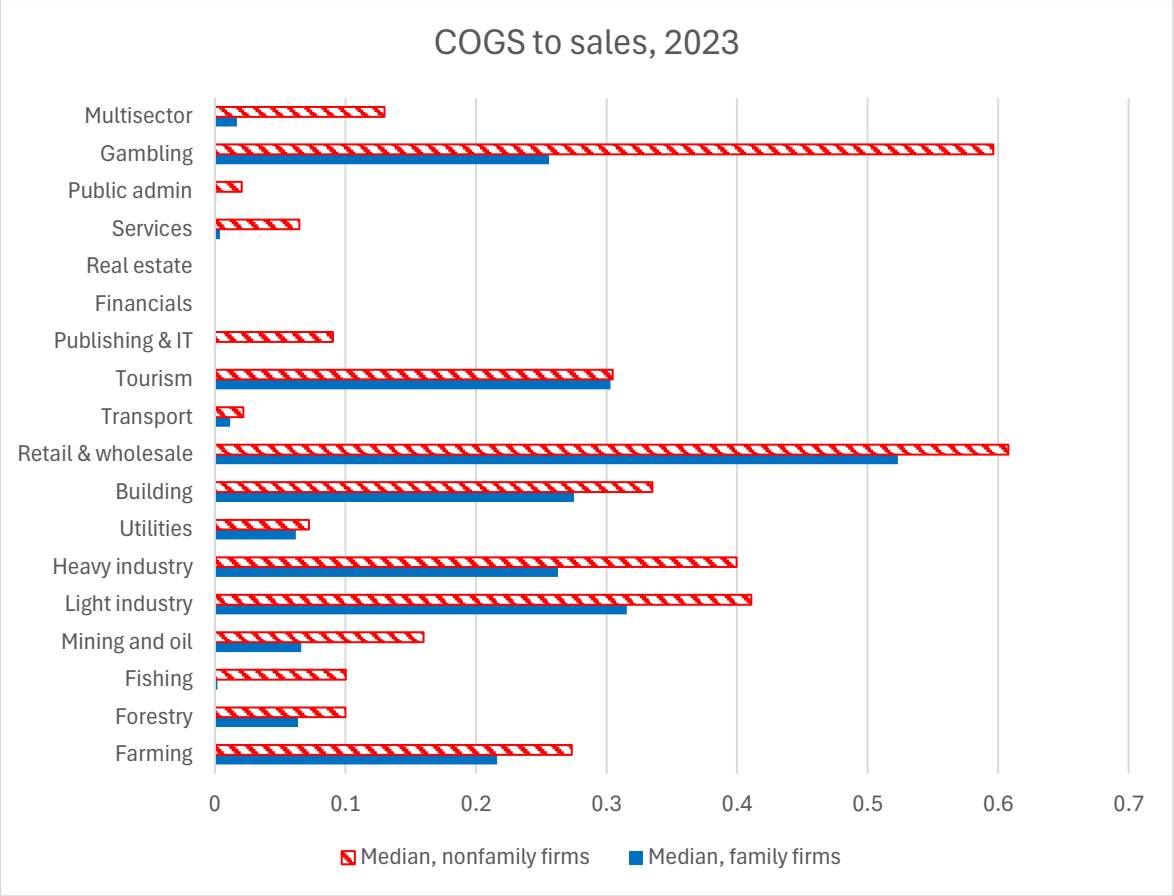
Mean, nonfamily firms
Mean, family firms


COGS to sales, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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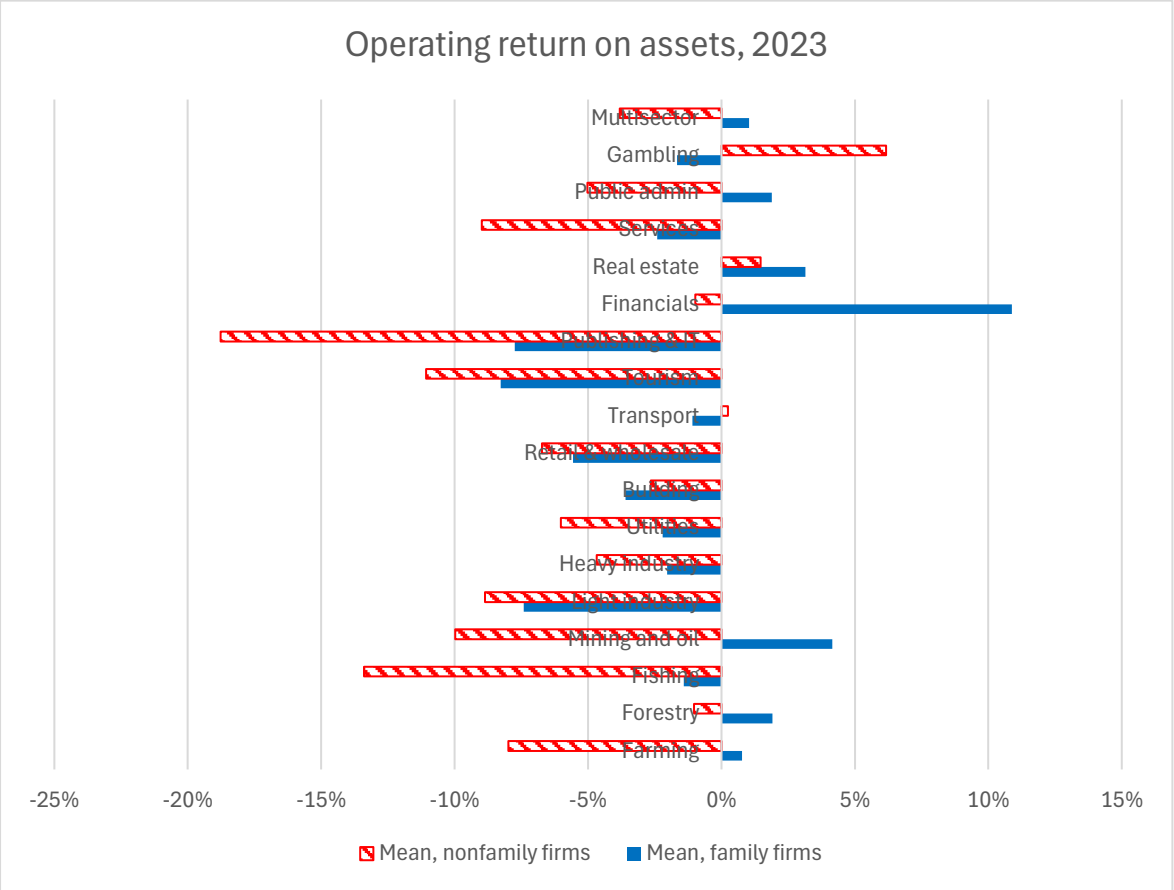
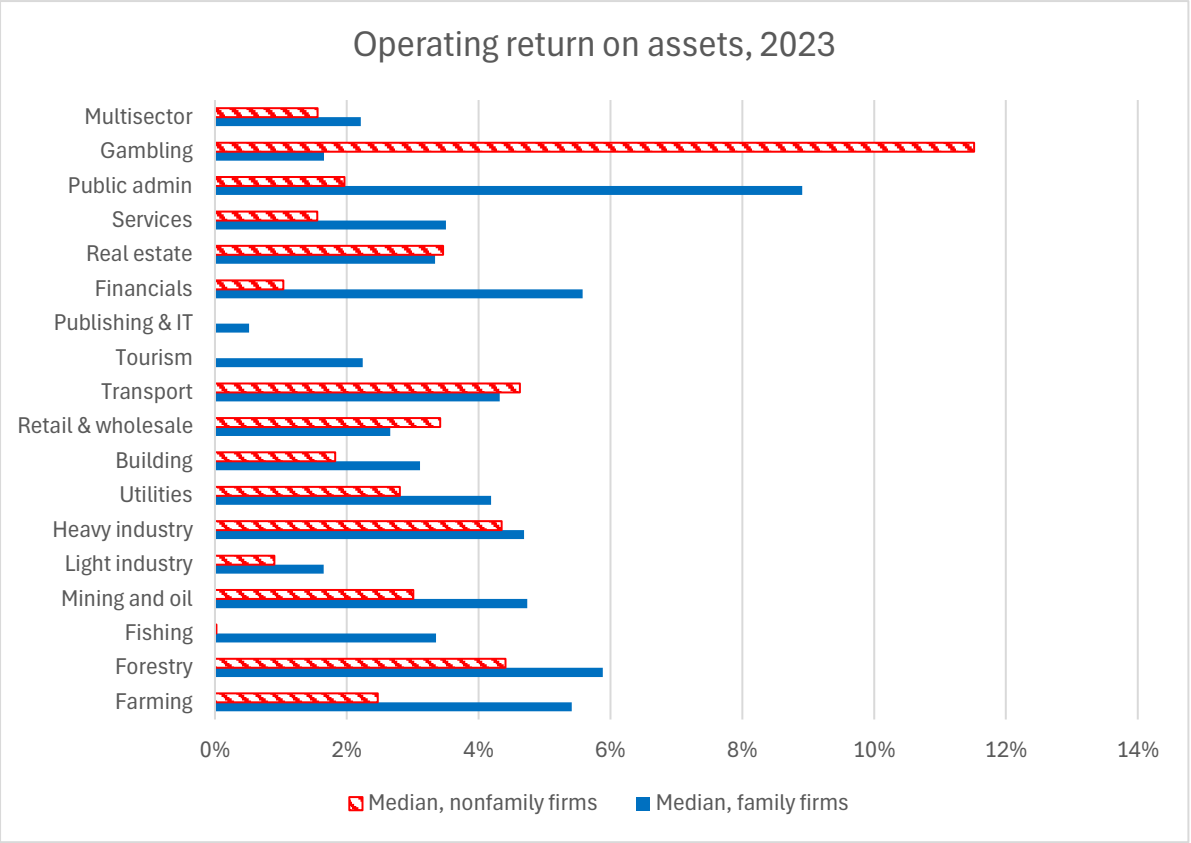
Median, nonfamily firms
Median, family firms


Operating return on assets, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-25%
-20%
-15%
-10%
-5%
0%
5%
10%
15%
Mean, nonfamily firms
Mean, family firms


Operating return on assets, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0%
2%
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6%
8%
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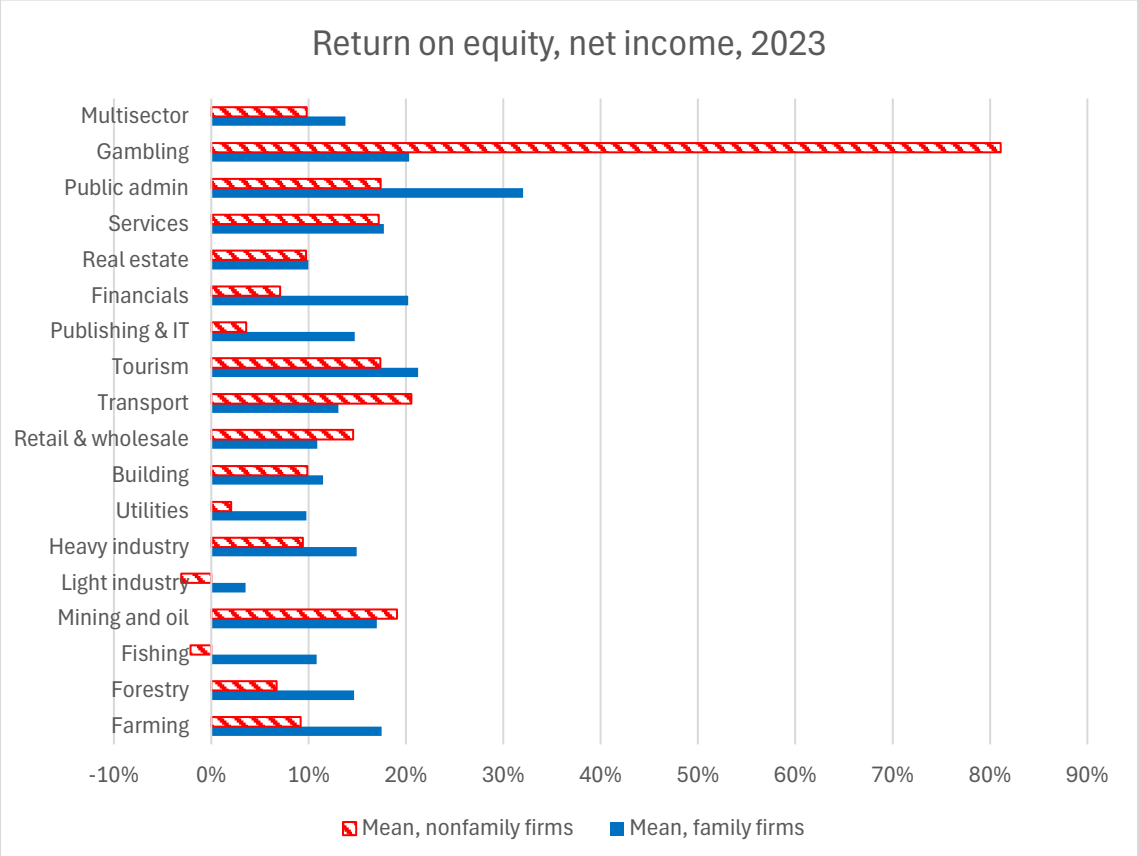
12%
14%
Median, nonfamily firms
Median, family firms


Return on equity, net income, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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10%
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60%
70%
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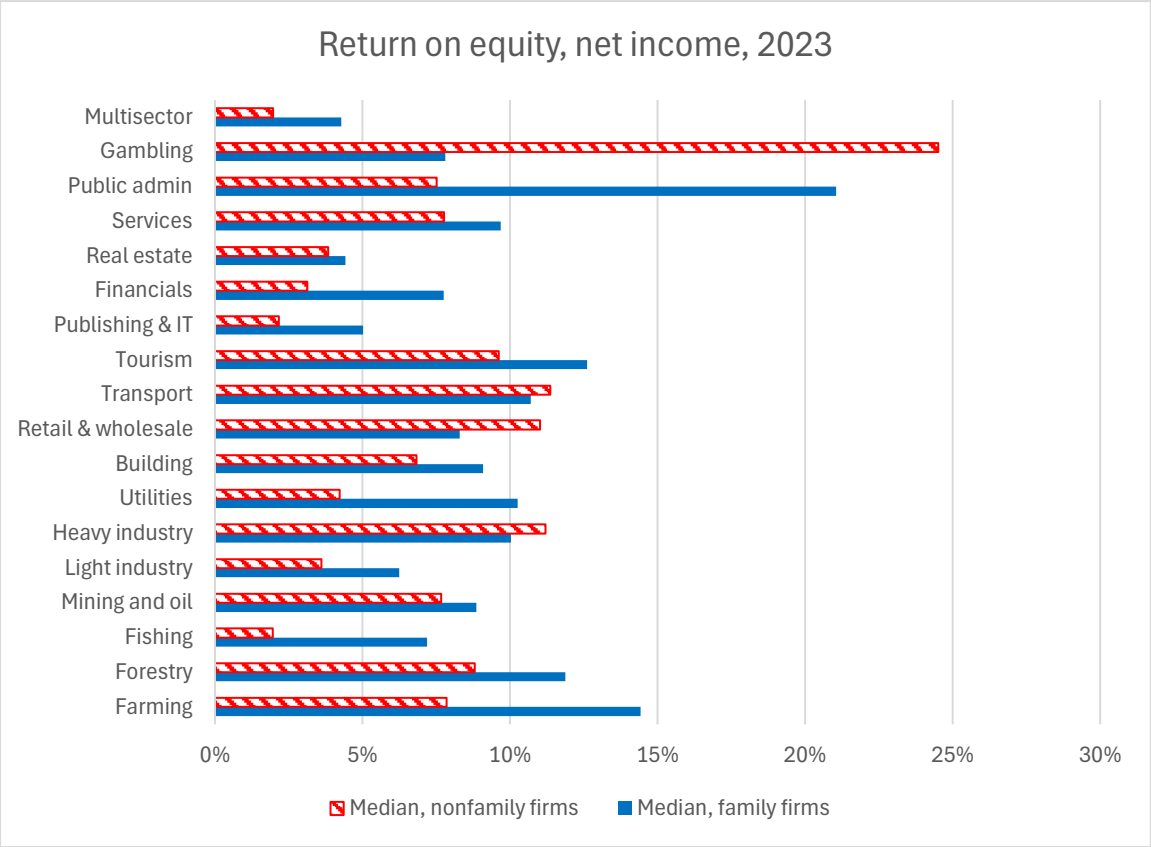
90%
Mean, nonfamily firms
Mean, family firms


Return on equity, net income, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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25%
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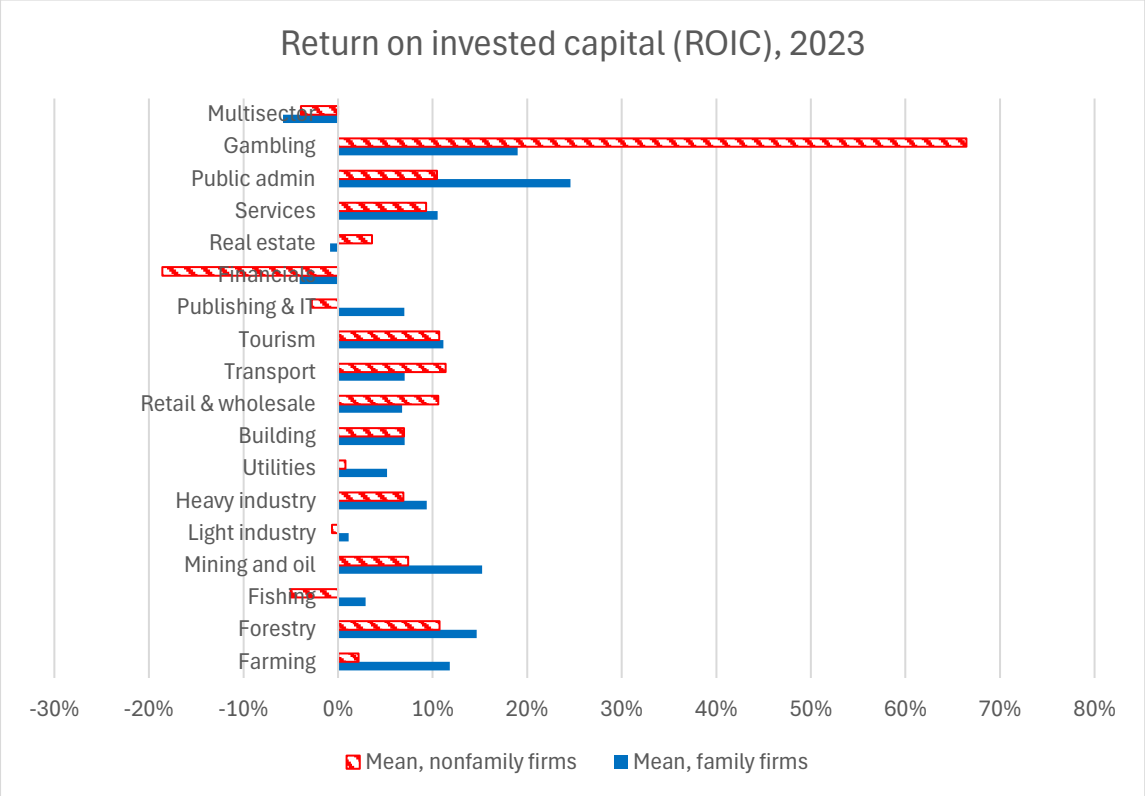
Median, nonfamily firms
Median, family firms


Return on invested capital (ROIC), 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-30%
-20%
-10%
0%
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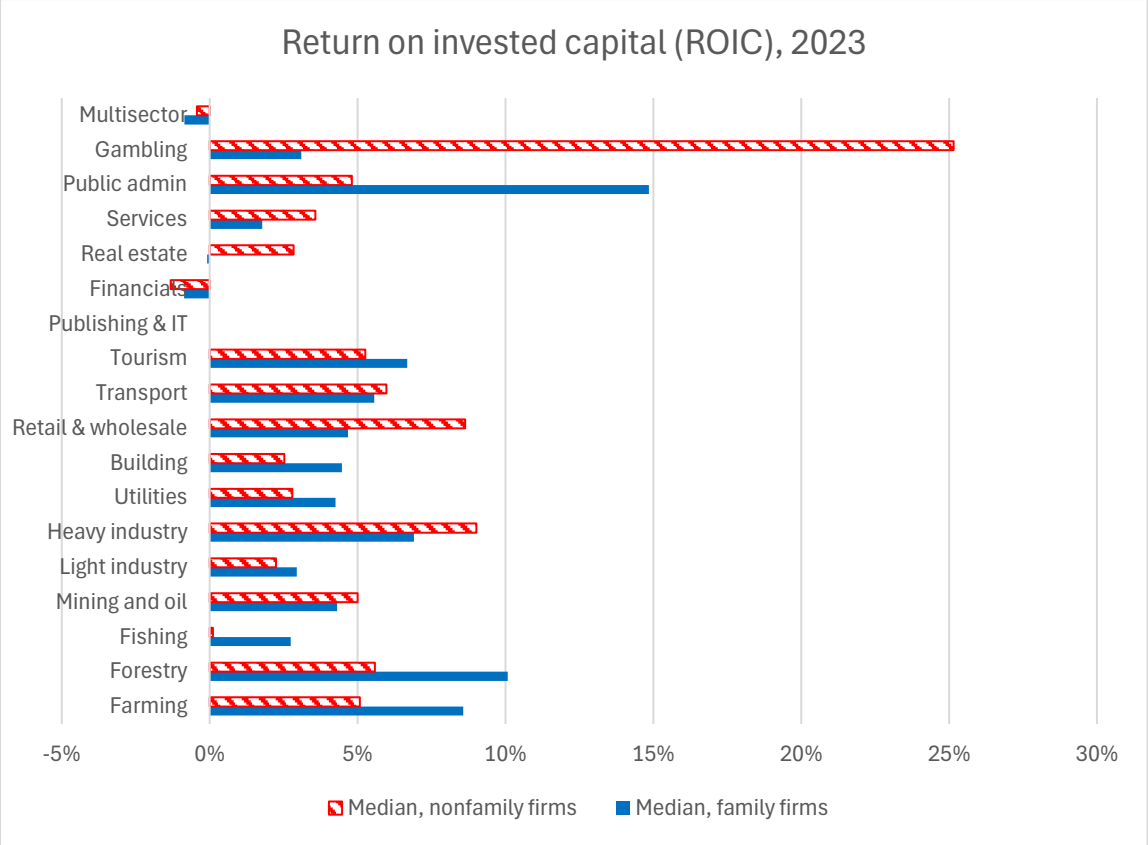
80%
Mean, nonfamily firms
Mean, family firms


Return on invested capital (ROIC), 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-5%
0%
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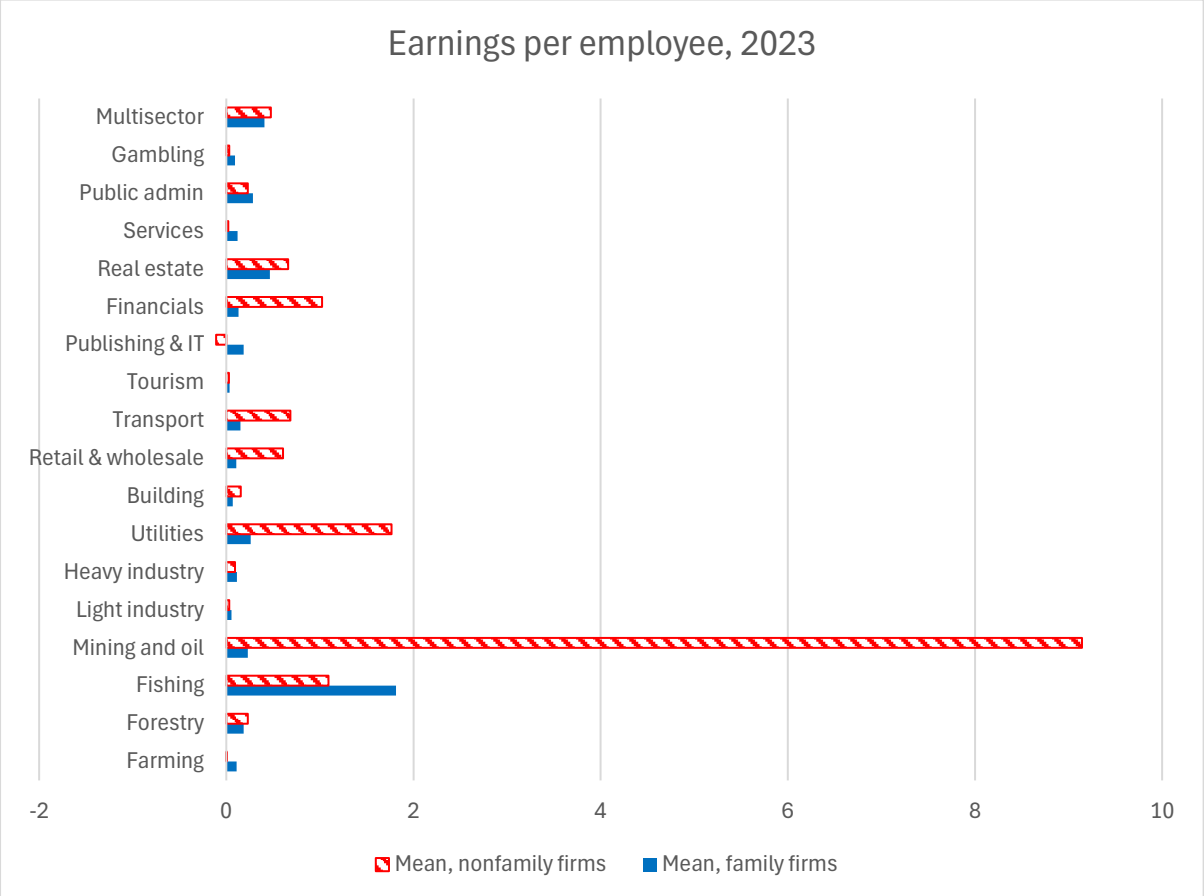
15%
20%
25%
30%
Median, nonfamily firms
Median, family firms


Earnings per employee, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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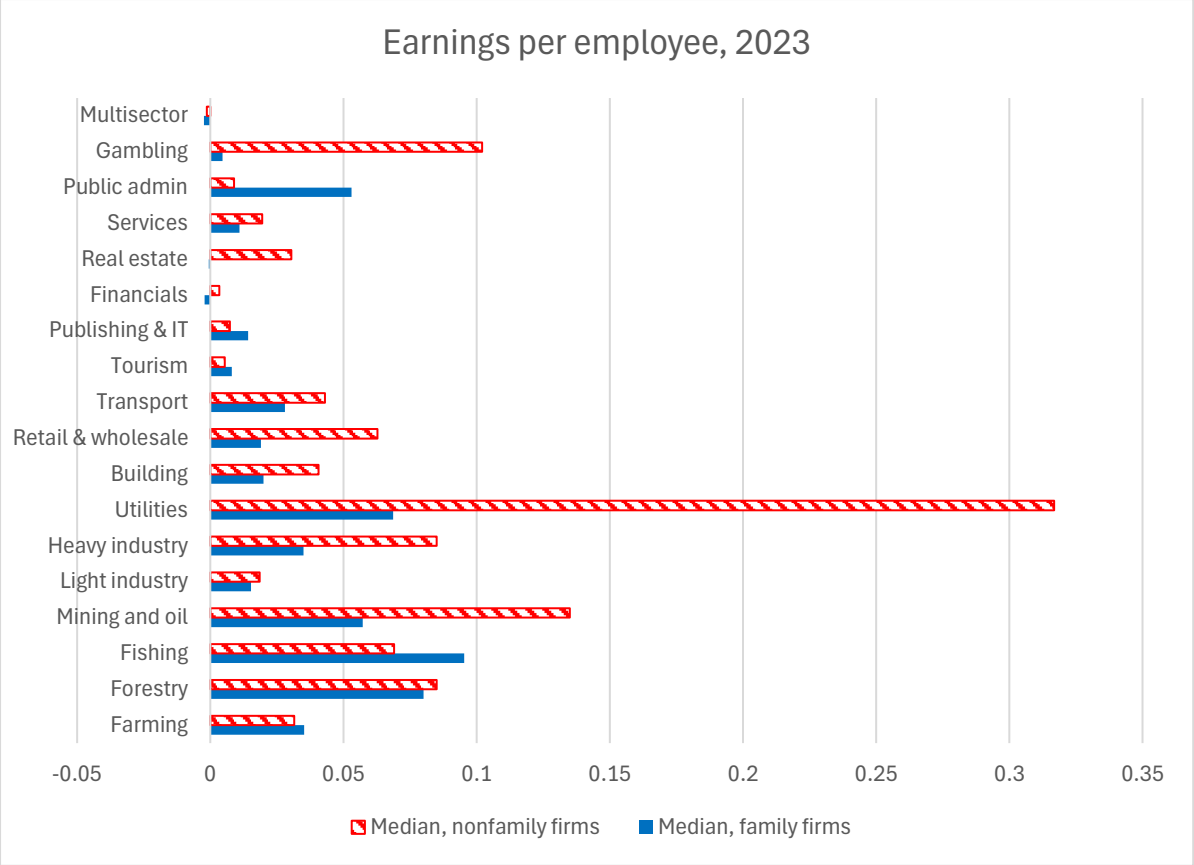
Mean, nonfamily firms
Mean, family firms


Earnings per employee, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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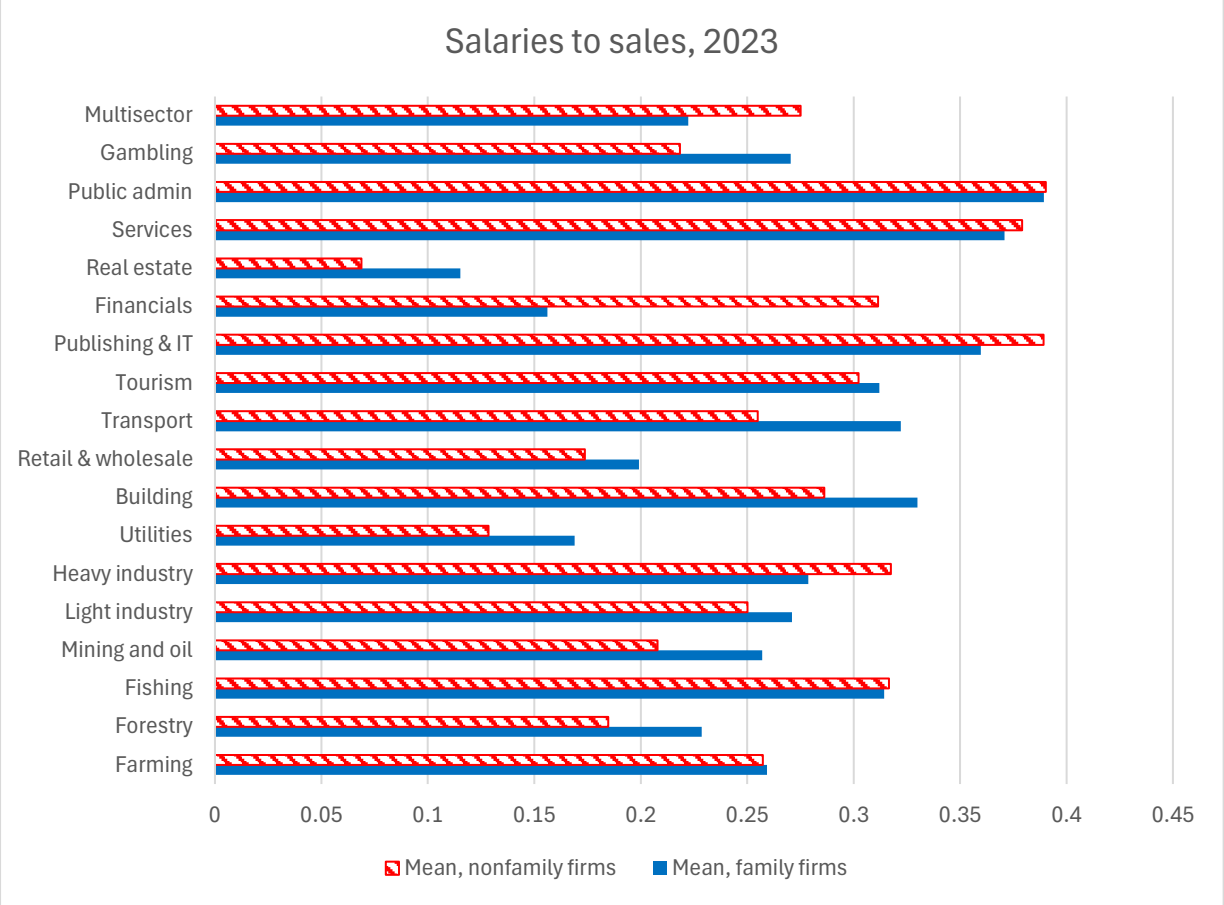
Median, nonfamily firms
Median, family firms


Salaries to sales, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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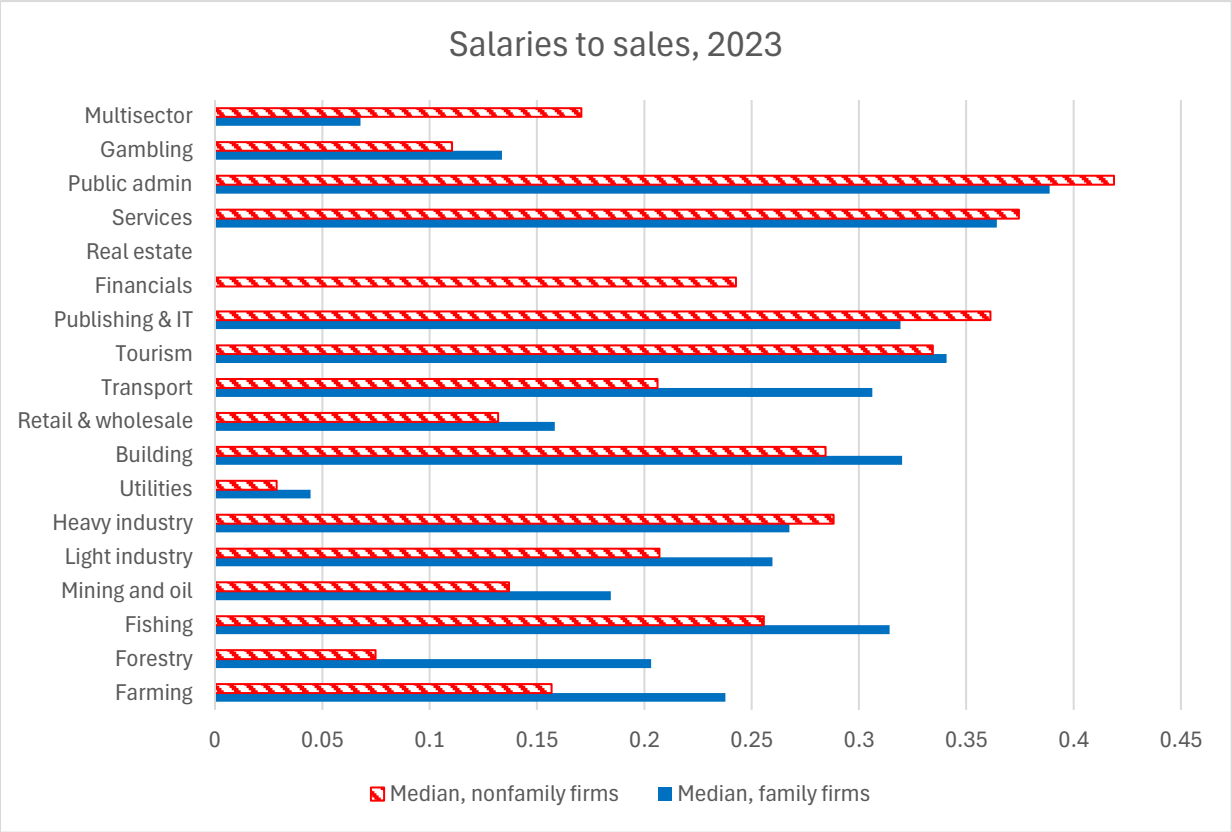
Mean, nonfamily firms
Mean, family firms


Salaries to sales, 2023
Multisector
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Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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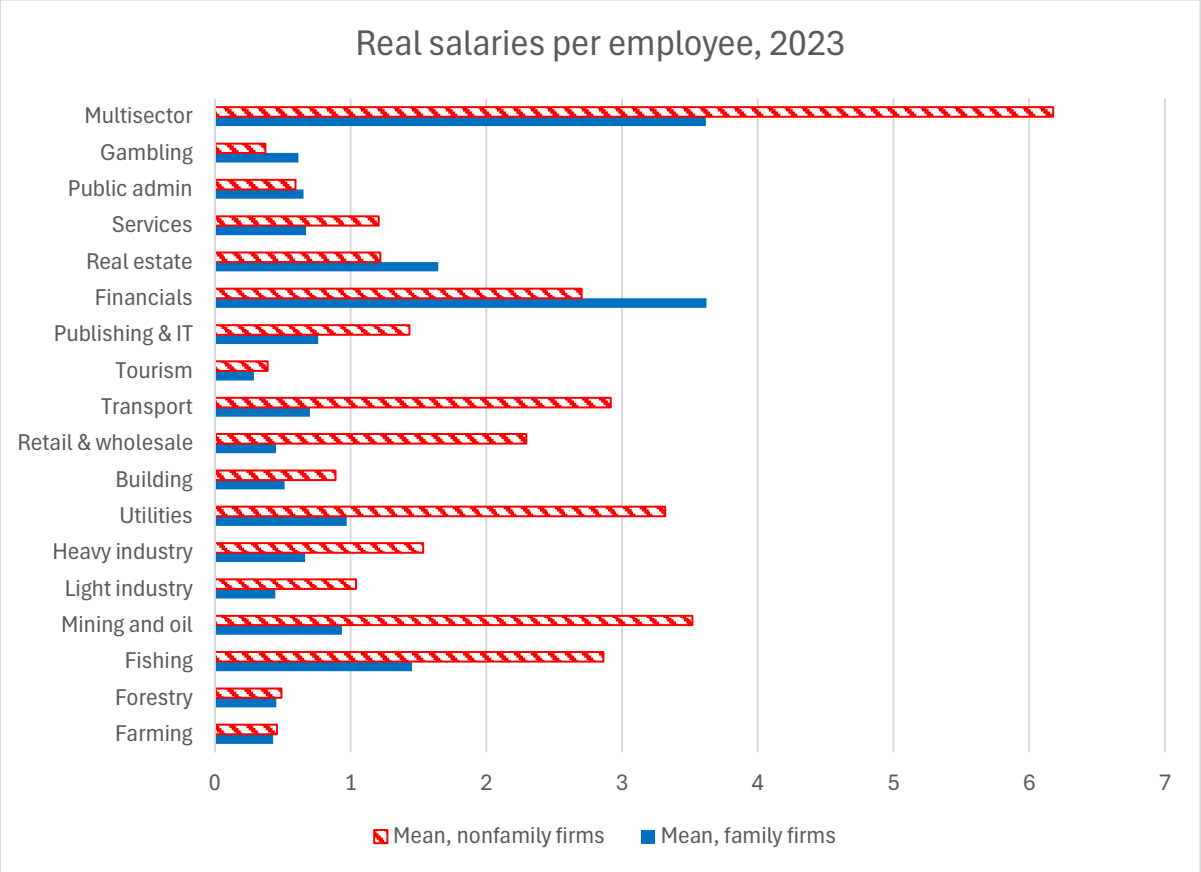
Median, nonfamily firms
Median, family firms


Real salaries per employee, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
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Forestry
Farming
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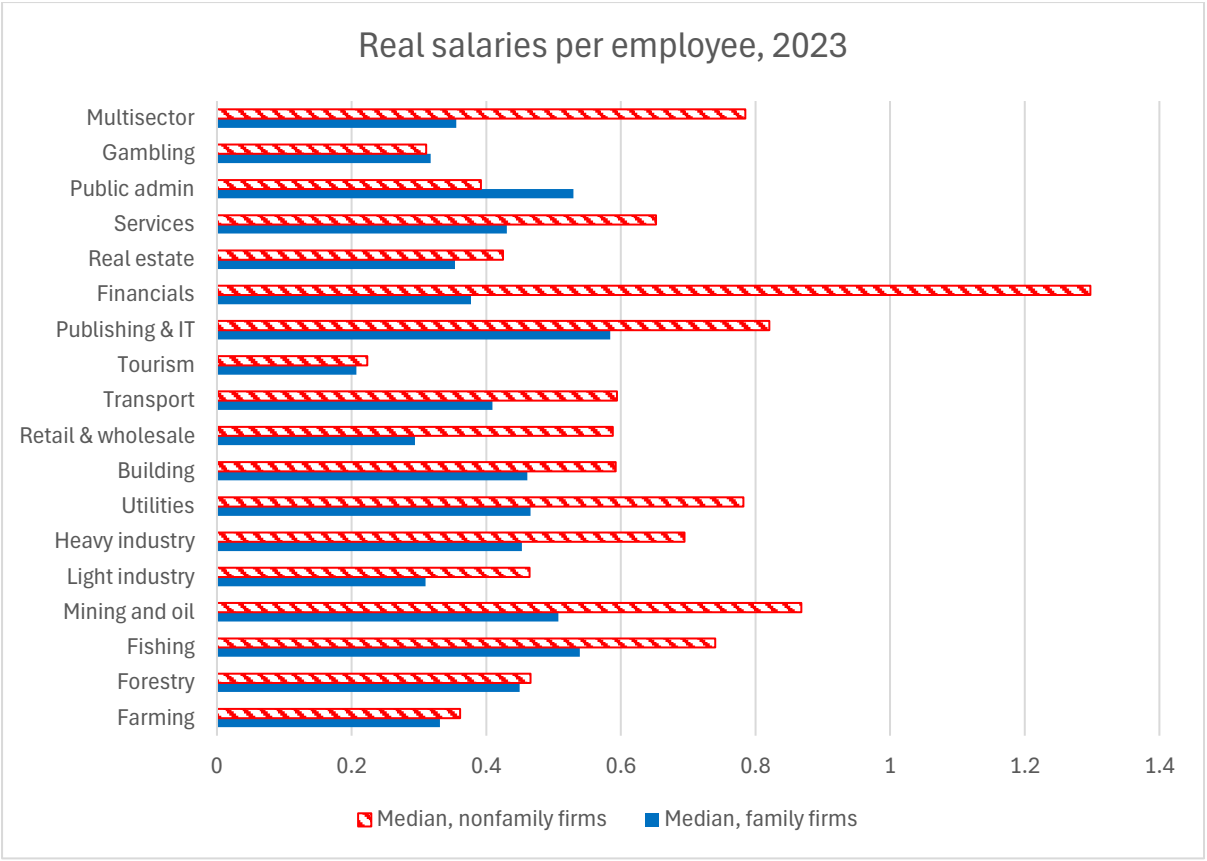
Mean, nonfamily firms
Mean, family firms


Real salaries per employee, 2023
Multisector
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Real estate
Financials
Publishing & IT
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Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
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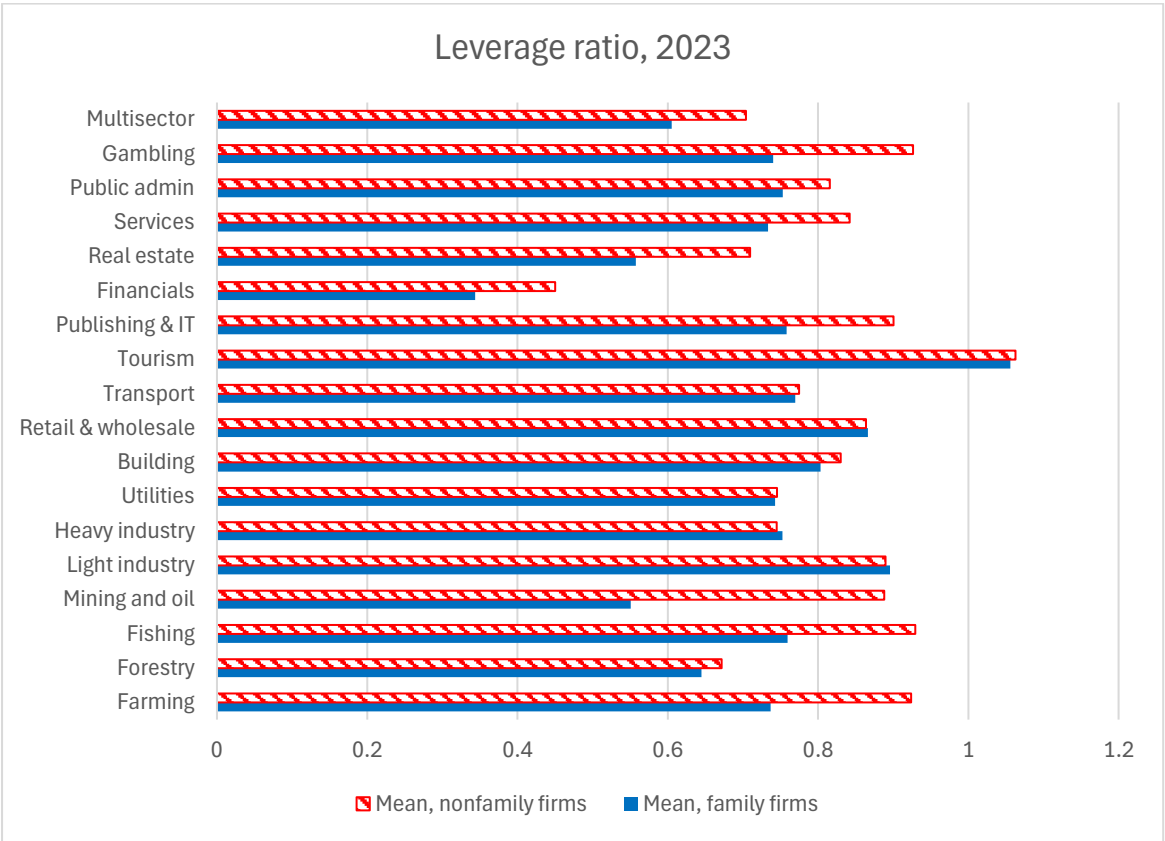
Median, nonfamily firms
Median, family firms


Leverage ratio, 2023
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Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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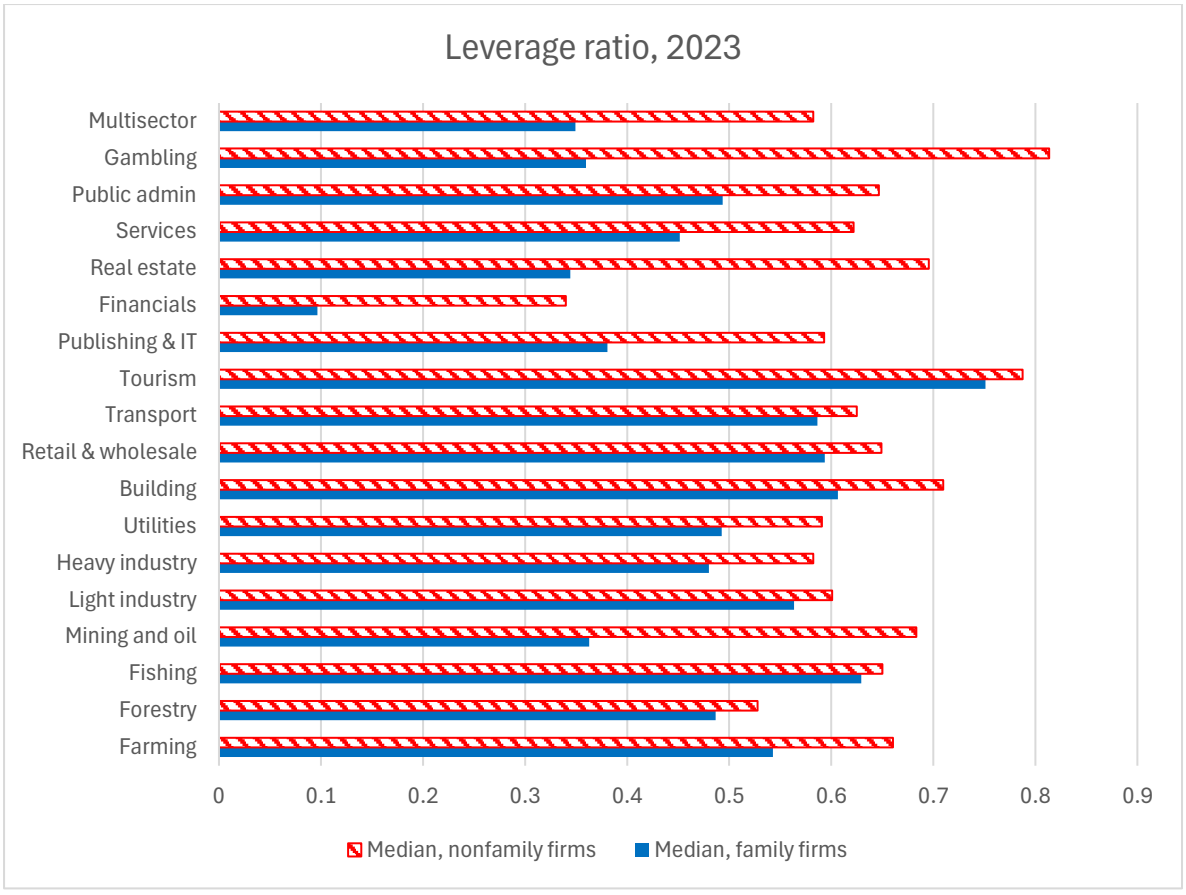
1.2
Mean, nonfamily firms
Mean, family firms


Leverage ratio, 2023
Multisector
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Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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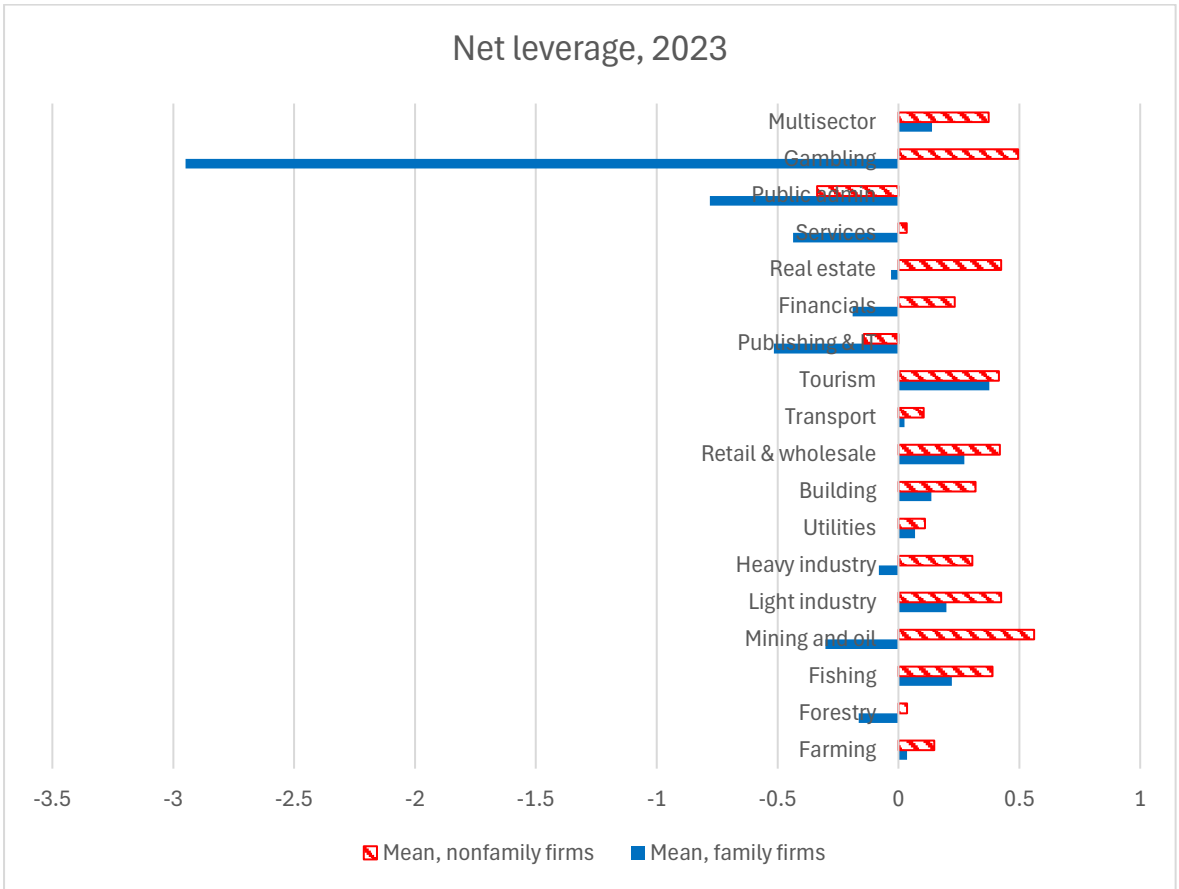
Median, nonfamily firms
Median, family firms


Net leverage, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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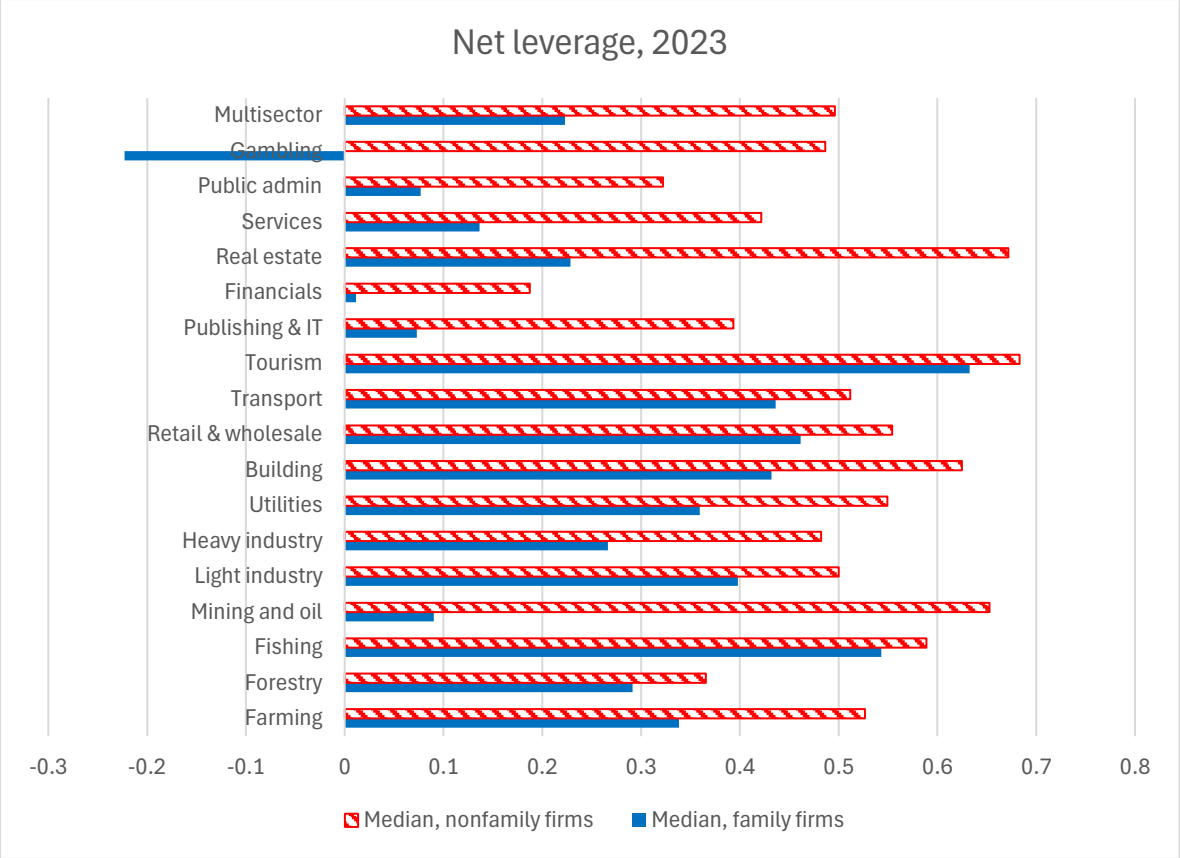
Mean, nonfamily firms
Mean, family firms


Net leverage, 2023
Multisector
Gambling
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Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
-0.3
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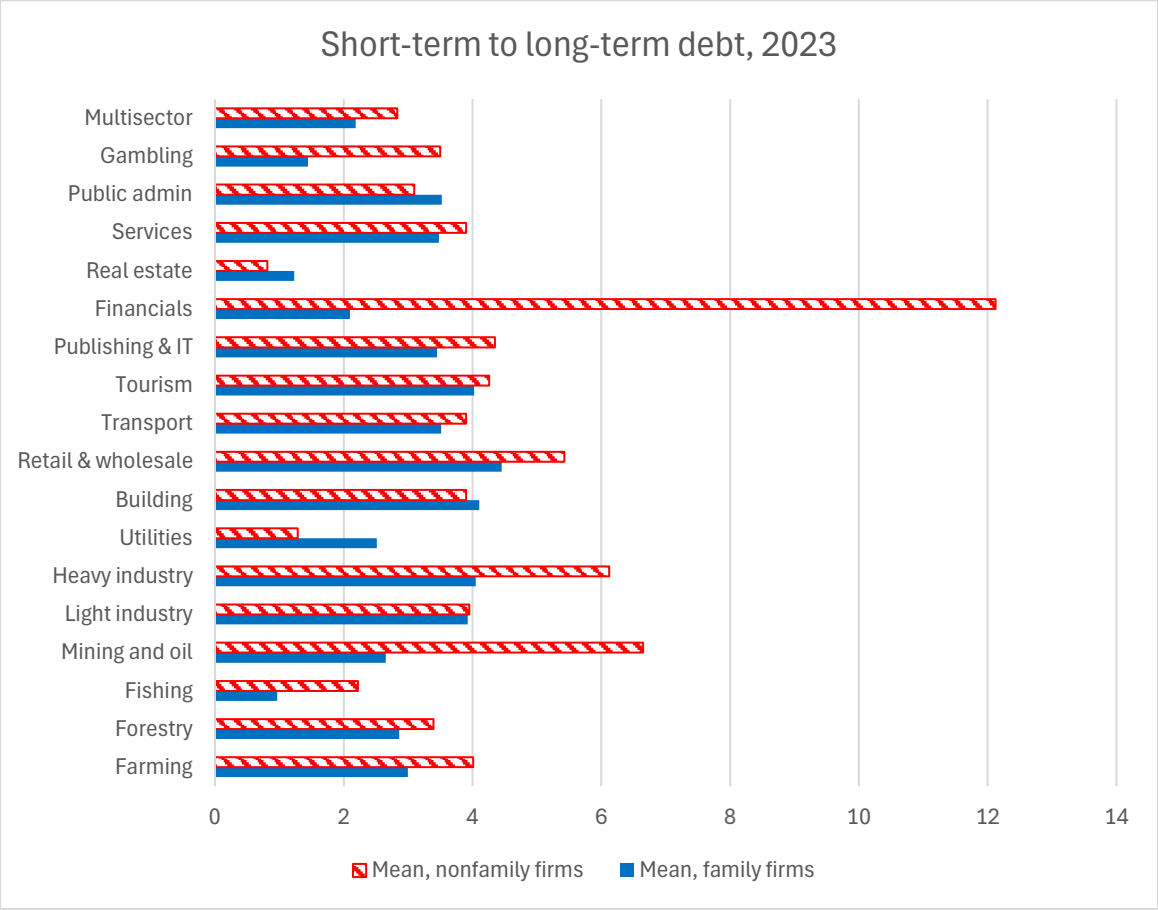
Median, nonfamily firms
Median, family firms


Short-term to long-term debt, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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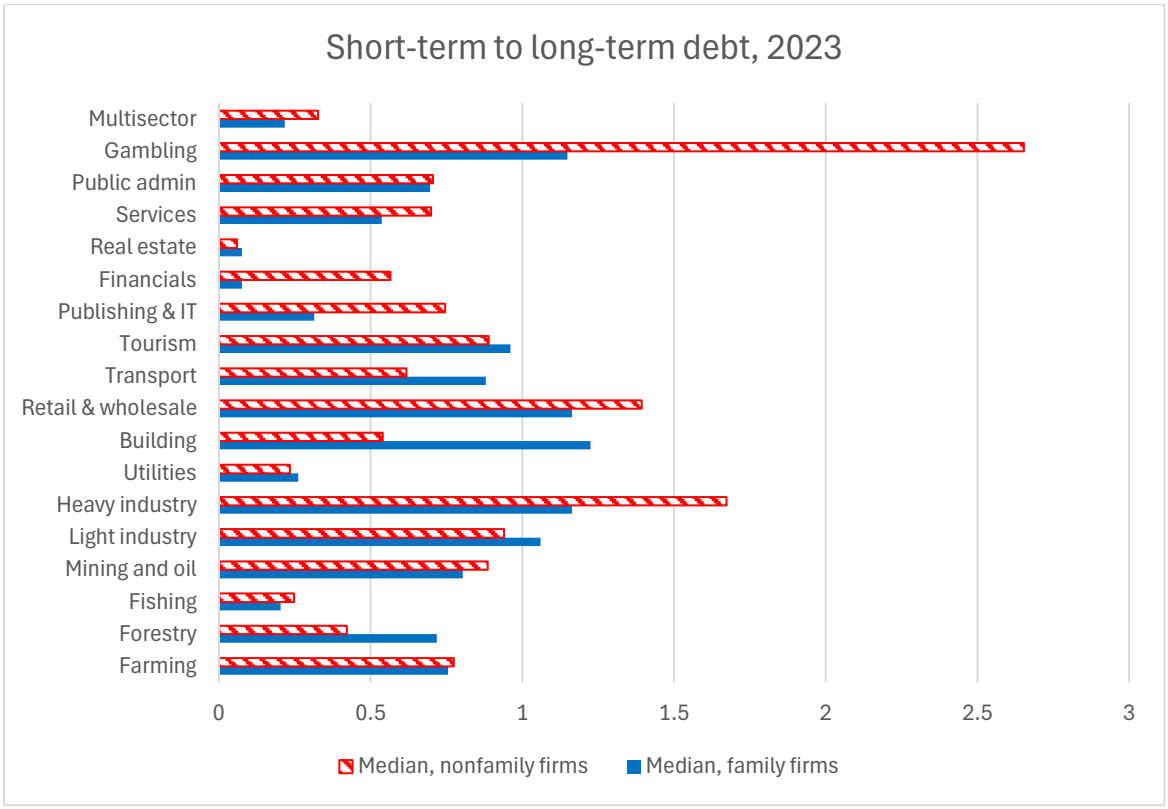
Mean, nonfamily firms
Mean, family firms


Short-term to long-term debt, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
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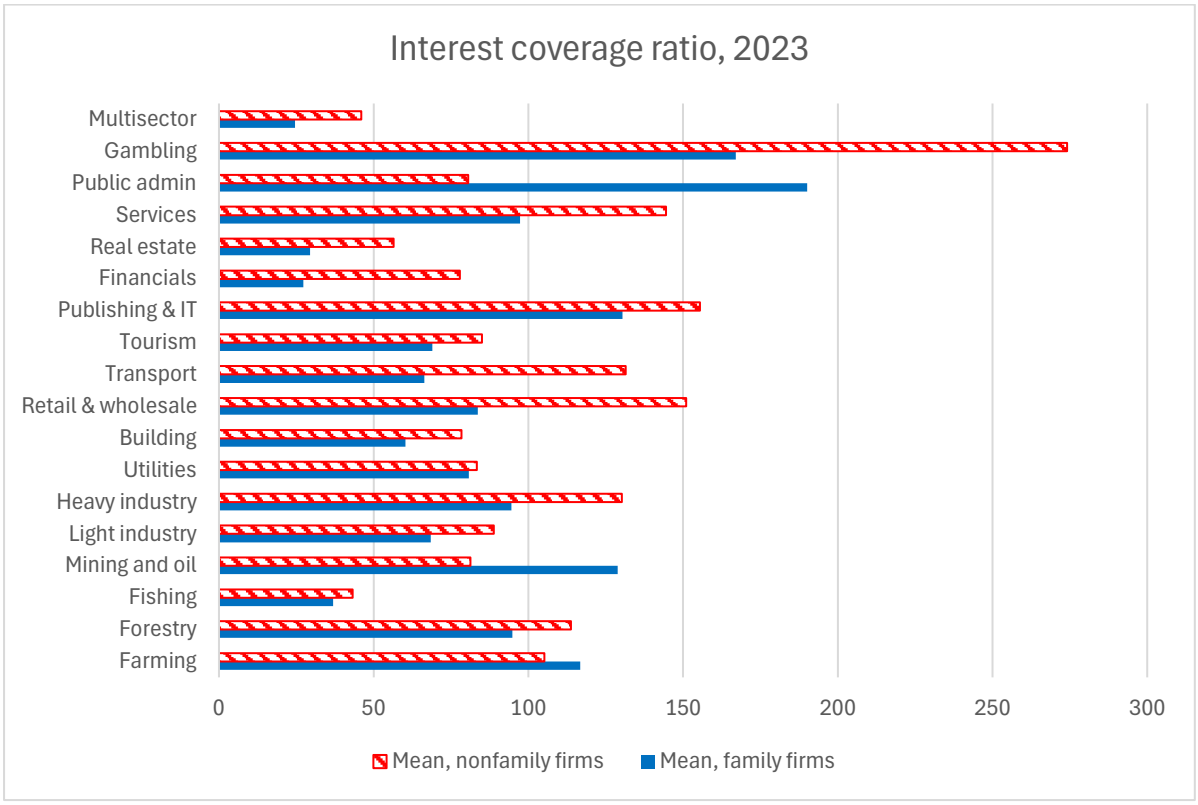
Median, nonfamily firms
Median, family firms


Interest coverage ratio, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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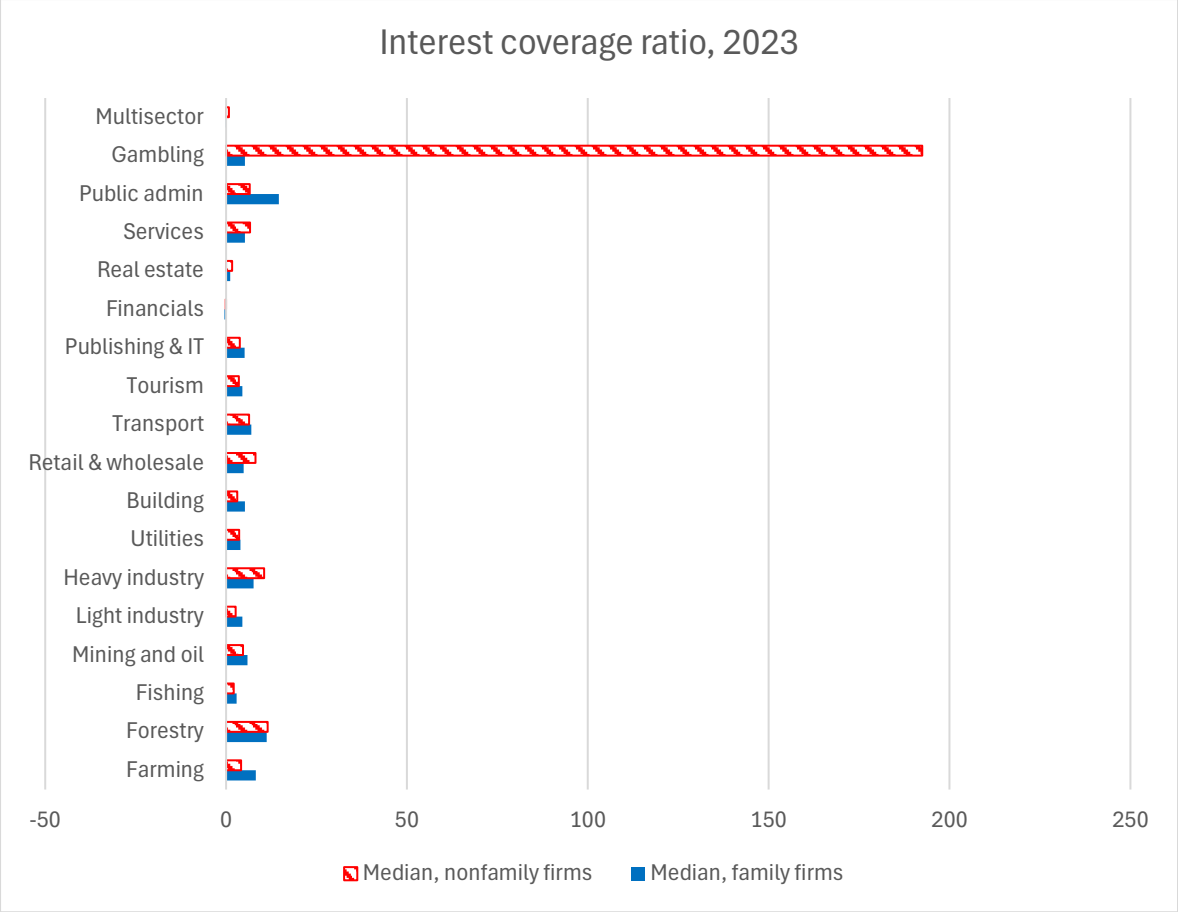
250
300
Mean, nonfamily firms
Mean, family firms


Interest coverage ratio, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
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Mining and oil
Fishing
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Farming
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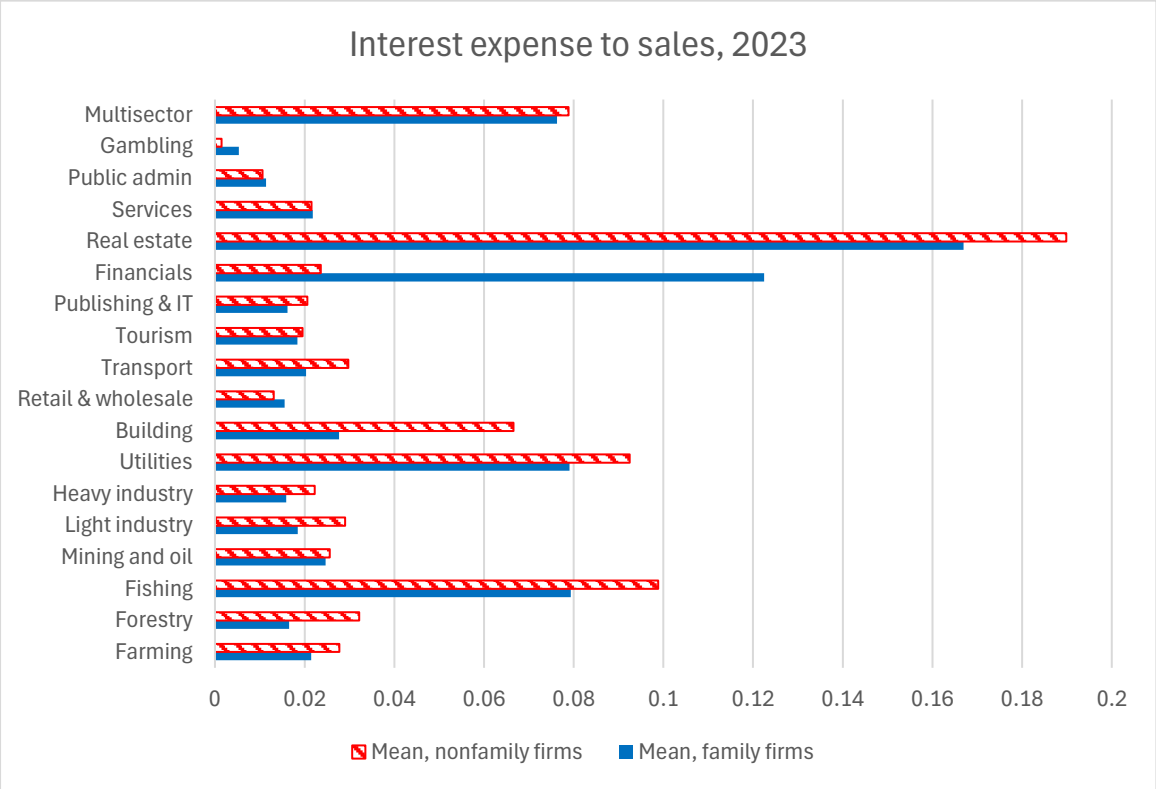
Median, nonfamily firms
Median, family firms


Interest expense to sales, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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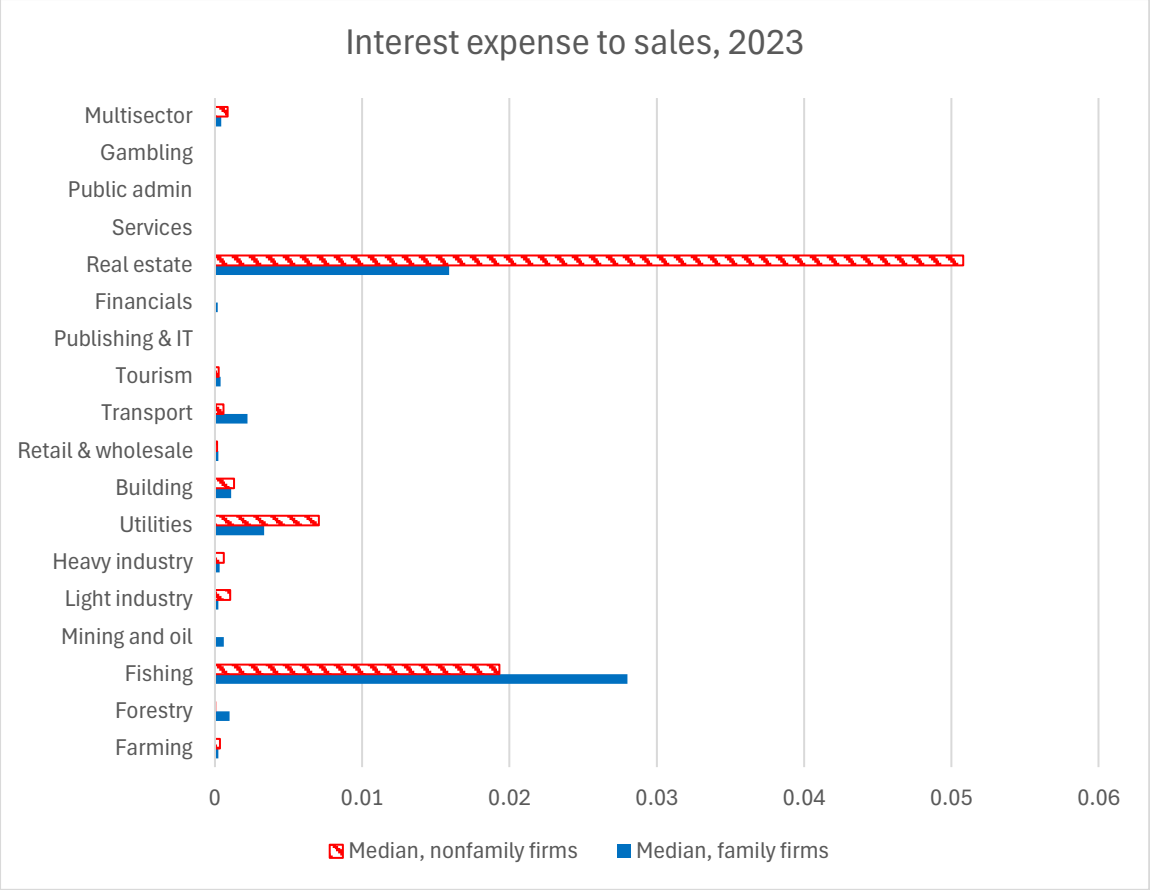
Mean, nonfamily firms
Mean, family firms


Interest expense to sales, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
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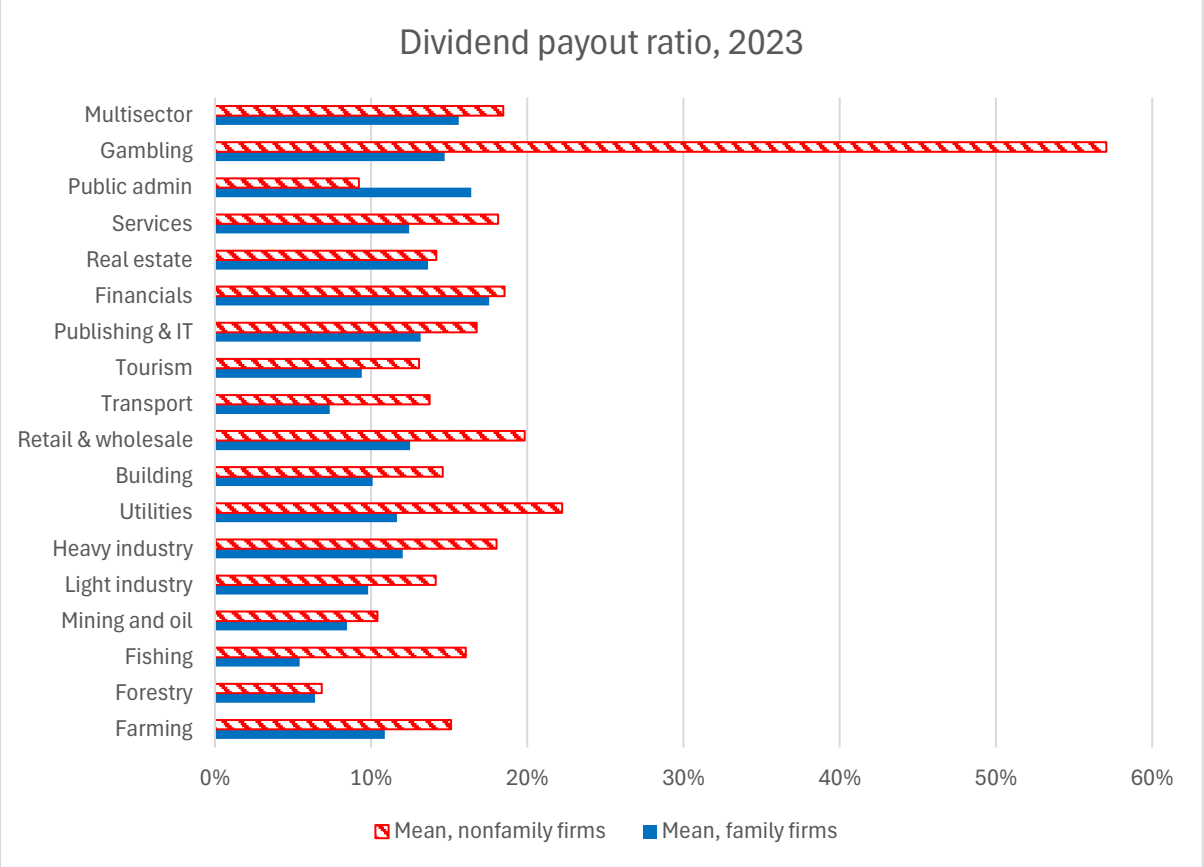
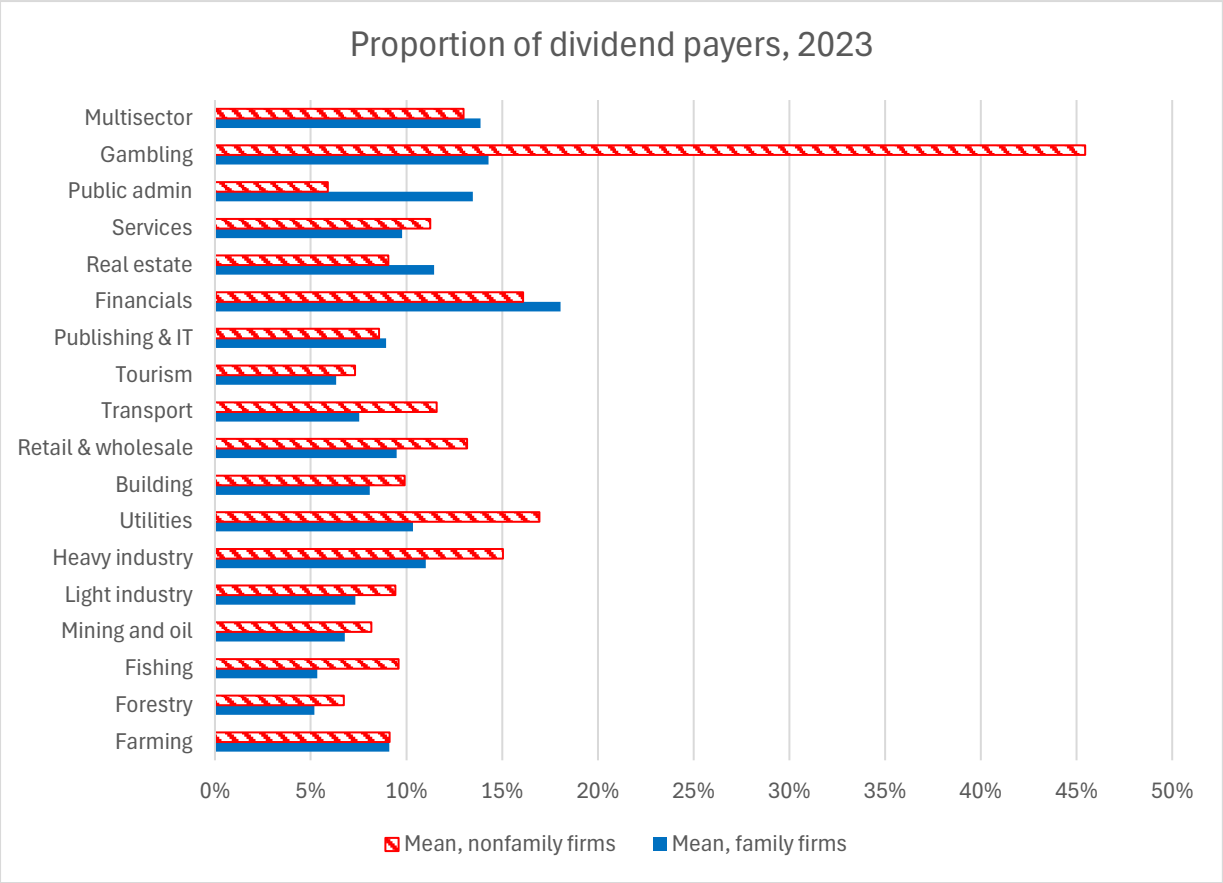
Median, nonfamily firms
Median, family firms


Dividend payout ratio, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0%
10%
20%
30%
40%
50%
60%
Mean, nonfamily firms
Mean, family firms


Proportion of dividend payers, 2023
Multisector
Gambling
Public admin
Services
Real estate
Financials
Publishing & IT
Tourism
Transport
Retail & wholesale
Building
Utilities
Heavy industry
Light industry
Mining and oil
Fishing
Forestry
Farming
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
Mean, nonfamily firms
Mean, family firms