

Boss Babies and Richie Riches? Privately Owned Firms Among Underage Children and Income Inequality *

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Abstract

Empirical research has established that privately held incorporated firms play a crucial role in organizing entrepreneurial activities but are also used to respond to various tax margins. A separate strand has shown that income given or passed on to children responds to gift and inheritance taxation. This paper presents new evidence that privately held firms are also used as a vehicle to channel income to underage children, exacerbating wealth and income inequality among them. We find that individuals in the top 0.1% of the income distribution who own firms are seven times more likely to have underage children as co-owners compared to those in the bottom 90%. The average age of these child co-owners is 12 years, with ownership occurring across all ages from 0 to 17. This pattern at the top is not solely driven by entrepreneurial families, as a significant share of firm owners in this group are not classified as active entrepreneurs. This suggests that transferring entrepreneurial skills is not the sole motivation for including underage children as firm owners. Moreover, underage children who hold firm ownership earn exceptionally high incomes—enough to accumulate wealth placing them near the median wealth of middle-aged single adults.

Keywords: privately held firms, income inequality, income mobility

JEL Codes: D3, H2, H3, M1

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1 Introduction

This paper documents the share of underage children as owners of privately held firms and how the prevalence of firm ownership among underage—and very young—children increases with their parents’ income rank. Privately held firms are a means for entrepreneurs to organise their business activities and firm owners and entrepreneurs are often found at the top of the income distribution (Smith et al., 2023; Harju et al., 2023). There is a strong association in inter-generational entrepreneurship (Dunn and Holtz-Eakin, 2000; Lindquist et al., 2015) which may originate from specific traits passed down from parents to children through genetics (Nicolaou et al., 2008) or environmental influences, such as parental role modeling (Lindquist et al., 2015; Abbasianchavari and Moritz, 2021). Through firm ownership—even when children are underage—parents can transfer entrepreneurial attitudes and skills to their children.

However, privately held firms can also be used to affect one’s tax liabilities and manage family income and wealth. Families play a role in income and tax planning, for example, spouses (Stephens Jr. and Ward-Batts, 2004; LaLumia, 2008; Alan et al., 2010) and parents and children below 20 years (Bauer et al., 2015) engage in income-splitting in countries or states with individual taxation, resulting in a lower tax burden for the family as a whole. Especially, Bauer et al. (2015) study ”kiddie tax” reform in Canada¹, which reduced incentives to transfer capital income from private corporations to underage children by applying the highest marginal tax rate to minors’ dividend income from a relative’s private corporation. Following the reform, the reporting of dividend income by minor children decreased substantially². Also, the broad literature on bequests and gifts has shown that parents do think about the wealth they pass on to their offspring, and taxation can affect the manner in which this is done (see Kopczuk (2013) for a review of the literature). Privately owned firms provide more opportunities for income-splitting and gift and inheritance planning, but the empirical evidence on this topic is nearly non-existent. A paper by Micó-Millán (2024) documents that there is a large asset-shifting response towards equity in family firms in Catalonia (Spain) when inheritance tax rules between different assets were changed.

Regardless of the reasons why underage children own privately held firms, this phenomenon has implications for income and wealth inequality as children transition into adulthood and later in life. There is a strong intergenerational correlation in income and wealth (Corak, 2013; Charles and Hurst, 2003; Adermon et al., 2018) when measured using observable income or wealth indicators from survey or registry data. Notably, however, firms and the profits retained within them are an important source of unobserved income, the inclusion of which affects the picture of top income inequality (e.g. Alstadsæter et al., 2016; Fairfield and Jorratt De Luis, 2016; Paukkeri et al., 2023). Yet, many countries lack detailed ownership and firm data to make visible this unobserved income so the role of firms in income and wealth inequality remains understudied.

In this paper, we illustrate the role of privately held firms (where the main owner is an adult) for the incomes of underage children and on inequality among them. Our descriptive

¹”Kiddie tax” legislation has also existed in the U.S. since 1986, with several subsequent reforms.

²Bauer et al. (2015) cannot link underage children to their parents or the firms they own, so their empirical analysis relies on looking at dividend income flows in different ages and birth cohorts. The advantage of our data is, that we can make these links between children, parents, firms and firm owners.

analysis shows how the likelihood of having underage children as co-owners varies over the income distribution of firm owners, and how the average firm ownership of underage children varies across the parents' income distribution. We note that ownership occurs at all ages between 0–17 and the mean age of an underage owner is 12 years. We also illustrate the implications of owning firms for the incomes of underage children and in young adulthood. We focus on underage children since their firm ownership can be more directly identified as something 'technical', since their true role in the firm is necessarily negligible due to their young age. For adult children and spouses, for whom it is possible to work for the firm, it is much more difficult to establish whether income drawn from a firm reflects the true level of their contribution to the firm, or something else.

We exploit Finnish total population tax records complemented with total firm data with ownership information for the years 2006–2022. We find that in the stock of all existing firms with a significant owner (owning 50% or more of the stocks), the firms with owners from the richest 0.1% of individuals are 7 times more likely to include their underage children as co-owners in the firm compared to firms where the main owner is in the bottom 90% of the distribution. Underage children owning privately held firms have considerably higher fiscal incomes (excluding retained earnings within firms) in their childhood compared to children who are not owners of firms, even among the richest 0.1% of parents. Children at the top who do not own firms earn less than 10% of the income of firm-owning children. Strikingly, underage children owning firms who have a parent in the top 1% of the adults' individual gross income distribution have average incomes which would place them in the second decile of the adult income distribution. These incomes are largely formed of capital income, of which approximately 3/4 is due to dividend income from the children's own firm. We also demonstrate a decline in children's ownership when they reach adulthood, suggesting that family succession alone does not fully explain firm ownership while children are still underage. In early adulthood, firm-owner children differ with respect to their income formation from others in the same cohorts. We provide back-of-the-envelope calculations that illustrate the impact on wealth distribution in their adulthood.

We make several important contributions to various strands of literature. To our knowledge, we are the first to document privately held firm ownership as a source of income inequality within children, which presumably carries over to income and wealth inequality in adulthood. This finding is related to the paper by Boserup et al. (2018) on wealth concentration in early childhood in Denmark. Compared to their paper, which focuses on income (cash) transfers from relatives, we are able to identify an important additional source of income through ownership of privately held firms. While for most countries the ownership information of unlisted firms is unobservable, our high quality administrative registers for total population enables linking owners to firms regardless of the age of the owner. This data enables us to uncover a phenomenon that has not been previously documented in a comprehensive manner.

We also contribute to the broader literature on (in)equality of opportunity and intergenerational wealth inequality. Graeber et al. (2023) show that in Germany, inheritances and gifts account for one fifth of the inequality of opportunity in wealth. Some studies use causal settings to suggest that the intragenerational transmission of wealth is not driven by rich children's innate ability to better accumulate wealth. Instead, family background and income transfers

within family matter significantly (Black et al., 2020; Fagereng et al., 2021). In our paper, we discover a new mechanism how parental income rank significantly affects children’s income and wealth from early on in the childhood.

Our paper is also linked to the literature studying privately held firms and taxation. Firms can be used for tax purposes and firm owners are active in tax minimization (Pirttilä and Selin, 2011; Harju and Matikka, 2016a; Koivisto, 2023; Alstadsæter et al., 2016). Firms have also been shown to be established for tax avoidance purposes (Romanov, 2006; Smart, 2021). In our context, underage children as co-owners enable parent owners in particular to avoid gift taxation and/or inheritance taxes, if the wealth is accumulated within a firm and transferred to owners as business-related income. In Spain, treating family firm equity in more favorable terms, led to asset shifting towards family firms (Micó-Millán, 2024). Parents with high dividend incomes could also save in dividend taxation by diverting part of their dividend income flows to their children. We cannot test causally whether this type of motivation lies behind the observed behavior but we can carefully document the offspring and firm characteristics to reflect on the potential role of underage owners in a business.

The paper proceeds as follows: Section 2 presents the data used in the study and the sample restrictions and definitions we employ. Section 3 provides information on key institutions and taxes that are relevant for the context of the study. Section 4 presents the main results on firm ownership, childrens’ incomes and tax revenues. Section 5 concludes.

2 Data and definitions

We employ administrative data from Statistics Finland covering the full population residing in Finland for the years 1995 to 2022. The different datasets make it possible to link together information about incomes (individual and household level), background characteristics, firm ownership, and financial statements of firms. We describe each dataset in detail next.

Individual income and background characteristics. The register data contain comprehensive information on wages and salaries, self-employment income, capital income and current transfers received and paid. Most of the income data are collected by the tax administration and are mostly third-party reported.

Our preferred income concept is total gross income (sum of wages, salaries, self-employment income, capital income, transfers received). When calculating parents’ rank, we focus on individuals over 20 years old and define the parental rank based on the entire adult population distribution. Throughout the paper, we rank individuals based on gross income excluding realised capital gains. We define all incomes at the individual level. This avoids mixing income developments with changes in household formation and composition. This is also consistent with the tax system, as Finland has individual-based taxation.

In some analyses, we employ alternative specifications of income rank, including the 5-year average income rank, and the rank at age 45 among individuals in the same cohort, always selecting the higher average rank of a child’s parents. These alternative rankings avoid the problems of strongly fluctuating incomes in particular at the top, and varying earnings potentials at different ages.

Our data include a rich set of background variables collected from various administrative registers. The data include unique individual and household identifiers, allowing linkages across datasets. With total population data, we can use these identifiers to link spouses as well as link biological children to their parents.

Firm ownership. To identify owners of incorporated privately held businesses, we employ the ownership database. This dataset provides information on both individual and firm owners. The data cover all limited liability companies with at most 10 owners. If the firm has over 10 owners, the data cover those owners who own at least 10% of the company shares as well as owners who have received a shareholder loan. We loop the layers of ownership and find the ultimate individual owner. We focus on firms where at least one person owner has at least a 50% ownership share (which we title a 'significant owner'). This sample restriction ensures that we can cover nearly the universe of firms of interest with our ownership data. With this sample restriction we aim to focus on firms where the main owner has considerable power on matters such as including their children as co-owners or paying dividends to them.

We characterise firms with the income ranking of the main owner, who is either the owner with the largest ownership share, or in the case of two owners with half of the shares each, either the owner with the higher income rank, or the older of the two, or the one with highest 5-year average income rank³.

Our main focus is on firm ownership defined at an annual level for each child.⁴ In some analyses we also use the information on whether the child ever owned a firm in at least one year during ages 0–17, contrasting to children who never owned a firm during ages 0–17.

Firms' financial statements. The firm financial statements dataset provides information on profit and loss accounts and balance sheet information at the firm level. These data also contain background characteristics of the firms, such as their industry. These data can be linked with the firms' owners using the unique firm identifiers.

Ownership of other assets. We also employ individual level data on ownership of real estate and financial assets. Real estate data covers only housing that is in the form of housing cooperative, usually apartments and row house (that is excluding houses). Financial assets ownership information comes from tax authorities.

3 Institutional context

In this section we briefly present the main features of taxation of income from privately held firms and gift and inheritance taxation, including the transfer of firms to the next generation, focusing on legislation since 2005. We also illustrate the legislation relating to who can own a firm and the regulation regarding underage owners.

³The last condition is applied only if the two owners have exactly same income rank measured in percentiles and age, however, this condition does not apply to that many firms

⁴Note the focus on ownership in firms with a significant owner: non-owner children may have ownership in other types of firms but this is rare.

3.1 Firm taxation

The overall tax burden of a firm's owners includes the corporate income tax and the dividend income tax. Finland has adopted a dividend tax system which intends to reduce the double taxation of firm profits (at both the firm and owner level). Firm profits are taxed at the corporate tax rate, which has been a flat rate of 26% in 2005–2011, 24.5% 2012–2013, and 20% since 2014. The amount of dividend tax is dependent on the level of net assets of the firm⁵ and on the individual's total dividend income from all unlisted firms. When a firm's distributed dividends are below a predetermined rate of return on the firm's assets, they are partly taxable, at the capital income tax rate. If they are below the rate of return threshold, but an individual shareholder earns dividends above a monetary threshold, a larger part of the dividends is taxable income for that shareholder, but still taxed at the capital income tax rate. And when dividends are above the net asset threshold, they are partly taxed at the progressive labour income tax rate. The predetermined rate of return has been either 9% or 8% over time, and the monetary threshold has varied between 60,000 and 150,000 euros. Note that the rate of return threshold is firm-specific but the monetary threshold is individual-specific and takes into account dividend income from all unlisted firms. The effective tax rates below the monetary threshold have been around 15 percentage points lower than above the threshold (Koivisto, 2023; Harju and Matikka, 2016a). The capital income tax rate has tightened over time, starting from a nominal rate of 25% in 1993 and being 30% and 34% in 2023; after 2012 there have been two tax brackets, where the threshold for the higher rate has varied between 30,000 to 50,000 euros.

As the incentives to shift income between tax bases is especially strong in Finland, many research papers have explored this behavioural margin. Harju and Matikka (2016a) study a tax reform in 2005 that changed the income shifting incentives for some business owners. They find that business owners, irrespective of the observed types of firms or owners, are active in income shifting. In a follow-up study, they conclude that income shifting responses account for approximately 2/3 of the overall response within Finnish business owners, while 1/3 of the response consists of real responses in the firms' economic activity (Harju and Matikka, 2016b). Using changes in the parameters of dividend taxation in the 2010s as exogenous variation, Koivisto (2023) shows that privately held firms' dividend payments react strongly to dividend taxation, and that firms reacting to taxation also react by retaining earnings, increasing the net asset position of the firm and in particular the financial assets of the firm. Using the kink at the second capital income tax bracket, she finds a taxable elasticity estimate of 0.5, while for the monetary threshold in dividend taxation, where the progressive labour tax would take effect, the elasticity estimate is as high as 3.6. Further, she does not find an impact on investments, suggesting that the response is mainly driven by intra- and intertemporal tax planning⁶. Her evidence suggests that such firm owners could use their firms to store savings.

⁵Dual Income Tax systems in other Nordic countries have based imputed rates of return on gross assets (Norway until 2005) or the acquisition value of shares (Sweden).

⁶Intratemporal here refers to shifting between capital and labour income tax bases, while intertemporal refers to increasing retained earnings, as this enables owners to build up their firms' net wealth and consequently pay less taxes on dividends in the future.

3.2 Gift and inheritance taxation

Finland also has gift and inheritance taxation but no net wealth tax. The recipient of a gift needs to pay gift tax if the total value of transfers from the same donor during three consecutive years exceeds 5,000 euros (3,400 euros until 2007, 4,000 during 2008-2016). The gift tax is progressive, but the tax rates are lower for gifts between close family members compared to more distant relationships. For close family members, the highest marginal tax rate on gifts is currently 17% (gifts over 1,000,000 eur). Over time there has been some modest variation in the marginal tax rates and thresholds. For example, a gift of 10,000 euros would entail a tax of 745 euros in 2006 and 500 euros in 2022, in nominal terms.

Inheritance taxation is very similar to gift taxation, with a progressive schedule with lower tax rates for close family members, but the threshold for taxable wealth is higher than for gifts (3,400 until 2007, 20,000 euros since 2008), and furthermore the spouse and children have higher thresholds. The tax rates are close to those of gift taxation, with the highest marginal tax rate for close family members currently 19% (bequests over 1,000,000 eur).

If a gift or bequest includes the transfer of an active business to a child who engages in active business operations of the firm in the future ('generational transfer'), partial gift or inheritance tax relief can be granted. Note that we focus on underage children owning firm shares, which cannot be considered generational transfers of businesses due to the young age of the children. However, owning firm shares in early childhood can be indirectly linked to future plans of transferring the firm to offspring. Note that when becoming a firm owner, the child has to purchase the shares somehow. If they can buy the shares with their own income, there is no tax consequence, but if they receive the shares as a gift, it would be considered a taxable gift.

In section 4.3 we provide an illustration of potential tax incentives and lost tax revenue from such behaviour.

3.3 Regulation on minors' work and firm ownership

Individuals of all ages are allowed to be owners in a privately held firm. A minor, however, cannot independently perform legal acts concerning themselves and are so represented by their guardians. Children are allowed to start 'light work' in the calendar year when they turn 14 years old. Before this, a child can be granted an exception by the Occupational Safety and Health Administration, if the child e.g. performs in cultural events. And even after this age, as long as the child has not finished compulsory schooling, there are also limitations on daily and weekly work hours.

4 Results

4.1 Prevalence and patterns of firm ownership among underage children

In this section we illustrate how common firm ownership among underage children is, and what is the correlation with the main owner's income or the child's parental income.

Figure A1 in Appendix A illustrates the share of firms with significant owners that are either solo-owned, or the different types of co-owners by income rank of the main owner. The

probability of being the sole entrepreneur is negatively correlated with the owner’s income, and the probability of having close family members as owners is positively correlated. The correlation between income and family co-owners is clearer in Figure A1b, which focuses on firms that are not solo owned, i.e. have at least one co-owner in addition to the main owner. Even as richer owners less seldom have their spouses as co-owners, they are more likely to have adult and underage children as co-owners. While having underage children as co-owners is not common (1.6% of firms with any co-owners, 0.7% accounting for solo-firms as well) there is a clear income gradient: In firms where the main owner is in the top 0.1% of the adults’ gross income distribution, the probability of having own underage children as co-owners is 2.5%, whereas among owners in the bottom 90% it is only 0.4%. The probability of underage co-owners is thus 7 times higher at the very top of the income distribution compared to the bottom.

We next turn from the firms’ perspective to the children’s perspective. Figure 1 illustrates a similarly stark effect of the parents’ position in the income distribution on the probability of being an underage firm owner. For children whose higher-earning parent is in the top 1% but below the top 0.1%, the share owning privately held firms is 1.9%, and in the top 0.1% it is 6.1%. In the bottom 90% the share is only 0.1%. Among parents who own privately held firms these shares are higher throughout, and up to 10% of children own firms in the top 0.1%. 70% of children with firm ownership are in the top 10% of the parent’s income distribution and very few are found in the bottom deciles.⁷ In Appendix Figure A2 uses alternative income rankings where the patterns is very similar. Over our time horizon of 2006–2022, we observe 10,550 individual children who own firms at some point during their childhood years, and they originate from approximately 6,100 families, forming roughly 1% of all families with underage children.

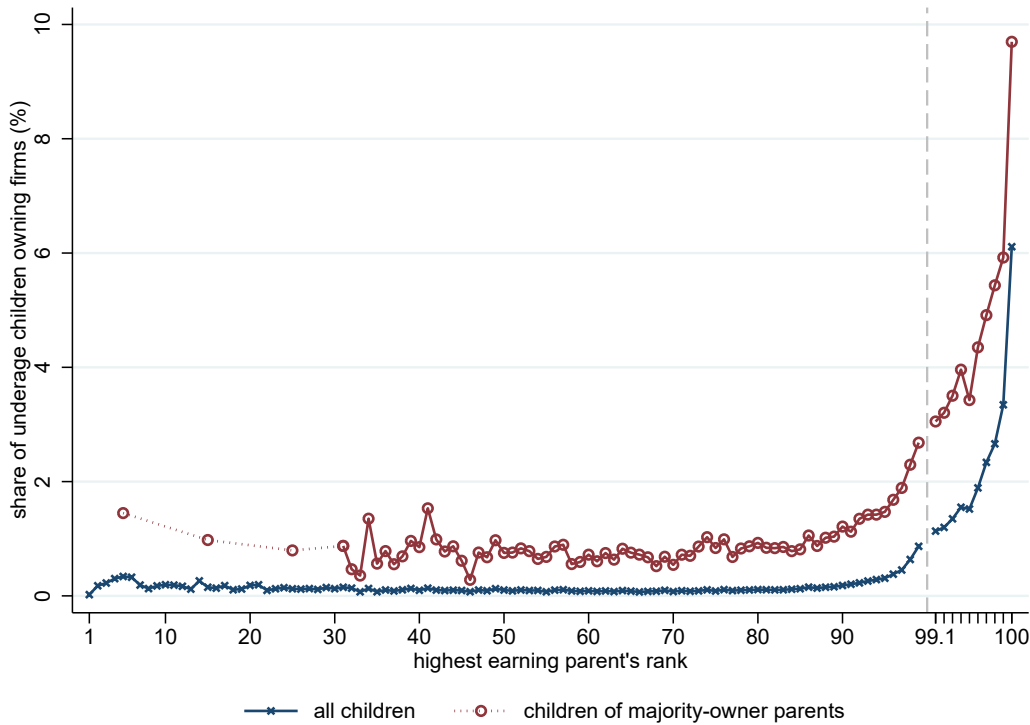
One might expect that children who own firms would on average be closer to turning 18 but in fact firm ownership occurs at all ages – even some newborns own shares in privately held firms. Figure 2a shows that firm ownership is indeed concentrated at later ages, but is surprisingly common even for young children, again more pronouncedly so among children of top 0.1% parents. The average age across firm-owning children in our sample period is 11.8 years.

Children could also own different types of assets in addition to or instead of shares in privately held firms. In Appendix Figure A3 we show that children from high-income families are in general active owners measured by holding securities or real estate. Additionally, having any capital income can be considered as an indication of ownership more generally: owning something which creates positive capital income.⁸ Children could also take up jobs to earn wage income. Figure 2b illustrates the share of underage individuals with income flows of different types at each age and dividing the children to those owning firms and not. As expected based on the rules covering minors’ work, wage income starts increasing at around ages 13–14, and 60–70% earn some wage

⁷We describe the income level of children as the higher-income parent’s income rank among the total population aged 20 and above. This allows us to describe the position in the income distribution of all adults, including those who do not have children (for example, the actual top 0.1% of adults). However, the income percentiles then do not contain an equal number of children. Because we choose the higher-income parent’s income percentile, underage children are more concentrated towards the top of the adults’ income distribution. Roughly half of children are located in the top 20% when defined this way. Importantly, we always compare children within each parent ranking or rank group.

⁸Our measure of capital income covers most sources of capital income. In addition, note that not all investments generate income each year. For example, publicly listed firms do not all pay dividends each year.

Figure 1: Share of underage children with ownership in a privately held firm, by parent's income group



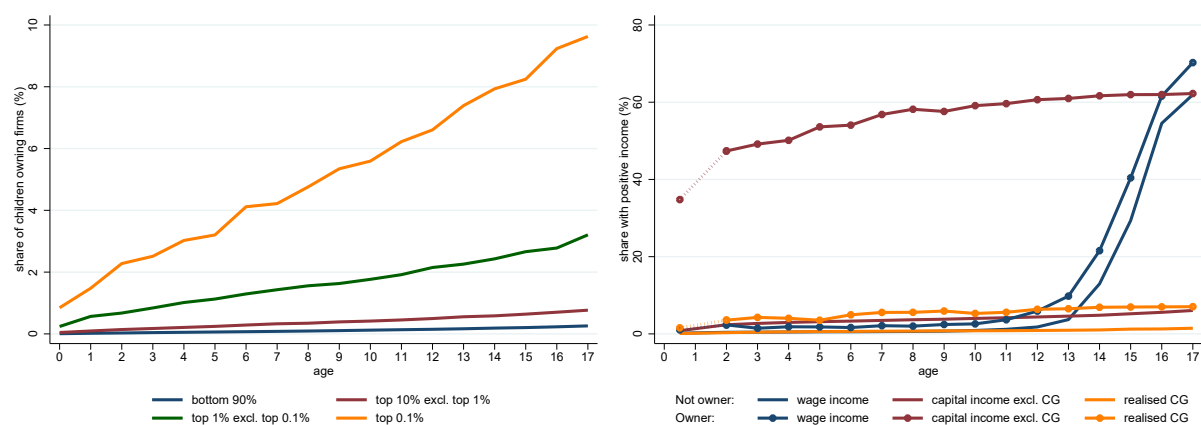
Note: Figure shows the share of children who own shares in privately held firms with a significant owner, across the parental income distribution. Horizontal axis is the child's highest-earning parent's position in the individual gross income distribution of all adults, percentiles 1-99 and per mille within the top 1 percent. For firm owner children, percentiles 1-30 are grouped into averages in each decile (scatter point displayed at the center of that decile) due to smaller number of observations. Total population, 2006-2022 pooled.

income at age 17. Capital income is less common, as on average 3.9% of the underage population own something that generates positive capital income. Owning firms is therefore a considerably narrower phenomenon than owning assets in general. But Figure 2b reveals the stark difference by firm ownership: 3.7% of children who don't own firms own something that generates positive capital income, whereas 59% of firm-owning children have positive capital income flows. The age gradient is also striking: already a third of 0-1-year-olds with firms have positive capital income. Of course, as the share of such young children owning firms is still very small (Figure 2a), the number of 0-1-year-olds with positive incomes is still low.⁹ The mean capital income for 5-year-olds owning firms is 1,962 euros, for 10-year-olds 4,219 euros and 17-year-olds 5,601 euros. Over the time period 2006-2022, the mean capital income among all adults (age 20+) is 1,817 euros per year (the median is 0), which means that these children earn already at a very young age more capital income than the average adult.

As Figure 2a already alluded, the children owning these firms are surprisingly young and firm ownership occurs at all ages between 0-17. Given that there are legal limitations on whether and how much minors can work, and that parents represent their underage children in all financial and legal transactions, young children's true role in any corporation is bound to

⁹Figure A4 illustrates the share of positive incomes for all children who are ever observed to own a firm in their childhood.

Figure 2: Firm ownership and incomes by age



(a) Share of underage children owning privately held firms

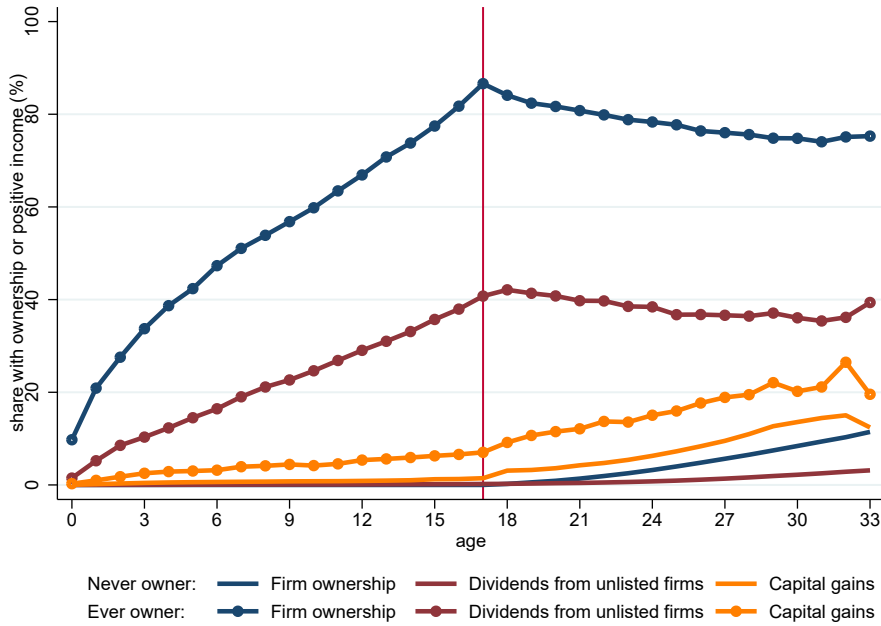
(b) Share of underage children with positive incomes by age and firm ownership

Note: Figure (a) shows the average share of children of different ages with ownership in firms with a significant owner. Figure (b) shows the share of children who own or do not own firms in a given year, and whether they have any positive income in that year. Child's age is age in years at end of calendar year. In Figure (b), for firm owner children, ages 0–1 are pooled together due to smaller number of observations. Total population, 2006–2022 pooled.

remain small. What could be the motivation for underage ownership in these circumstances? The inclusion of younger children as owners could stem from a wish to help them forward in life by providing an opportunity to earn business experience or additional income, or to provide advance inheritances. Boserup et al. (2018) provide evidence that in Denmark, wealthy parents use inter vivos transfers to their underage children that could be related to more than a mere income transfer – a transmission of savings behaviour from parents to children. In Finland, Kantola and Kuusela (2019) provide evidence that wealthy Finnish families actively pursue strategies to transmit such attitudes and skills to their offspring. We do not find any significant differences in firm characteristics based on whether they have underage owners or not, which probably indicates that the firms are true operative firms, where underage children could be co-owners for potentially both business experience as well as income transfer reasons. However, we do find that children whose parent's income rank is in the top have more difficult ownership structure in privately held firms: while in the bottom 90% only 20 percent of owner children have ownership in more than one privately held firm in the top, this share is 60 percent (mean number of firms 4.2 combining direct and indirect ownership). The types of ownership structures of holding firms in Finland are linked to tax planning due to the dividend tax system (see institutional details in Section 3.) Further, only 40% of firm owning parents in the top 0.1% are defined as entrepreneur (measured as main activity by Statistics Finland) while in the bottom more firm owning parents are entrepreneurs (58%).

Lastly, we look at the patterns of firm ownership as children age. In Figure 3 we show the ownership dynamics and income from wealth by age and whether child have ever been a firm owner in the childhood. After reaching adulthood there is a steady decline in the probability of owning parents' firm.

Figure 3: Ownership dynamics in childhood and early adulthood



Note: Individuals who were underage during 2006–2022. Share of individuals with unlisted firm ownership or positive incomes by income type. Conditional on childhood ownership.

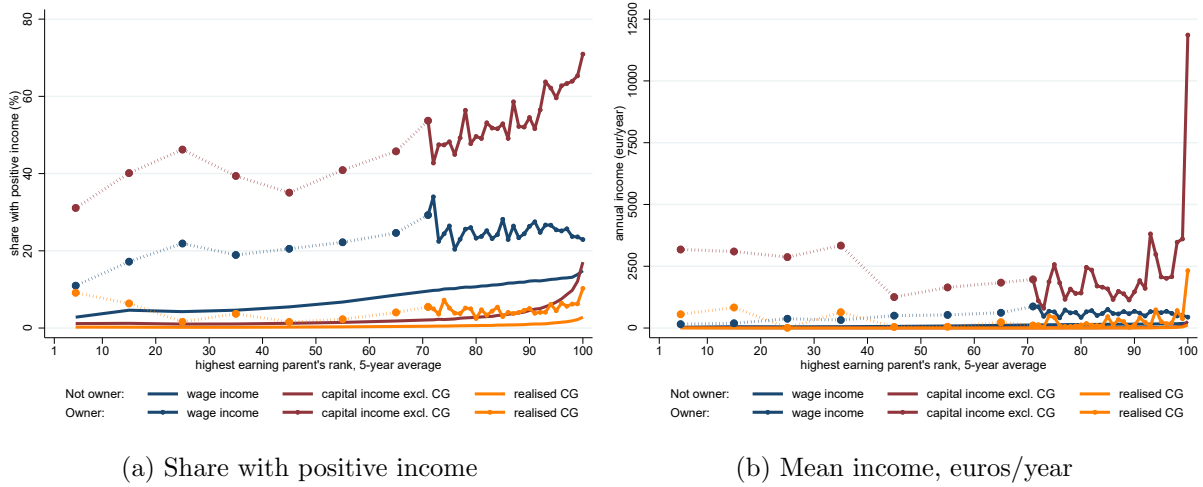
4.2 Implications for income of underage children

In the previous section we saw that firm owners at the top of the income distribution are more likely to have underage children also owning a part of the firm. Whereas this behaviour could at least partly be related to long-term planning involving e.g. transferring family businesses to the next generation, it is also evident that these children accrue significant income already during their childhood, which can have implications for income and wealth inequality in their generation upon adulthood. In this section we illustrate the significance of firm ownership on children’s incomes.

We first illustrate the likelihood of observing positive incomes of different types across ages and by firm ownership. Figure 2b already showed that children owning firms are much more likely to earn capital incomes than other children. Figure 4 further illustrates the scale difference between firm-owning and non-owning children, and additionally the role of parental income. Children are placed in the percentile of their higher-earning parent’s 5-year average income rank to lessen the correlation between a child’s and parent’s annual incomes. Across the parental income distribution, it is obvious that both capital and wage income are much more common for firm-owning children compared to other children. It is striking how large the differences are even among the richest children: even within the top 10% excluding the top 1%, children who don’t own firms are much less likely to have any capital income (7% of children have positive capital income) compared to children who own firms (62%). Within the top 10% excluding the top 1%, firm owners are thus 8 times more likely to have positive capital income than non-firm owning children (4 times more likely in the top 1%).

The magnitudes of these incomes are also starkly different between firm owners and non-

Figure 4: Underage children and different income types, by firm ownership and parent’s position in the gross income distribution



Note: Figure shows the share of children who have positive incomes by income type, and mean incomes of each type, for children who own firms with a significant owner and children who do not own firms. Income information are averages over years when the child is (is not) a firm owner. Parent’s income ranking is averaged over that and four preceding years, and the higher average ranking of parents is selected. For firm owner children, percentiles 1–70 are grouped into averages in each decile (scatter point displayed at the center of that decile) due to smaller number of observations. Total population data, 2006–2022 pooled. Monetary amounts in 2018 terms.

owners, as illustrated in Figure 4b. Children who own firms and whose parent is in the top decile but below the top 1% receive on average 2,833 euros of capital income per year, and those with a parent in the top 1% on average 11,855 euros per year. (Remember that the mean capital income among all adults is 1,817 euros per year.) Even the other children in that top percentile who do not own firms earn only 266 euros annually of capital income. Approximately 3/4 of the capital income is due to dividend income from their privately held company.

The total gross income of firm-owning children with a parent in the top 1% (12,617 eur) would set them in the second decile of the adults’ individual gross income distribution (12th percentile), whereas those who don’t own firms would place themselves at the bottom of the adult gross income distribution (767 euros of annual gross income; 2nd percentile).

An underage individual whose parent is in the top 1% is 8 times more likely to have positive capital income than those whose parents are in the bottom 90%, but 23 times more likely to own shares in a privately held firm. And even within the top 1%, firm-owning children are 4 times more likely to have positive capital income and on average earn 44 times more capital income than children who do not own firms.

These findings indicate the relative advantage that a small set of children have gained upon entering adulthood compared to other children from less affluent families, or even other affluent families. We can illustrate the accumulation of wealth from firms by using the mean annual disposable income for underage children and cumulating this over their childhood. Assuming no consumption and no real growth on this income flow, children who never own a firm during their childhood accumulate on average 8,600 euros over ages 0–17, and children who are ever observed to own a firm in their childhood years accumulate on average 39,600 euros over the same ages. Table 1 displays these results, and also the cumulative amounts assuming a 3% or

6% annual real interest on these income flows, still assuming no consumption.

The difference between firm-owning children and never-owning children is even starker across the parental income distribution. Here we use the higher-earning parent’s position in the income distribution at age 45 (rank in their same-aged cohort) as the parental income rank. The average child with a parent in the bottom 90% earns on average 8,500 euros cumulatively during ages 0–17 if they do not own a firm, and 23,700 euros if they own a firm. Compare this with children with a parent in the top 1% when they’re 45: without interest, non-owning children would cumulate up to 9,400 euros of income during their childhood, and firm-owning children 84,600 euros. Table 1 also illustrates the effect of any real growth on these income flows over time. However, since we assume no consumption out of these income flows, these calculations are upper bounds of cumulated wealth over the childhood years. These income flow differences are borne mainly out of differences in capital income, reflecting mostly the possibility to pay dividends from the owned firm. Across all firm-owning children, the average cumulative dividend sum from unlisted firms is 72% of the average cumulative gross income over ages 0–17.¹⁰

Table 1: Cumulative income flows for underage children

Hypothetical real interest rate:	All			Bottom 90%			Top 1%		
	0%	3%	6%	0%	3%	6%	0%	3%	6%
Never owns a firm:									
Cumulative over ages 0–17	8,600	10,200	12,300	8,500	10,100	12,200	9,400	11,200	13,400
Capital/gross inc.	3%			2%			34%		
Transfers/gross inc.	71%			73%			42%		
Cumulated at age 45	8,600	23,400	63,100	8,500	23,200	62,500	9,400	25,600	68,700
Owns a firm in childhood:									
Cumulative over ages 0–17	39,600	46,700	55,500	23,700	28,000	33,400	84,600	99,200	117,500
Capital/gross inc.	77%			54%			92%		
Transfers/gross inc.	13%			28%			4%		
Cumulated at age 45	39,600	106,800	283,800	23,700	64,000	170,900	84,600	227,100	600,800
Difference at 18	31,000	36,500	43,200	15,200	17,900	21,200	75,200	88,000	104,100
Difference at 45	31,000	83,400	220,700	15,200	40,800	108,400	75,200	201,500	532,100
Maximum tax-free gift									
Cumulative over ages 0–17	30,000	40,200	54,600						
Cumulated at age 45	30,000	92,000	279,100						

Note: Table displays the average total cumulative disposable income over ages 0–17 for children who do not own a firm in those ages, and for children who own a firm at least in some years in their childhood. Bottom 90% and top 0.1% refer to higher-earning parent’s income rank at age 45 among their cohort. ‘Cumulative over ages 0–17’: For each child group, the average disposable income at each age is calculated from the data (gifts are hypothetical) and cumulated with a 0%, 3% or 6% hypothetical interest rate until age 18, assuming no consumption out of income. ‘Capital/gross inc.’ and ‘Transfers/gross inc.’ display the share of cumulated gross income over ages 0–17 that is borne out of gross capital income flows or social transfers. ‘Cumulated at age 45’: we take the cumulative income over ages 0–17 and calculate the accumulated wealth from that sum over ages 18–45, if it was left unconsumed until age 45, with the same alternative annual interest rates.

Using the Finnish wealth survey, we can compare these amounts to the wealth levels from the 2016 Finnish wealth survey by Statistics Finland. To avoid comparisons with different types of households, we calculate the gross wealth distribution of single households at ages 40–49. Assuming no consumption out of their annual incomes until age 18 and then allowing that sum to cumulate until age 45 (which of course is highly unrealistic), the vast majority of the children

¹⁰For our definition of children who never own firms, average cumulative dividends from unlisted firms are 9% of average cumulative gross income, indicating that these children also have ownership in unlisted firms. The difference is that our measure of ownership focuses on firms with a significant owner.

in Table 1 would without any additional savings place themselves in the 5th and 6th wealth decile of the distribution of singles in their 40s (range 8,000–100,00 eur). However, if there was any growth over time on these income flows, firm-owning children could reach up to the 8th decile (range 147,000–208,000 eur), and with strong growth (6%) they would be firmly in the wealthiest decile (lower bound 295,000 eur) in their middle-ages.

The assumption of no consumption is of course an unrealistic one. Consider in particular that the children who never own a firm earn most of their income flows from social transfers, which are more directly linked to consumption (e.g. transfers related to studies or housing). It is therefore more illustrative to look at the difference in accumulated income between the child groups. The rows in Table 1 titled 'Difference at 18' and 'Difference at 45' illustrate the additional wealth the child owners earn on top of what the non-owner children earn. Even with no interest on the income, the childhood firm owners with a parent in bottom 90% would accumulate additional wealth that would put them in the 5th gross wealth decile of middle-aged single adults (range 8,000–30,000 euros) and those with a parent in top 1% would be placed in the 6th wealth decile (range 30,000–100,000 euros).

Another point of comparison for the incomes generated by firms owned by underage children would be the maximum tax-free inter-vivos transfer flow over the childhood years. As described in Section 3, the maximum amount free of gift taxation has varied between 3,400–5,000 over three consecutive years. Taking the larger value of these would entail an annual transfer of 1,667 euros each year over ages 0–17, amounting to 30,000 euros at age 18, assuming no consumption and no interest on these flows. The average firm-owning child would therefore earn a similar income flow compared to the cumulative inter-vivos transfers, but the children of richer parents earn well beyond this level.¹¹

4.3 Impact on tax revenue

Given the very young age of underage firm owners, it is likely that firm ownership is also at least in part a form of income transfer to children, either in itself or also relating to some kind of tax optimisation. Boserup et al. (2018) find evidence that inter vivos transfers in Denmark are often exactly the size of the maximum gift exempt from gift tax, indicating that such transfers are made in a tax-optimising manner. In addition, earlier literature has shown that families practice income-splitting to reduce their tax burden. In countries with individual and progressive taxation (such as Finland), if families are able to distribute income from the highest-earning family member to lower-income family members, the total tax burden will be lower. For example, LaLumia (2008) shows that in the US, when states moved from individual taxation to joint taxation of couples, women married to self-employed men reported less non-wage income, consistent with a pre-reform tendency to allocate family income to lower-taxed wives. Furthermore, Bauer et al. (2015) show that income splitting also occurs between parents and children. They observe that in Canada children below 20 years old received considerable amounts of dividend income, and when a reform strongly tightened the taxation of dividend income of underage individuals, this source of income declined by 86%.

¹¹Note that we do not observe such gifts in the data, so the disposable income flows used in the income comparisons in the table do not take gifts into account.

There are potentially several taxation margins that could create an incentive for income-splitting with children through co-ownership of privately held firms. These relate to the taxation of dividends from the firm, to gift and inheritance taxation, and the passing of shares of the firm.

Considering dividend income from the firm, the total tax burden of the family could be reduced by child co-ownership in situations where the dividends are high relative to net wealth of the firm, such that dividends would be taxed at the progressive income tax rate. If the child has lower labour income than the parent, their share of the dividends would be taxed at a lower tax rate than the parent's. Or, if the parent has high capital income overall, such that they would reach the higher bracket of capital income taxation (in place after 2012), by diverting part of the dividends from their firm (if taxed as capital income) to the child, who also pays the lower capital tax rate, they can slightly lower their capital income taxation, although the difference in rates in the brackets is not large (see Section 3). However, since the monetary threshold in dividend taxation is individual-specific and not firm-specific, the total tax rate in the family can be lowered if part of dividends are diverted from the parent to the child, such that the parent remains below the monetary threshold. [In a future version we will explore this tax margin in more detail.]

Note that in Finland, the parent cannot legally use income received by the child,¹² so by reducing the total tax burden in this way the parent also reduces the amount of income controlled by themselves. Co-owning with children and paying dividends is therefore likely to relate to a wish to transfer income to the child in a tax-preferred manner (in addition to any other motivations such as business experience). If the parent would receive all of the dividend income themselves, and transfer a share of that income their underage child, the parent would pay the tax on dividend income (capital or earned income tax) and the child would have to pay gift tax from this transfer, if it surpassed the tax-free threshold. If instead the child would receive part of the dividend income directly from the firm, the total amount of tax paid on dividends is at most the same (can be lower in cases described in the previous paragraph) and there is no gift taxation. There is thus a direct tax "saving" on gift taxation. Similarly, if the parent foresees passing on their wealth – accumulated, inter alia, from dividends from the firm – to the child in the future, they can avoid some of the inheritance tax involved by passing part of this income to child during their childhood as dividend payments from the firm. Note again, that the dividend income flow entails at most the same tax burden as when the parent alone receives it, and there is a direct "saving" on inheritance taxation.

We illustrate the "saving" on gift taxation by assuming that all dividend income under the age of 18 is an income transfer from the parent to the child, and calculating the amount of tax that would be payable as gift tax using the individual data on dividends and each year's gift tax schedule (including the three-year cumulation rule). The average annual dividend payment across all individuals who ever own firms in their childhood is 1,700 euros and hence barely above the tax-free threshold of gift taxation. In the majority of years, then, the dividend payments of children remain below the three-year taxable gift threshold and the average annual gift tax payable among underage firm owners would be a mere 119 euros. However, if we consider

¹²Wealth of the child can be used only to the benefit or need of the child him- or herself, not to those of other family members.

only child-year observations when dividends are paid, 41% of dividends cross the taxable gift threshold, the average firm owner child receives 6,917 euros of dividend income annually and would have to pay 482 euros in tax. In total the lost tax revenue amounts to 715,080 euros per year, which is less than 1% of the average annual gift and inheritance tax revenue during 2006–2022.

Furthermore, if the parent wishes for their offspring to own all or part of the firm at some point in their life, it can be favourable to transfer or sell shares early on when the child is young. In some cases, the value of the firm increases over time, so the same share of firm shares has a lower price at an earlier time point. It is likely that for very young children the shares are given as a gift, and hence if the value of shares is low, gift taxation would also be lower, compared to giving higher-valued shares at a later point in time. Also, when the eventual generational transfer of the firm takes place, only gifts given within the past 36 months would be taken into account in the value of the transfer. Giving part of the firm to the child early on can therefore lower the value of the generational transfer and the tax owed on the transfer.

There are thus some potential tax saving mechanisms involved in underage firm ownership, some involving a considerably long time horizon (e.g. the generational transfer of the firm to an adult child). However, as we showed in the previous section, only a part of the considerable income and wealth of underage children originates from dividends from own firms.¹³ This suggests that underage firm ownership is likely to reflect a more general "activeness" of such families in managing the income of their children.

5 Conclusions

In addition to corporate income taxation, gift and inheritance taxation can also be relevant for the behaviour of privately held firms. Many parents consider how to best transfer wealth to the next generation. This paper has provided suggestive evidence that owning privately held firms' shares can be one potential means to this end.

In this paper we observe that highest-income individuals who own firms where they hold a significant ownership share are 7 times more likely to include their underage children as owners in the firm compared to individuals lower in the income distribution. Across all underage individuals, we find similarly that underage ownership of privately held firms is a relatively small phenomenon but very strongly correlated with parents' income. Consequently, a small number of children accumulate considerable amounts of wealth during their childhood. This phenomenon is likely to transmit some inequalities from the parents' generation to the next.

A related study (Harju et al., 2023) finds similarly that there is some intergenerational transmission of entrepreneurship, which creates some persistence of income inequality over the generations. Our study has focused on a different channel of transmission, of underage children holding shares in privately held firms at an age when they are not likely to yet be fully considered as entrepreneurs, which likely reflects a channel of transferring income and family wealth to children.

¹³For children with a parent in the top 1%, 63% of the cumulative gross income over ages 0–17 originates from dividends.

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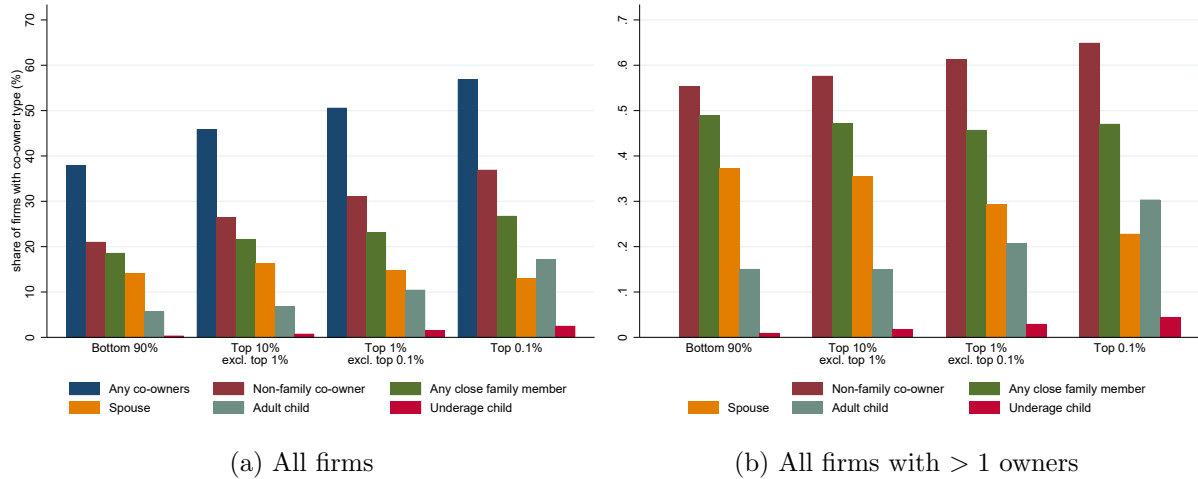
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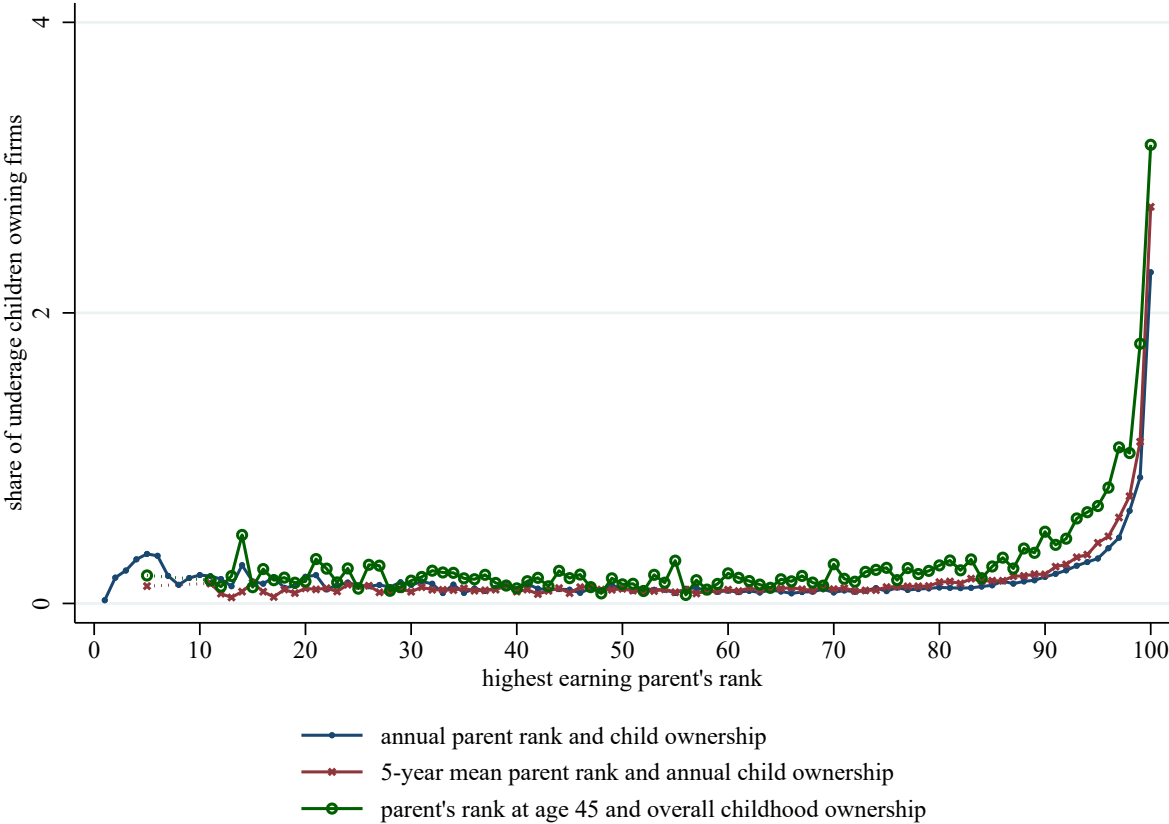
A Additional Figures

Figure A1: Ownership types in all firms with a significant owner, across main owner's income group



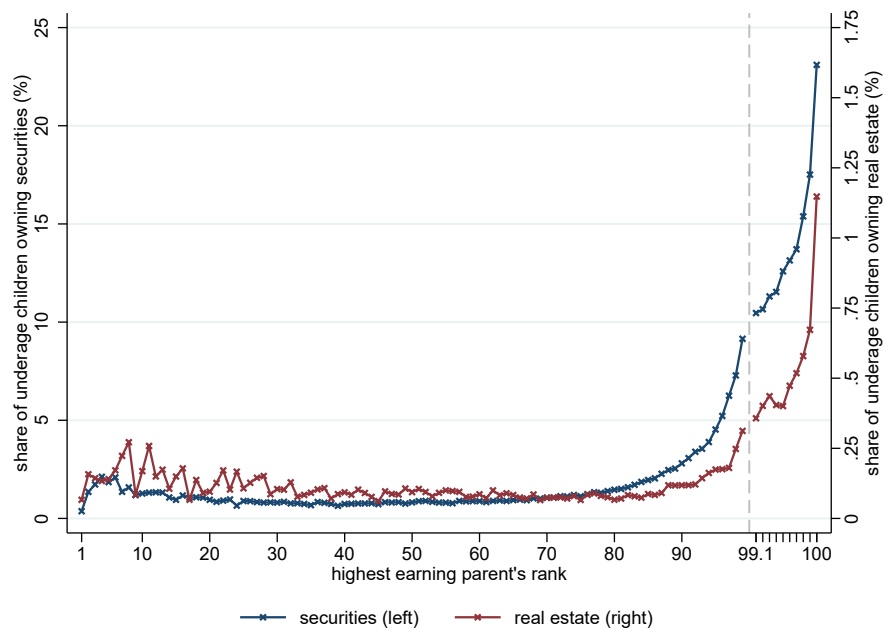
Note: Income group based on personal gross income excluding capital gains of the main owner. All firms with a significant owner, 2006–2022 pooled. Close family members: spouse or own children. Non-family co-owners: Other relatives or non-related co-owners. Panel (b) shows the share of firms with different co-owner types among firms with >1 owners.

Figure A2: Share of children owning privately held firms by parent's income, with different parental rankings and ownership definition



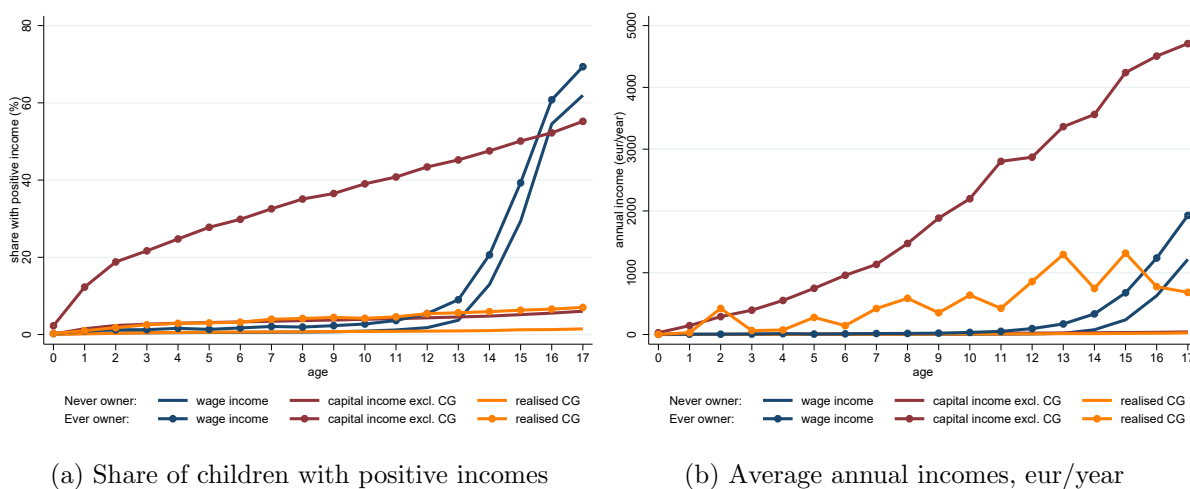
Note: Figure shows the share of children own or do not own firms with different definitions of parental ranking and child's ownership. In percentiles 1–10, two of the series are grouped into a decile average (scatter point displayed at the center of that decile) due to smaller number of observations. Total population, 2006–2022 pooled.

Figure A3: Share of children by parent income rank with securities and real estate holdings



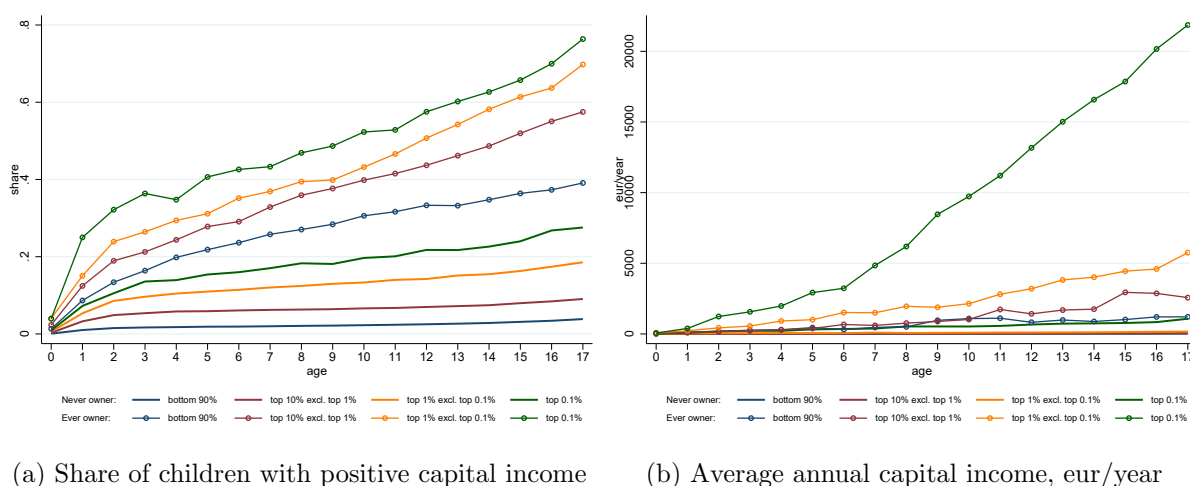
Note: Figure shows the share of children who own securities (2009–2017) or real estate (2006–2018) by parental ranking.

Figure A4: Children’s income by income type and by whether ever own a firm in childhood



Note: Children are divided into those who never own a privately held firm during ages 0–17, and those who are observed to own a firm at least in one year during ages 0–17. The figure shows the share of children in each group with any positive income at each age, and their mean income at each age. Child’s age is age in years at end of calendar year. Total population, 2006–2022 pooled.

Figure A5: Children’s capital income, by whether ever own a firm in childhood, and by parent’s income rank



Note: Children are divided into those who never own a privately held firm during ages 0–17, and those who are observed to own a firm at least in one year during ages 0–17, and both groups are further divided by the income rank of the child’s highest-earning parent. The figure shows the share of children in each group with any positive capital income at each age, and their mean capital income at each age. Child’s age is age in years at end of calendar year. Child’s income and parent’s ranking are measured in the same year. Total population, 2006–2022 pooled.