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Why Do High-Income Parents Raise More Entrepreneurs?

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ABSTRACT

I explore the origins of the positive association between socio-economic background and entrepreneurship. Using Finnish administrative data, I show that children from the top 1% of the parental income distribution are more than five times as likely to become business owners and almost three times as likely to become "real entrepreneurs", who found new firms, as those from the bottom 50%. Similar patterns appear when using parental wealth instead of income, though the effects are somewhat smaller in magnitude. The strongest channel behind the over-representation of entrepreneurs from high-income families is prior experience of business ownership before founding new firms. I rationalize this finding by developing an "ownership ladder" model, where entrepreneurship is the second step on the ladder, and parental resources are associated with people stepping onto that ladder early. Furthermore, there are distinctive differences in the industries of the new firms by entrepreneurs' parental background, which suggests that coming from prosperous origins is positively associated with human capital that provides entrepreneurial opportunities. The socio-economic background of entrepreneurs appears only weakly related to the initial equity of new firms, suggesting that liquidity constraints are not especially important. Nor can the selection pattern be explained by income shifting or shell companies. The performance of firms and the personal income development of entrepreneurs differ only slightly by socio-economic background. However, since business owners and entrepreneurs tend to earn much more than wage earners or the unincorporated self-employed, the highly non-linear selection patterns have major implications for intergenerational income mobility.

JEL Codes: G51, J24, L26

Keywords:
entrepreneurship,
socio-economic background

TIIVISTELMÄ

Miksi korkeatuloisten vanhempien lapset ovat muita useammin yrittäjiä?

Tutkimuksessa osoitetaan vanhempien tulojakauman ylimmästä prosenttipisteestä tulevien lasten päätyvän yrityksen omistajaksi yli viisinkertaisella ja yrittäjäksi liki kolminkertaisella todennäköisyydellä verrattuna tulojakauman alimmasta puolikkaasta tuleviin. Yrittäjät eroavat muista omistajista siinä, että he perustavat uuden yrityksen ollen niissä keskeisiä toimijoita. Yrittäjien yliedustusta korkeatuloisista perheistä selittää vahvimmin omistajuuskokemus ennen uusien yritysten perustamista. Teoreettisen mallin puitteissa tätä tulosta voi ajatella omistajuuden tikapuina: vanhempien tulotaso korreloi positiivisesti alimmalle portaalle pääsyn kanssa, mistä käsin on todennäköisempää kivuta seuraavalle portaalle ja perustaa oma uusi yritys. Toimialaerot eri taustoista tulevien välillä heijastavat eroja inhimillisessä pääomassa. Rahoituksen saatavuus, tulomuunto tai pöytälaatikkoyritysten hyödyntäminen eivät selitä päätuloksia. Erot henkilökohtaisessa tulokehityksessä ja yritysten menestyksessä ovat pieniä erilaisista tauoista tulevien välillä. Omistajat ja yrittäjät tienaavat kuitenkin keskimäärin paljon palkansaajia enemmän, joten heidän huomattava yliedustus vanhempien tulojakauman huipulta vahvistaa ylisukupolvisia tuloeroja.

JEL-koodit: G51, J24, L26

Avainsanat:
yrittäjyys,
sosioekonominen tausta

1 Introduction

The likelihood of becoming an entrepreneur or innovator increases with parental income and wealth. This pattern has been documented in several countries, including Finland (Aghion et al., 2023; Harju et al., 2025), Sweden (Lindquist and Vladasel, 2025), and the United States (Dunn and Holtz-Eakin, 2000; Bell et al., 2019; Chetty et al., 2025). The underlying reasons have been categorized into various areas, such as inherited abilities and character traits, access to financial resources, and geographical location. However, it remains unclear whether rich parents simply pass on wealth in the form of business ownership, or whether they actually raise more "real entrepreneurs." If they do, why?

This study helps fill in the picture by analyzing the incidence of business ownership and "real entrepreneurship" by socio-economic background. Using detailed population-wide panel data from Finland, I link entrepreneurial children with their parents, businesses, work histories, educational attainment, and other demographic information. I distinguish between "real entrepreneurs," who play a key role in new firms, and other business owners. The bulk of the analysis relies on the 1981–1985 birth cohorts allowing me to observe, for example, parental income and assets when these individuals are children, teenagers, and young adults; business ownership in their late 20s and early 30s; and their educational paths at the school level. I acknowledge that entrepreneurs tend to be older than often portrayed in public (Azoulay et al., 2020; Harju et al., 2025), and examine the sensitivity of the findings by following older cohorts for which the richness of the data is more limited. The coverage and detail of the data are unique in the entrepreneurship literature.

The definition of entrepreneurship here refers to incorporated entrepreneurship, specifically the owners of privately held corporations (PHCs) who actively manage their businesses. Previous studies have shown that pooling all types of business owners into one group masks crucial differences between more growth-oriented entrepreneurs and the self-employed, who typically resemble salaried workers (Glaeser, 2009; La Porta and Shleifer, 2014; Levine and Rubinstein, 2017; Harju et al., 2025).

The incidence of business ownership and entrepreneurship is nearly flat across the bottom 80% of the parental income distribution, the baseline measure of socio-economic background. The share of business owners and entrepreneurs then begins to rise with parental income. At the 90th percentile, individuals are 1.9 and 1.5 times more likely to be business owners and entrepreneurs, respectively, compared to those from the bottom half of the distribution. At the top percentile, the corresponding figures are 5.1 and 2.8. The patterns are qualitatively similar, though they differ in magnitude, when using two alternative definitions of parental income, three measures of parental wealth, and an alternative sample of older individuals. Moreover, the pattern is very similar in the United States (Chetty et al., 2025).

The largest contributor to the distinctive over-representation of entrepreneurs from top-percentile families appears to be experience of business ownership prior to establishing firms of their own. Business ownership in general accounts for a larger share of the parental income gradient than ownership in family firms specifically (top 1% / bottom 50% ratios decrease by 20 and 7%, respectively). Individuals' own and parental education, in turn, act as suppressors, although the change in pattern is modest in comparison (4.7 and 6.3% for own and parental education, respectively). Because higher parental income is associated with higher educational attainment, and education itself is only weakly or even negatively related to entry into entrepreneurship, holding education constant reveals a sharper residual link between parental income and entrepreneurship. Residential background also appears as significant, suggesting role for localized advantages (4% change). Other pre-selection controls, such as schooling paths and work experience, change the pattern very little.

While these patterns are informative, they do not allow a mechanical decomposition of the parental income gradient into share explained by all factors. As a result, the fully controlled specification, where the top 1% / bottom 50% ratio is about 28% smaller than in the raw data, should be interpreted as the net residual association between parental income and entrepreneurship, after accounting for the combined and partly offsetting influence of observed pre-selection characteristics, rather than as implying that "around one quarter" of

the link is explained in an additive sense.

In terms of the composition of new entrepreneurs, i.e., comparisons among those who enter, experience in family firms is particularly concentrated among individuals from prosperous origins. Entrepreneurs from the top 5 percent of the parental income distribution are about 6.5 times more likely to have ownership in an existing firm also owned by their parents than those from the bottom half prior to entry. This finding reflects that top-income entrepreneurial parents have likely succeeded in their business endeavors, since they are at the top of the income distribution and thus have firms worth passing on to their offspring. Their children are also more likely to view them as successful role models, making entrepreneurship appear as a viable and attainable career path. For individuals from less advantaged backgrounds, this mechanism is much weaker: their parents less often own firms, and when they do, these firms are typically smaller or less profitable, which may even discourage children from pursuing entrepreneurship.

The differing roles of business ownership in the selection and composition analyses highlight two distinct margins of intergenerational transmission. In the selection analysis, which considers the entire population, business ownership in general captures a broad set of business-related resources, such as capital, networks, and managerial experience, that are unequally distributed across parental background and make individuals from top families more likely to enter entrepreneurship in the first place. Family firm ownership, by contrast, is narrower and relatively rare in the population, so its marginal contribution to explaining the overall selection of top parental income individuals into entrepreneurship is smaller. The composition analysis, restricted to those who do enter, shows that family firm ownership is especially common among entrepreneurs from affluent backgrounds before they start their own ventures. This indicates that, while all entrants by definition found entirely new firms, individuals from well-off families often do so having already accumulated experience or partial ownership within existing family businesses. In other words, general ownership links help explain why people from prosperous origins are more likely to become entrepreneurs,

whereas early exposure through family firms helps explain what kind of prior experience they bring into entrepreneurship.

Entrepreneurs from different socio-economic backgrounds establish firms in distinctively different industries—computer programming more common among the top half, and management consultancy a top-end phenomenon. This suggests that coming from prosperous backgrounds is positively associated with human capital that provides entrepreneurial opportunities. The initial equity of new firms appears only weakly related to entrepreneurs' socio-economic background, suggesting liquidity constraints are not especially important. Income shifting and the use of shell companies do not explain the high entrepreneurial incidence of individuals from top families.

The performance of firms and the personal income development of entrepreneurs differ only slightly by socio-economic background. However, since business owners and entrepreneurs tend to have much higher incomes than wage earners or the unincorporated self-employed, the highly non-linear selection pattern has large implications for intergenerational income mobility.

This study is the first to show that the propensity to become both a business owner and a "real entrepreneur" is a non-linear function of socio-economic background. The entrepreneurial over-representation from prosperous backgrounds is slightly smaller than for business ownership in general. As the primary mechanism, I show that having high-income parents is associated with business ownership at an early age, which is positively associated with the likelihood of starting one's own ventures. This aligns with Dunn and Holtz-Eakin (2000), who similarly attribute the effect of parental means to parents' entrepreneurial experience and success rather than to financial transfers.

Data-wise, this study is closely related to Paukkeri et al. (2023) and Harju et al. (2025). The first examines the role of firms in income inequality and shows how the prevalence of underage children as business owners increases sharply at the very top of the income distribution. The second analyzes selection into entrepreneurship and income mobility by focusing

on individuals who become entrepreneurs at a later age, making comparisons with salaried employees throughout the study. Preceding such detailed data, Uusitalo (2001) documents that entrepreneurship seems to be a character trait that runs in families. Regarding inventors, Aghion et al. (2023) show that parental income strongly predicts the likelihood of becoming an inventor in Finland—with a very similar non-linear pattern to the relationship between entrepreneurship and socio-economic background documented in this study.

2 Data and Definitions

My analysis uses comprehensive population-wide administrative data sourced from Statistics Finland and the Finnish Tax Administration. This dataset allows me to integrate individual-level income information and background characteristics, firm ownership details and establishment dates, as well as firm-level tax returns and financial statements. These data—used previously by Harju et al. (2025) to study transitions into entrepreneurship at later ages and by Knüpfer (2025) to characterize firm ownership in Finland more broadly—are unique in the entrepreneurship literature, both in terms of detail and coverage.

I form a panel covering the 1981–1985 birth cohorts over 1987-2021. This allows me to follow individuals between ages 6 and 36, and, since business ownership data start in 2006, observe whether they own PHCs after turning 25. I keep individuals whom I can link with their parents, provided the parents do not pass away before the children turn 20, to ensure consistently defined measures of parental resources. The baseline measure of socio-economic background is total parental taxable income when the children are 16–20 years old, which I use to rank children into 100 groups. This income concept is consistent for 1987–2021. I complement this measure with a proxy for wealth—taxable assets—defined as mean parental assets when the children are 16–20 years old. Furthermore, I examine whether the findings are sensitive to the age bracket. For these birth cohorts, I also observe where individuals lived as children and teenagers and which secondary and tertiary schools they attended.

Not all business owners are entrepreneurs. I define "real entrepreneurs" as those owners of PHCs, i.e., incorporated entrepreneurs, who meet the following five criteria. First, they must establish a new firm that remains active for at least three years. Second, they must own at least 20% and be the largest owner (ties allowed) during the first three years. Third, they must serve as CEO or board member (including chair). Fourth, they must have an employment spell in the owned firm during its first three years of operations. Fifth, and finally, to rule out investors, they may not own more than five firms.

Due to the three-year follow-up period, I focus on individuals who become entrepreneurs by age 34 between 2007 and 2019 (data are available up to 2021). To ensure comparability across sections of the analysis, I use data up to 2019 and up to age 34 to identify other business owners as well.

Entrepreneurs often start their first businesses later than well-known stories of young superstar entrepreneurs suggest; see, for example, Azoulay et al. (2020) for the US and Harju et al. (2025) for Finland. Therefore, I investigate whether the age limit of 34 is too restrictive by examining how findings differ when focusing on the 1971–1975 birth cohorts, for which parental links are still well covered. I use the same age bracket, 16–20, as in baseline sample to measure parental income and wealth. However, I do not observe initial entries into entrepreneurship for those who start early, which is pronounced at the top families, because ownership is observed only when individuals are 35–44 years old. Nor am I able to measure children's environment while growing up, as data on demographics and parental income and assets start only at 16. Their detailed schooling paths are also out of reach.

The core of the analysis is plotting entrepreneurial incidence by socio-economic background. These binned scatterplots show the share of individuals who become entrepreneurs by percentiles of parental income and wealth distributions. I explore where the differences stem from using additional individual- and parental-level data. Furthermore, I use firm-level data to examine differences in industry composition and initial equity by entrepreneurs' background. Conditional binscatters are estimated following Cattaneo et al. (2024).

3 Patterns in Entrepreneurship by Parental Income

This section examines patterns of entrepreneurship by parental income, using income measured when children are 16—20 years old as the baseline indicator of socio-economic background. This age bracket provides a consistently defined measure of parental resources across cohorts, capturing family circumstances during late adolescence and early adulthood——just before individuals begin making key educational and career decisions. The section first documents the raw patterns (3.1), then explores candidate explanations (3.2), and finally brings in additional registry data to deepen the analysis (3.3).

3.1 Documenting the Patterns

Table 1 presents differences in observable individual and parental characteristics among incorporated entrepreneurs, all business owners, the self-employed, and wage earners. It also shows how entrepreneurs and other business owners differ in their roles as CEOs and in board participation. All entrepreneurs are business owners, but not all business owners are entrepreneurs. The self-employed are mainly unincorporated sole proprietors.

Business owners are predominantly male, and incorporated entrepreneurs even more so. The self-employed and wage earners, in turn, have a balanced gender composition. There also appear to be differences in educational paths and income already at age 24. The self-employed and entrepreneurs are less likely to have a bachelor's degree than non-entrepreneur business owners and wage earners. This suggests that, on average, individuals who engage in business activities tend to start early at the expense of schooling. Business owners——and entrepreneurs in particular——earn more than wage earners and the self-employed already in their early 20s. Such differences amplify by age 34. Wage earners and non-entrepreneurs have a master's degree much more often than entrepreneurs and the self-employed, who are particularly rarely highly educated. On average, business owners earn roughly double what the self-employed do, and wage earners fall back almost as much. Within business owners,

Table 1: Sample means by labor market status

	All	Wage earners	Self-employed	All business owners	Entrep.	Other owners
Female	49%	51%	52%	29%	21%	30%
Bsc by 24	16%	16%	10%	14%	11%	15%
Market income at 24	13,912	13,412	13,919	18,094	19,505	17,841
Msc by 34	20%	20%	9%	24%	16%	25%
Market income at 34	31,539	29,544	24,574	49,481	51,577	49,104
Msc, mom	10%	9%	8%	14%	11%	14%
Msc, dad	13%	13%	10%	19%	15%	19%
Entrepreneur, mom	2%	1%	3%	3%	2%	3%
Entrepreneur, dad	4%	3%	6%	8%	6%	8%
Parental income rank	50	49	49	59	56	60
Board member or CEO				66%	100%	61%
CEO				28%	61%	22%
Board head				16%	31%	13%
Board member, not head				51%	84%	46%
Board vice member				13%	11%	13%
Individuals	309,077	270,851	5,836	32,390	4,937	27,453

Notes: Table presents the mean value of each variable for all individuals, wage earners, the unincorporated self-employed and incorporated business owners, who are further split into entrepreneurs and other owners. The sample is the baseline cohort of 1981—1985 births. See Section 2 and Appendix C for details on the definitions. The characteristics are either constant for an individual or measured at a specific age. Board and CEO statuses are defined as "ever during the sample period" in businesses in which they have ownership. The table shows that entrepreneurs and other business owners are distinctly different from wage earners and the self-employed along various dimensions.

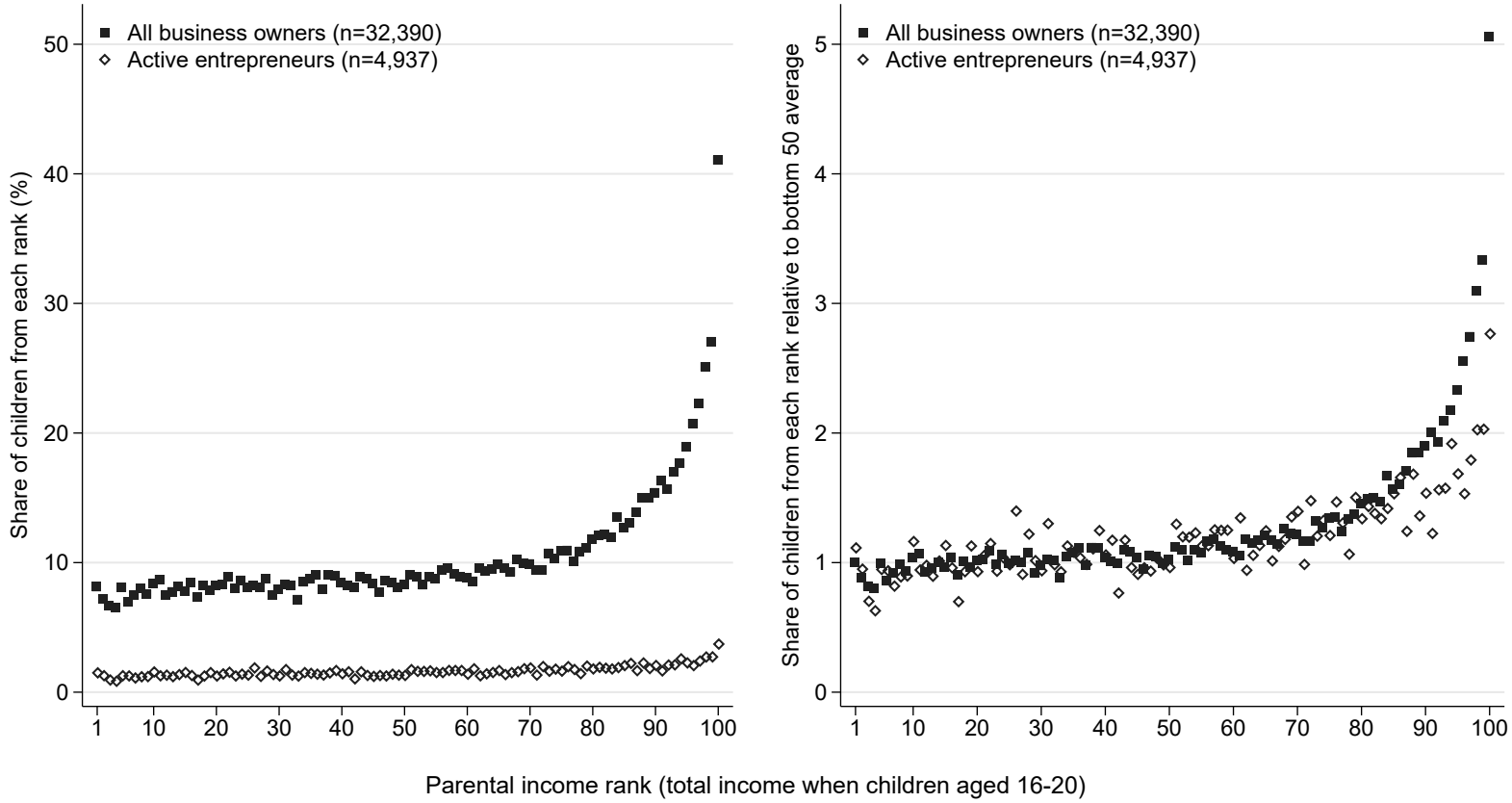
the income difference between entrepreneurs and others is very small.

Business owners who are not entrepreneurs, are the most fortunate in terms of parental education, entrepreneurship, and income. Using wage earners as the benchmark, non-entrepreneur business owners are over 60% more likely to have highly educated parents and more than twice as likely to have entrepreneurial parents. Incorporated entrepreneurs have highly educated parents only about 20% more often, and entrepreneurial mother 45% and entrepreneurial father 85% more often. The self-employed have highly educated parents less often than wage earners, whereas parental entrepreneurship is similar to that of entrepreneurs. Average parental income rank already shows that business owners, and entrepreneurs as well, tend to come from families with higher incomes. However, as we shall see below, sample means mask non-linear underlying patterns.

Finally, there are clear differences among business owners in their roles as CEOs and board members. By definition, all entrepreneurs are either CEOs or board members. Using this metric, 40% of other business owners are passive. More specifically, they are roughly three times less likely than entrepreneurs to be CEOs or board chairs.

Figure 1 plots the incidence of business ownership and entrepreneurship by parental income. These are the patterns I seek to understand in this study. On the left, the solid squares show a very weak positive relationship between the likelihood of business ownership by age 34 and parental income up to the 80th percentile. On average, roughly 10% of individuals own firms. The ownership share by rank then starts to increase—first gradually, and then sharply within the top decile——resulting in more than 40% of individuals from top-percentile families having business ownership.

Figure 1: Business ownership and entrepreneurship by parental income



Notes: Figure shows the incidence of business ownership and entrepreneurship by parental income, defined as the total pre-tax income of both parents when children are 16—20 years old. On the left, the graph shows by parental income rank the share of children who become business owners and entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom-half average. The figure shows that children from the top of the parental income distribution are much more likely to become business owners and entrepreneurs than those from the middle or bottom.

For entrepreneurs, the bottom 80% share hovers around 1.5%, while almost 4% of top 1% children are entrepreneurs. On the right, for comparability, the numbers are expressed relative to the bottom-half average. This highlights that children from top-percentile families are more than five times as likely to become business owners and almost three times as likely to become entrepreneurs as those from the bottom 50%. Appendix A presents several figures and a summary table showing that the patterns hold across different measures of socio-economic background and in the sample of older individuals, although with differences in magnitude.

Using the same data sources to study Finnish entrepreneurs, Harju et al. (2025) find a negative gradient between the likelihood of becoming an entrepreneur and parental income. At first glance, the difference may seem puzzling. However, the reason is clear. As they acknowledge, their result stems from a specific focus on transitions into entrepreneurship at a later age, meaning that their sample does not include individuals who have firm ownership at an early age or who join existing mature businesses. When these individuals are included, a non-linear positive association between entrepreneurship and parental income emerges (see the contrast between Figures 1 and A7 in Harju et al. (2025)).

3.2 Understanding the Patterns: Candidate Explanations

Why are children from affluent families more likely to become entrepreneurs? Three broad groups of candidate explanations emerge from the existing literature—discussed similarly, but more broadly, in Harju et al. (2025):

1. Skills and ability
2. Liquidity
3. Preferences and personality traits

Regarding the first explanation, Lucas (1978) outlines a model in which an individual chooses between salaried work and entrepreneurship depending on whether they have man-

agerial or worker talent. In matching models (see, e.g., Roy (1951); Jovanovic (1982); Evans and Jovanovic (1989)), sector-specific abilities sort individuals into salaried employment or entrepreneurship based on their relative advantage in either field. Lazear (2004, 2005) argue that the combination of skills is more important than a distinct entrepreneurial skill in selection into business ownership. Entrepreneurs need to be "jacks-of-all-trades": multi-skilled generalists rather than experts in any single area. In all of these frameworks, human capital related to starting and running a successful business is central for selection into entrepreneurship. Parental income and wealth may correlate with such entrepreneurial human capital and the ability of the child, indicating positive selection by parental income into entrepreneurship. Relatedly, successful entrepreneurs are overrepresented among well-off parents—high parental income and wealth can simply reflect parental entrepreneurship, which would then be the true underlying source of children's entrepreneurial skills.

Second, a well-recognized potential barrier to setting up a new business is liquidity constraints (Evans and Jovanovic, 1989). Starting a business typically requires capital, and acquiring these resources externally can be challenging due to frictions in financial markets. Coming from prosperous backgrounds may alleviate such barriers. Moreover, if top-income or top-wealth parents tend to be business owners and entrepreneurs, they can provide direct access for their offspring to manage mature firms or to gain entrepreneurial human capital in them before starting their own ventures.

Third, preferences such as "being your own boss," perceived work flexibility, and attitudes toward risk are also likely to correlate with the decision to become an entrepreneur (see, e.g., Kerr et al. (2017)). For example, Hurst and Pugsley (2011) argue that various non-pecuniary benefits play a key role in starting a business. Socio-economic background may correlate with these preferences, and parental entrepreneurship can shape them directly, making children of successful entrepreneurial parents, who dominate the top income and wealth brackets, more likely to become entrepreneurs (see, e.g., Lindquist et al. (2015); and more broadly on family and role models Aldrich and Cliff (2003), Bosma et al. (2012), Guiso et al. (2021)).

3.3 Understanding the Patterns: Additional Registry Data

In this section, I seek to understand the positive association between entrepreneurship and parental income using additional registry data. These data provide rich coverage of the characteristics of individuals and their parents, as well as the industries and initial equity of newly established firms. The caveats of this analysis are discussed at the end of the section.

First, I study how the probability of becoming an entrepreneur vary across the parental income distribution, conditional on observed characteristics. This approach provides a population-wide picture of selection into entrepreneurship. Second, I focus exclusively on individuals who eventually become entrepreneurs and study their pre-entry characteristics just before the transition. This perspective characterizes the composition of entrants. Third, adding to the composition analysis, I show the differences by parental background in two post-selection outcomes, industry and initial equity of new firms. Fourth, I examine to what extent the selection pattern can be explained by income shifting and shell companies.

Conditioning on Individual-Level Characteristics. I evaluate the importance of several pre-selection characteristics for the positive association between entrepreneurship and parental income by estimating conditional binned scatterplots. I follow the approach of (Cattaneo et al., 2024), since covariate adjustment through residualization and collapsing can introduce substantial bias (this is only formally justified when the true function is linear). Each characteristic is either constant over time or measured before business ownership and entrepreneurship are measured. The analysis is conducted excluding business owners who are not entrepreneurs, so that entrepreneurs are compared to individuals who do not engage in incorporated business activities, rather than a mix of non-entrepreneurs who have and have not ownership in incorporated firms.

I estimate the entire distribution of conditional means and express the incidence of business ownership and entrepreneurship relative to the bottom 50% average. I include the characteristics one by one and all in the same specification. I illustrate the differences in the

whole distribution graphically, and calculate how the unconditional top 1% / bottom 50% ratio changes when controls are included.

Adding controls to the binned scatterplot can either decrease or increase the over-representation of entrepreneurs from the top parental income ranks. The first case indicates that such variables mediate part of the association. The second, in turn, implies that these characteristics acted as suppressors: once held constant, the underlying parental income gradient is sharper. The fully controlled specification should therefore be interpreted as the residual association between parental income and business ownership or entrepreneurship, net of the combined (and partly offsetting) influence of the observed characteristics, rather than as a mechanical sum of individual contributions.

I consider 11 characteristics or a set of them. Gender and birth cohort are constant for each individual (1, 2). Income rank (pre-tax, full population) and the level and field of highest completed degree (ISCED classification) are measured at age 24 (3, 4). Secondary and tertiary school fixed effects are defined as the modal schools individuals attended before turning 25 (5). In the case of ties, I select the latest. For residential background, I identify the modal ZIP code when individuals were 6-–19 years old, following the same modal and tie-break approach as for schools (6). Prior work experience includes the number of firms individuals worked in, and their average size (rank of number of employees), before turning 25 (7). Existing firm ownership, in general and in family firms, are defined as having at least 1% ownership share in any firm or in a firm also owned by one's parent at age 25 (8, 9). Parental education is defined as a dummy variable separating individuals with at least one parent having at least a master's degree (10). I label parents as entrepreneurs if their socio-economic status (SES, defined by Statistics Finland) was entrepreneur in all four years 1990, 1993, 1995 and 2000, for which we have data (11). Using identical entrepreneurship classification between parents and children is not feasible since the data on ownership of incorporated firms starts only in 2006.

Figure 2 organizes the results in the following way. Each panel shows the raw selection

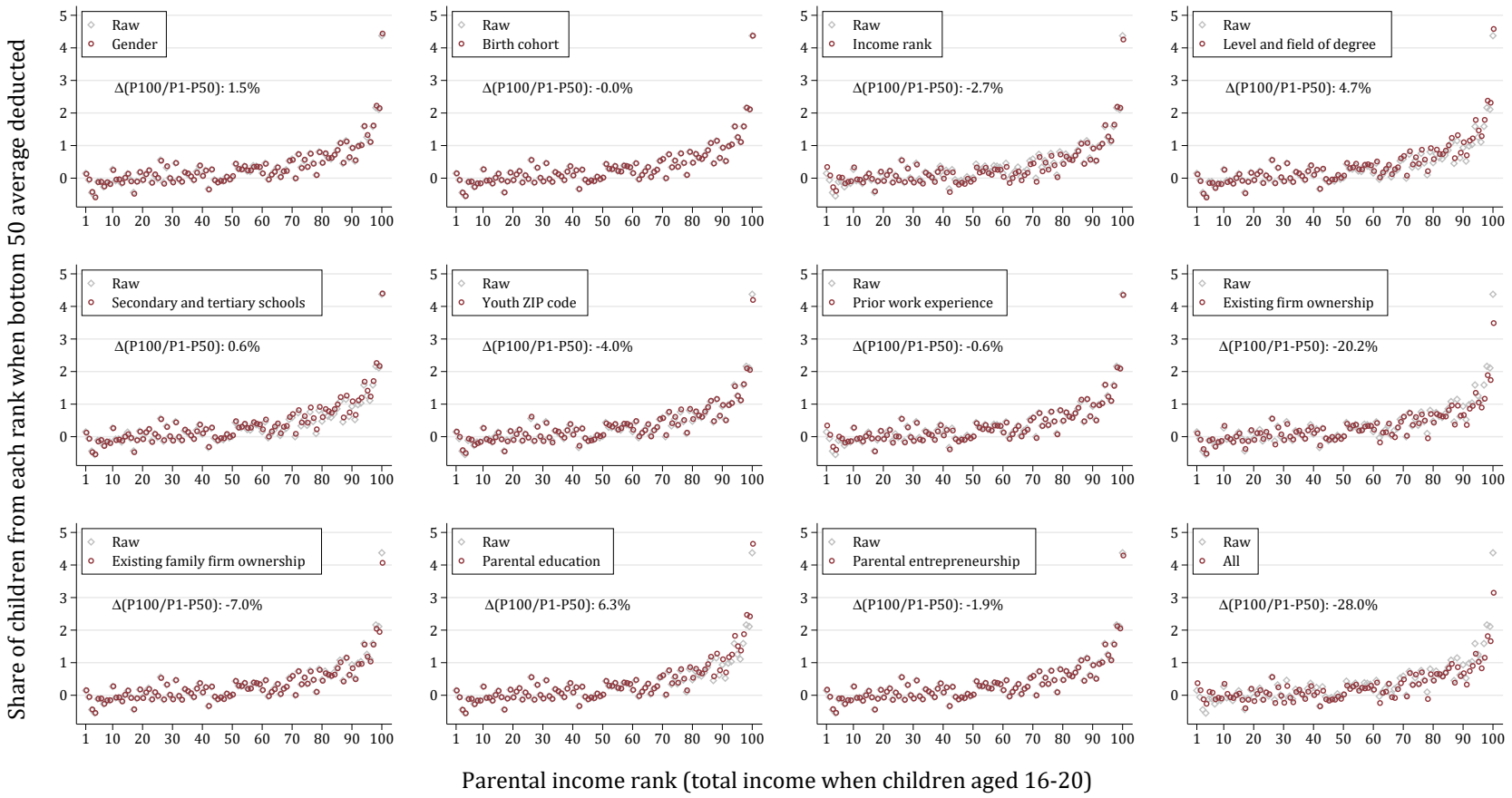
pattern, with the bottom 50% average deducted at each percentile, and the pattern conditional on the controls specified in each panel. In the bottom-right panel, all controls are added in the same specification.

Existing firm ownership appears to be the most important channel. Controlling for it reduces the top 1% / bottom 50% over-representation by 20%. Step by step, high parental income predicts firm ownership at an early age, which in turn predicts founding a new firm later. When controlling for early-age firm ownership, the association between parental income and entrepreneurship decreases. By contrast, controlling for ownership in family firms only soaks up much less, only 7%, of the over-representation.

A natural prior might be that existing family firm ownership should account more of the parental income gradient in entrepreneurship than firm ownership in general, since it represents the most direct channel of business transfer between generations, and top-income parents often own incorporated firms. However, in this population view, firm ownership in general captures a wider set of business-related resources and networks, such as extended family holdings, partnership ties, or informal ownership connections, that are unequally distributed across the parental income distribution and predictive of entrepreneurship. Family firm ownership, by contrast, is narrower and relatively rare in the population, so its marginal contribution to explaining the overall selection of top parental income individuals into entrepreneurship is smaller. However, as I show below, among those who enter, the biggest compositional difference by parental income is in family firm ownership.

Conditioning on education level and field increases the parental income gradient, which implies that education acts as a suppressor variable. Because higher parental income is associated with higher educational attainment, and education itself is only weakly or even negatively related to entry into entrepreneurship (Table 1), holding education constant reveals a sharper residual link between parental income and entrepreneurship. A similar interpretation applies to parental education, which, conditional on income, may be associated with more academic or professional career preferences rather than entrepreneurial ones.

Figure 2: Entrepreneurship by parental income conditional on observable pre-selection characteristics



Notes: Figure shows how controlling for several observable pre-selection characteristics changes the association between entrepreneurship and parental income. The binned scatterplots are estimated following Cattaneo et al. (2024). In each panel, entrepreneurial incidence is expressed relative to the bottom 50% average, and conditional binscatters are contrasted with the unconditional one. Parental income is defined as the total pre-tax income of both parents when children are 16—20 years old. The figure shows that existing firm ownership is the most important channel.

Residential background also appears as a relatively important factor, as controlling for the youth ZIP code reduces the top 1% / bottom 50% by 4%. Neighborhoods likely proxy for localized advantages, such as exposure to entrepreneurial role models, access to higher-quality networks, or proximity to more dynamic local labor markets, that raise the probability of later entry into entrepreneurship. Thus, conditioning on ZIP code absorbs part of this spatially mediated pathway.

In comparison to existing firm ownership, education and residential background other variables are unimportant. The fully controlled specification shows that the net residual association between parental income is 28% smaller than the raw one for both the top 1% / bottom 50% and P90 / bottom 50% ratios.

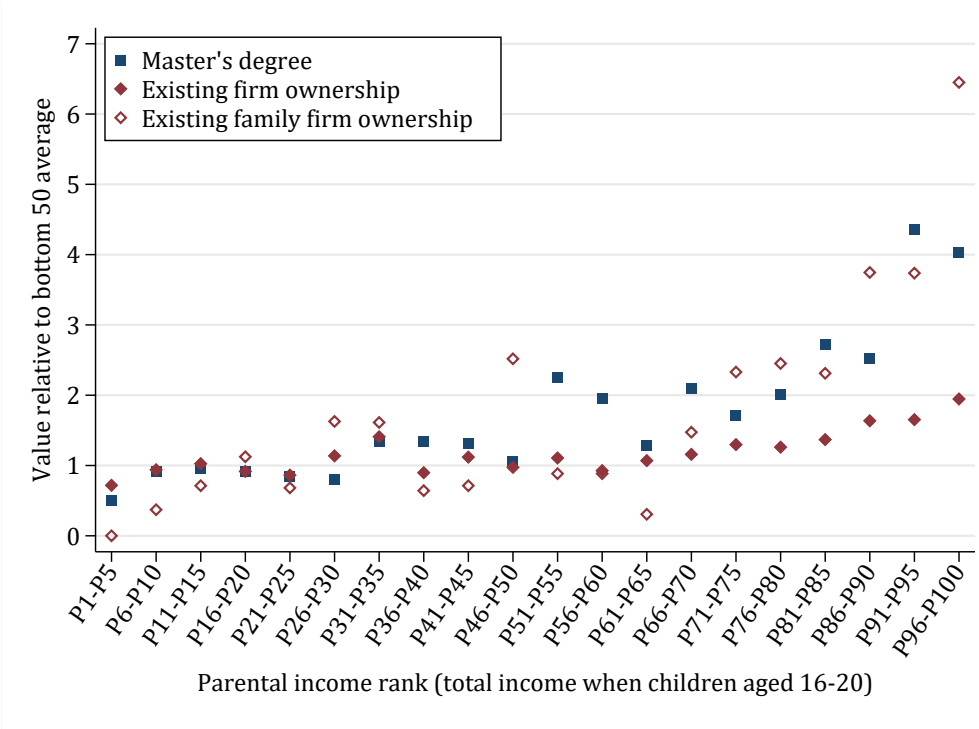
The strong explanatory power of existing firm ownership aligns closely with the conceptual channels linking family background to entrepreneurship. First, it captures entrepreneurial experience acquired through day-to-day exposure to the operations of an active business. These include learning how to manage employees, deal with customers and suppliers, and navigate regulation. Such experience reflects the skills and ability channel emphasized in theories of occupational choice: individuals with prior managerial or sector-specific experience are better equipped to identify and exploit business opportunities.

Second, firm ownership also reflects liquidity and resource access. Ownership implies not only direct assets that can be mobilized to start a new venture, but also access to networks of financiers, customers, and suppliers that lower the costs and risks of entry. In this sense, existing ownership combines elements of both human and financial capital, providing a particularly direct mechanism through which children from affluent families can translate inherited advantages into entrepreneurial activity.

Characteristics Just Before Becoming an Entrepreneur. The detailed registry data also enable me to examine how entrepreneurs from different backgrounds differ from one another just before they become entrepreneurs. As above, background characteristics are

expressed relative to the average for those from the bottom half of the parental income distribution. Entrepreneurs are pooled into 5% bins of parental income. This complements the selection analysis by showing differences in the composition of entrepreneurs by parental background.

Figure 3: Education and existing firm ownership by parental income



Notes: Figure shows, by parental income ventile (5% bins), education and existing firm ownership relative to the average for those from the bottom half of the parental income distribution. Parental income is defined as the total pre-tax income of both parents when children are 16-–20 years old. The analysis is conducted among entrepreneurs, showing how those from different socio-economic backgrounds differ from one another. Each characteristic, if time-varying, is measured one year before the new firm is established. The figure shows that entrepreneurs from the top of the parental income distribution are distinctly more likely to be involved in family firms before becoming entrepreneurs. They are also more educated than entrepreneurs from lower socio-economic ranks.

The stand-out finding from Figure 3 is that entrepreneurs from the top 5% of the parental income distribution are 6.5 times more likely to have ownership in an existing firm also owned by their parents than those from the bottom half. This pattern is also visible for individuals from percentiles 86—95, who are roughly four times more likely to have ties with family firms than those in the bottom 50%. In raw numbers, 9% of top 5% individuals have family firm

ownership, while in the bottom half the share is between 0 and 3%. There is also a difference in firm ownership in general, though the gap is only about twofold between the top 5% and bottom 50%. The raw numbers are roughly 30% and between 11 and 23%, respectively.

The differences in the results regarding any existing firm ownership and family firm ownership between Figures 2 and 3 stem from differences in the scope of the analysis. In the broad selection analysis (Figure 2), firm ownership in general seems to capture a wider set of mechanisms, that are unequally distributed across the parental income distribution and predictive of entrepreneurship, than family firm ownership. However, conditional on entry into entrepreneurship, the biggest compositional difference between entrepreneurs from different origins is their experience in family firms (Figure 3).

As a naïve illustration of the importance of existing family firm ownership, consider a simplistic example. Assume that entrepreneurs with family firm ownership would not have become entrepreneurs without this experience. In the raw data, the top 1% vs. bottom 50% over-representation is 2.8, as shown in Figure 1, but it falls to 2.3 in this thought experiment. Relatedly, for the pool of all business owners, a similar exercise reduces the over-representation even further, from 5.1 to 3.9. The decreases of 13% and 24%, respectively, are substantial.

The new firms are typically established in the same industries as the family firms. At the 2-digit level, the share of same industries is 86%. At the very granular 5-digit level, it is still 84%. This suggests that entrepreneurs, who have family firm experience, build on industry-specific skills and know-how, potentially leveraging established supplier and buyer relationships, reputational capital, and access to distribution channels.

Entrepreneurs from top-income families are also more educated. At the top decile, nearly a quarter of entrepreneurs have a master's degree just before the transition into entrepreneurship, while in the bottom half the share is between 3% and 8%. The difference cannot be explained by variation in starting age, which does not differ by socio-economic background. Nor are there differences in gender balance or income.

Figure B3 in Appendix B shows that the firms where entrepreneurs worked before becoming entrepreneurs are very similar across socio-economic backgrounds. The differences in sales, value added, profits, and mean wages are very small and show no clear pattern. Entrepreneurs from top-income families tend to have worked in firms with slightly more employees and in slightly fewer firms.

These findings complement the results of Gendron-Carrier (2025), who shows that prior experience in high-wage firms is an important driver of subsequent entrepreneurial success, particularly for lower-ability individuals. In contrast to his focus on the quality of prior employers, my results highlight that, at least across socio-economic backgrounds, the types of firms where individuals work before founding a business are remarkably similar. This suggests that differences in entrepreneurial outcomes by parental income are unlikely to be explained by systematic sorting into better employers prior to entry. Instead, if work experience matters, it may operate through more subtle channels, such as differential learning or role acquisition within otherwise similar firms, or interact with unobserved individual characteristics, as emphasized in the model of Gendron-Carrier (2025).

Industry Composition and Initial Equity. I also draw on detailed firm-level data to describe how the industries and initial equity of new firms differ by entrepreneurs' parental income. Because these characteristics are observed only after entrepreneurial entry, they should be interpreted as post-selection outcomes that may themselves be influenced by the selection process.

Table 2, together with Figure B1 and Table B1 in Appendix B, shows that entrepreneurs from different socio-economic backgrounds establish firms in distinctly different industries, classified at the three-digit level. Management consultancy is prominent only among those from the top 15%, or percentiles 36–40, of the parental income distribution. Computer programming, in turn, is absent from the three most frequent industries at the bottom 40%, but is prominent across the rest of the parental income ranks. The two construction-related

industries are frequent across the board. Finally, some industries are prominent only in the bottom half of the parental income distribution (freight transport by road and removal services; restaurants and mobile food service activities; maintenance and repair of motor vehicles).

Table 2: Three most frequent industries of new firms by entrepreneurs' parental income

Parental income rank	Rank of industry	Name of industry	Share of individuals
P1-P5	1	Construction of residential and non-residential buildings	12.5%
P1-P5	2	Freight transport by road and removal services	5.1%
P1-P5	3	Electrical, plumbing and other construction installation act.	5.1%
...			
P51-P55	1	Construction of residential and non-residential buildings	9.0%
P51-P55	2	Computer programming, consultancy and related act.	7.8%
P51-P55	3	Electrical, plumbing and other construction installation act.	5.3%
...			
P96-P100	1	Computer programming, consultancy and related act.	10.6%
P96-P100	2	Management consultancy act.	8.1%
P96-P100	3	Construction of residential and non-residential buildings	4.3%

Notes: Table shows the three most frequent three-digit industries of new firms by entrepreneurs' parental income, defined as the total pre-tax income of both parents when children are 16–20 years old. The bottom 5%, P51–P55, and top 5% are shown, while Table B1 reports the two most frequent industries for all ventiles (5% bins). The table shows that management consultancy is frequent among individuals from high socio-economic ranks, computer programming is common in the top half of the parental income distribution, and firms related to construction are frequent across the board, though with declining frequency at the top ranks.

Figure B2 and Table B2 in Appendix B show a similar breakdown by parental income for industries of salaried employment, conditional on being employed, just before becoming an entrepreneur. The first key observation is that at the top, the share of the most frequent industries is smaller than at lower ranks. This implies that entrepreneurs from prosperous backgrounds enter entrepreneurship from a greater variety of industries. As with the industries of new firms, construction is prominent across the distribution, as is computer programming——except in the bottom third——and very few future entrepreneurs worked in management consultancy in the bottom 75%. Overall, Figures B1 and B2 and Tables 2, B1, and B2 imply that entrepreneurs typically establish firms in industries where they have prior work experience.

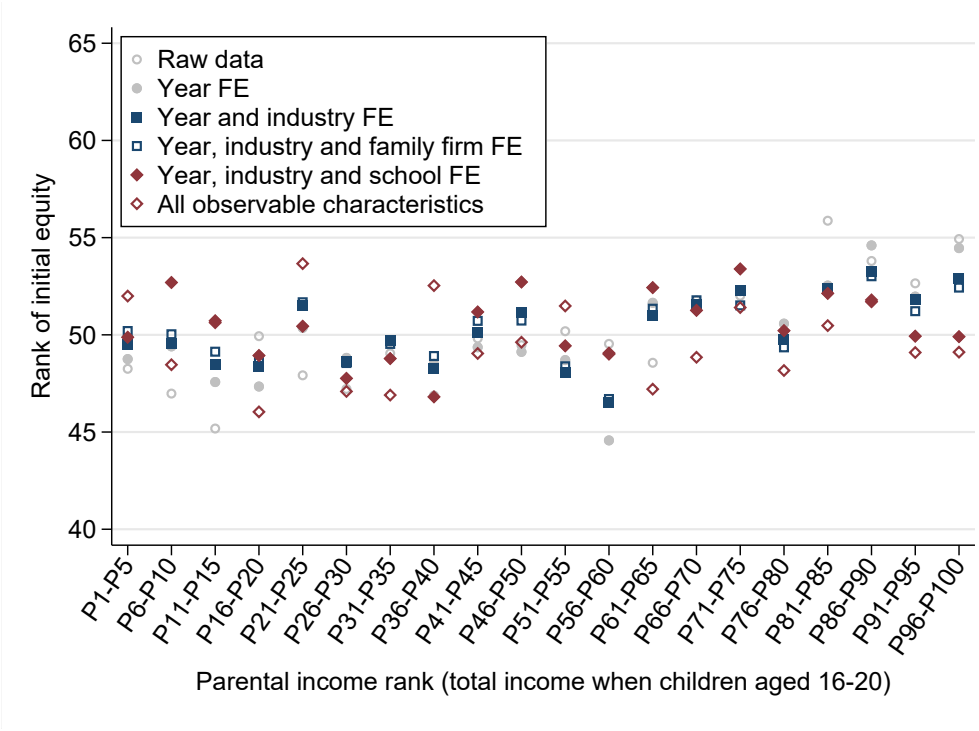
To make the last point more explicit, I calculate the share of entrepreneurs whose industry of employment before becoming entrepreneurs matches the industry of their new firm. After dropping individuals whose industry of employment is missing for all five years preceding the transition into entrepreneurship, I am left with 4,765 entrepreneurs out of 4,937. At the three-digit level, the $t-1$ industry corresponds to the firm's industry in 41% of cases. Looking at five years before (any match), the share rises to 50%. At the two-digit level, the shares are 44% and 55%, respectively, and at an even coarser one-digit level, 54% and 69%, respectively.

Figure 4 shows that the initial equity of new firms does not strongly depend on entrepreneurs' parental income. This holds both in the raw data and when conditioning on year, industry, and school FEs, prior ownership in family firms, and several other individual- and parental-level characteristics. Because initial equity can be negative and take extreme values, I rank entrepreneurs into percentile bins by equity using both raw data and the data conditioned on the above-mentioned controls.

In the raw data, a linear fit implies that moving from one 5% parental-income bin to the next is associated with a 0.4 increase in equity rank. At the top 5%, the mean equity is five ranks above the average. These are small numbers compared with the over-representation of entrepreneurs from prosperous origins. Including industry FEs reduces the difference by two ranks, or 40%, indicating that entrepreneurs from high-income families tend to establish firms in industries where initial equity is larger. School FEs, in turn, close the gap fully, suggesting that shared schooling paths are positively associated with raising funds. The most plausible candidate mechanisms, which I am unable to test, are mentoring and networks. Other controls, such as year FEs or prior experience in family firms, appear unimportant.

Liquidity constraints are often viewed as a major barrier to entry into entrepreneurship. The patterns of initial equity by entrepreneurs' socio-economic background suggest that they are not particularly important in explaining the distinctive selection into entrepreneurship from high-income families. I acknowledge that the lack of financial support from parents may

Figure 4: Initial equity by entrepreneurs' parental income



Notes: Figure shows the initial equity of new firms by entrepreneurs' parental income, defined as the total pre-tax income of both parents when children are 16—20 years old. Raw and residualized equity data are used to rank entrepreneurs into percentile bins to address the issues of negative and extremely high values. Conditioning on all observable characteristics includes fixed effects for year, industry, family firm, secondary and tertiary school, youth ZIP code, gender, birth cohort, education level and field of the highest completed degree, and paternal and maternal education and entrepreneurship. The figure shows that initial equity rises slightly with parental income in the raw data, while the association disappears once conditioning on industry and schooling paths.

prevent or discourage entrepreneurial pathways, leading individuals from low socio-economic ranks to refrain from establishing firms altogether. Nevertheless, equity is the measure where differences in liquidity should appear among those who do become entrepreneurs. Thus, Figure 4 provides compelling evidence against the importance of liquidity constraints, using registry-based data on firms' financial statements. Moreover, in Finland the financial burden of starting a business is low, supporting the finding and making it consistent with the institutional context.

However, as pointed out by Boháček (2006) and Quadrini (2009), casting doubt on the importance of liquidity for selection into entrepreneurship does not mean that financial con-

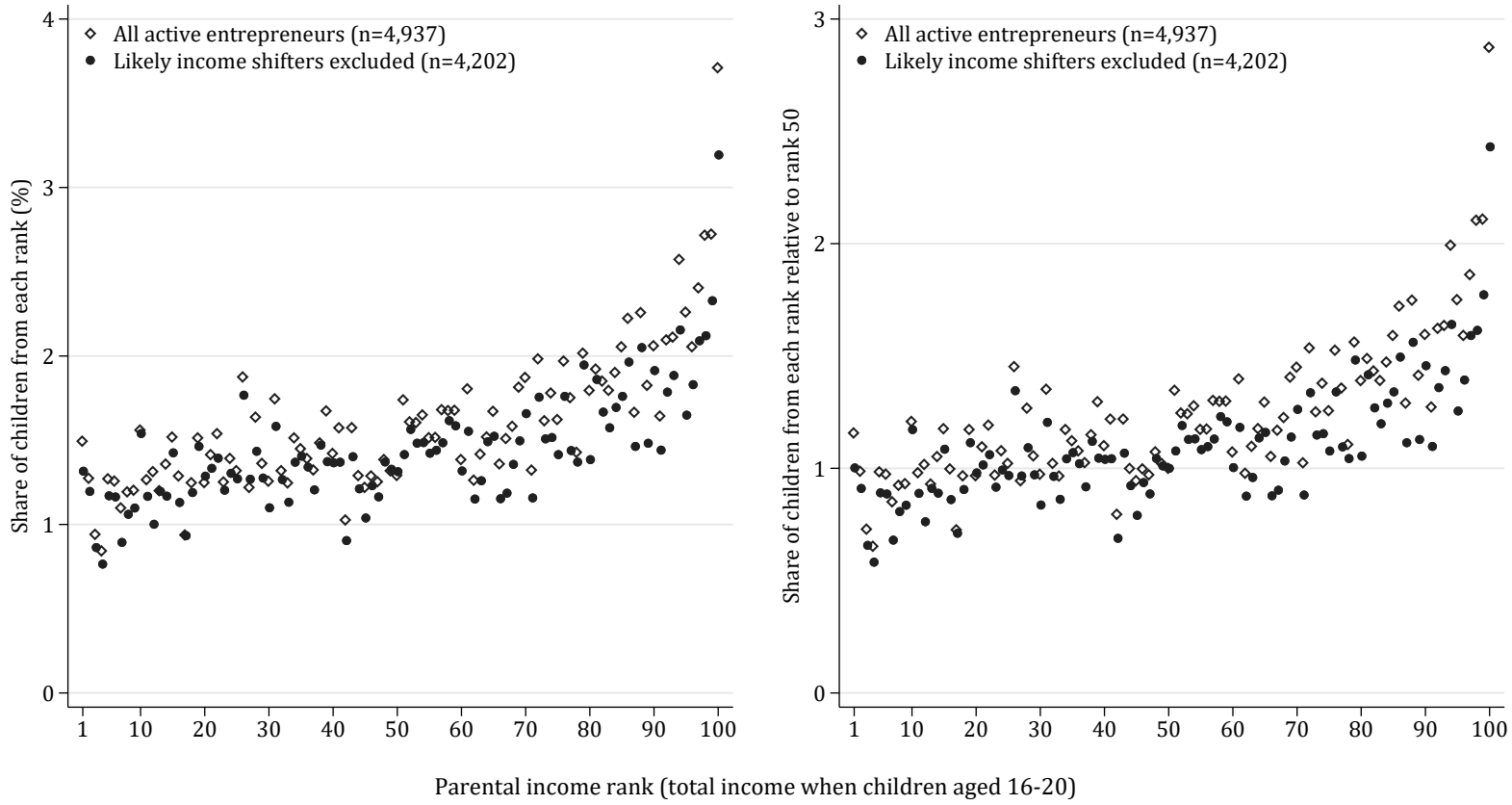
straints are unimportant for entrepreneurs. Suppose I identify an entrepreneurial opportunity in cutting trees in residential areas. The lack of funds may not prevent me from buying a chainsaw and entering the market, but it may prevent me from buying a truck-mounted crane that would make me more efficient. More formally, even if liquidity constraints are unimportant for occupational choice, they may keep the scale of the business below optimal.

Income Shifting and Shell Companies. The Finnish dual income tax system creates an incentive for individuals to shift income from labor earnings to capital income. In short, the lower and less progressive taxation of capital income compared to earned income makes it tax-advantageous to reclassify or withdraw income in forms taxed as capital rather than wages. For a longer description, see Appendix C in Harju et al. (2025).

Parental income may correlate with income shifting for several reasons. Individuals from high-income families are more likely to have access to financial literacy, professional networks, and advice that make the tax advantages of shifting more salient and easier to exploit. They are also disproportionately represented in owner-managed, skill-intensive occupations where the boundaries between labor and capital income are more flexible. As a result, higher parental income can translate into both greater knowledge of tax-minimizing strategies and greater opportunity to use them.

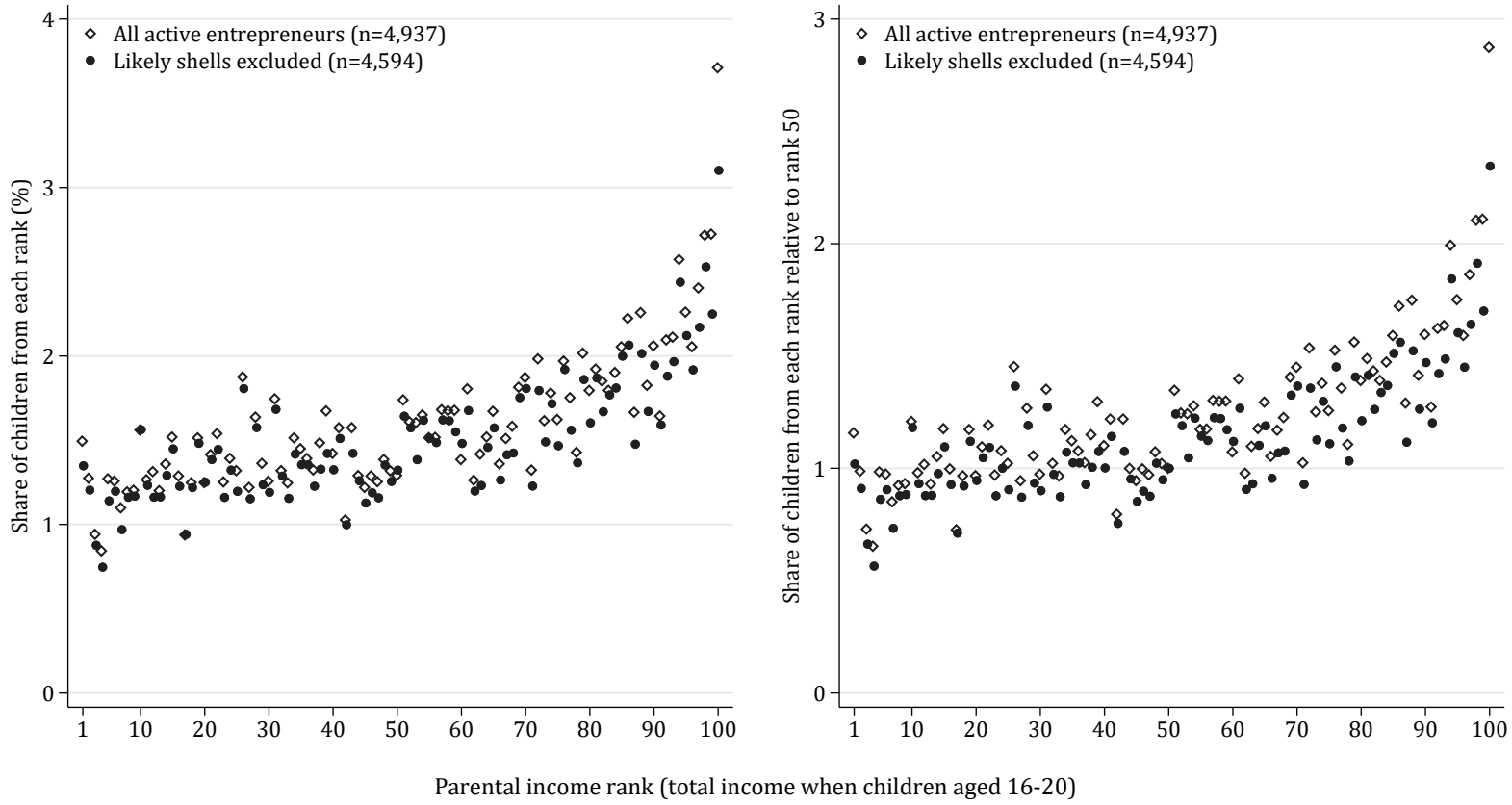
To study whether income shifting is more common among those with high-income parents, I exclude likely income-shifters from the sample and examine how the selection pattern changes. I classify individuals as such, if they worked in one of these industries just before establishing their first own firm: computer programming & IT consultancy (620); activities of holding companies (642); buying/selling of own real estate (681); renting/operating of own or leased real estate (682); legal activities (691); accounting, bookkeeping, auditing & tax consultancy (692); management consultancy (702); specialized design activities (741); other professional, scientific & technical activities (749); medical & dental practices (862).

Figure 5: Entrepreneurship by parental income: addressing income shifting



Notes: Figure shows the incidence of entrepreneurship by parental income when likely income-shifters are excluded. Parental income is defined as the total pre-tax income of both parents when children are 16—20 years old. Likely income-shifters are defined as those who worked in one of these industries just before establishing their first own firm: computer programming & IT consultancy (620); activities of holding companies (642); buying/selling of own real estate (681); renting/operating of own or leased real estate (682); legal activities (691); accounting, bookkeeping, auditing & tax consultancy (692); management consultancy (702); specialized design activities (741); other professional, scientific & technical activities (749); medical & dental practices (862). On the left, the graph shows by parental income rank the share of children who become entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom-half average. The figure shows that the selection pattern persists when likely income-shifters are excluded.

Figure 6: Entrepreneurship by parental income: addressing shell companies



Notes: Figure shows the incidence of entrepreneurship by parental income when likely shell companies are excluded. Parental income is defined as the total pre-tax income of both parents when children are 16—20 years old. Likely shell companies are defined as those firms that were founded in these industries: activities of holding companies (642); buying/selling of own real estate (681); renting/operating of own or leased real estate (682); management consultancy (702); other professional, scientific & technical activities (749); trusts, funds and similar financial entities (643); other financial service activities, except insurance and pension funding (649); activities auxiliary to financial services (661); business and other management activities of head offices (701); administrative and support service activities (829). On the left, the graph shows by parental income rank the share of children who become entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom-half average. The figure shows that the selection pattern persists when likely shell companies are excluded.

As Figure 5 shows, the exclusion of likely income-shifters changes the selection pattern at the top ranks. The top 1% / bottom 50% ratio drops from 2.76 to 2.43, while the drop in the P90 / bottom 50% ratio is very small (from 1.52 to 1.46).

A basic idea similar to income shifting applies to the use of shell companies. Individuals from high-income families are more likely to have early exposure to legal, financial, and business structures that make establishing and maintaining such entities relatively straightforward. High-income parents may also pass on professional networks, such as lawyers, accountants and other advisors, who can facilitate the setup of shell companies for tax planning, asset protection, or organizational purposes. Moreover, wealthier families are more likely to own diverse assets or engage in activities where separating ownership from operations is advantageous, making shell companies a familiar and accessible tool. As a result, high parental income can increase both the knowledge of and practical opportunity to use shell entities.

I classify potential shell companies by industry of the new firm, the first five also being in the list of likely income-shifters defined based on entrepreneurs' prior employment: activities of holding companies (642); buying/selling of own real estate (681); renting/operating of own or leased real estate (682); management consultancy (702); other professional, scientific & technical activities (749); trusts, funds and similar financial entities (643); other financial service activities, except insurance and pension funding (649); activities auxiliary to financial services (661); business and other management activities of head offices (701); administrative and support service activities (829).

As Figure 6 shows, the exclusion of potential shell companies changes the selection pattern at the top ranks. The top 1% / bottom 50% ratio drops from 2.76 to 2.35, while the drop in the P90 / bottom 50% ratio is very small (from 1.52 to 1.47).

Overall, Figures 5 and 6 suggest that roughly 10% of the over-representation of entrepreneurs in terms of the top 1% / bottom 50% ratio can be accounted for by excluding industries that are likely associated with income shifting and shell companies. This is a small

fraction, since the definitions only capture a subjective assessment of the likely industries—I do not claim that all of these entrepreneurs emerged due to tax planning. Moreover, the non-linear positive association between entrepreneurship and parental income is very clear even when these industries are excluded, which demonstrates that the pattern reflects real career choices rather than behavioral responses induced by the features of the tax system.

Summary. This section illustrates four main results. First, the strongest channel behind the over-representation of entrepreneurs from high-income families is prior experience of business ownership before founding new firms. This finding is compatible with several conceptual mechanisms regarding skills and ability, and liquidity. Second, entrepreneurs from different socio-economic backgrounds establish firms in distinctly different industries—computer programming being a top-half phenomenon and management consultancy a top-end phenomenon. This suggests that coming from prosperous origins is positively associated with human capital that provides entrepreneurial opportunities. Third, the initial equity of new firms appears unrelated to entrepreneurs' socio-economic background, suggesting that liquidity constraints are not particularly important. Fourth, the selection pattern seem not to be driven by children from high-income families being more likely to shift income from salaried earnings to capital income or to use shell companies.

With the data used in this section, I cannot address some likely mechanisms behind the over-representation of entrepreneurs from affluent families. First, although existing business ties are compatible with networks, it does not directly measure their importance. Second, coming from wealthy origins may serve as a signal of credibility, making it easier for children to pursue entrepreneurship. Third, high-income parents may pass on inheritable skills and traits that are positively associated with entrepreneurship. Since they are, by definition, successful and more often entrepreneurs than parents lower in the income distribution, they may also transmit such skills and traits beyond genetics, or provide different kinds of emotional and psychological support. Such aspects are impossible to capture with data on educational

outcomes, for example. Fourth, having high-income parents can provide an additional safety net—an opportunity to take on entrepreneurial risk. More broadly, parental income can shape personality through various channels that I am unable to explore with registry data.

3.4 Understanding the Patterns: Ownership Ladder Model

Empirically, the strongest channel behind the over-representation of entrepreneurs from high-income families is prior experience of business ownership before founding new firms. As discussed above, this finding is compatible with several conceptual mechanisms regarding skills and ability, and liquidity.

A more rigorous framework to conceptualize the result is an idea of an "ownership ladder": Entrepreneurship is often the second step on the ladder, and high parental income is associated with people stepping onto that ladder early. This can happen directly through family firm successions or indirectly through, for example, liquidity and networks, which provide individuals from high-income families with better opportunities to become business owners via partner tracks, equity-comp jobs or buy-ins.

The Model. The model has two time periods $t \in \{0, 1\}$. Utility is over consumption at $t = 1$ and individuals maximize expected utility $\mathbb{E}[u(c_1)]$. Individuals differ by parental resources R_p and a multidimensional type θ (ability, preferences, ...). Let initial liquid wealth be

$$a_0 = \bar{a} + \eta R_p,$$

where $\bar{a}$ is idiosyncratic initial non-parental wealth, R_p stand for parental resources and $\eta \geq 0$ captures intergenerational transfers and/or early-life investment.

At $t = 0$, the individual chooses an early-career track $d \in \{W, O\}$:

- $d = W$ (wage track): work as a pure employee
- $d = O$ (ownership track): enter a track that may yield an ownership stake in an existing

firm (family or non-family)

At $t = 1$ the individual chooses an occupation:

$$e \in \{S, E\},$$

where S denotes staying employed/owner in an incumbent firm, and E denotes founding a new firm in which the individual has a central role (entrepreneurship).

At $t = 1$ the individual's state is

$$x_1 \equiv (a_1, h_1, n_1, o),$$

where:

- a_1 is liquid wealth;
- h_1 is entrepreneurial/managerial human capital (governance, hiring, pricing, ...);
- n_1 is network/credibility capital (access to financiers, customers, reputation, ...);
- $o \in \{0, 1\}$ indicates whether the individual holds ownership in an existing firm prior to founding.

If the individual chooses the wage track $d = W$, they earn a certain wage w_W and do not obtain ownership:

$$o = 0.$$

If the individual chooses the ownership track $d = O$, they pay an entry cost (buy-in or foregone wage) $\kappa \geq 0$. For example, κ can be a direct payment b (buy-in) or an implicit cost c (accepting lower pay):

$$\kappa \in \{b,\ c\}.$$

They then obtain an ownership stake with probability

$$\Pr(o = 1 \mid d = O, R_p, \theta) \equiv \pi(R_p, \theta), \qquad \frac{\partial \pi}{\partial R_p} > 0.$$

The condition $\partial \pi / \partial R_p > 0$ captures that higher parental resources improve access to ownership opportunities directly through family firm successions or indirectly through, for example, liquidity and networks, which provide individuals from high-income families with better opportunities to become business owners via partner tracks, equity-comp jobs or buy-ins.

Let $g_a(\cdot)$ denote savings/wealth accumulation up to $t = 1$ and allow ownership to shift states:

$$a_1 = g_a(a_0, d) - \mathbf{1}\{d = O\}\kappa + \Delta a \cdot o, \tag{1}$$

$$h_1 = \bar{h}(d, \theta) + \Delta h \cdot o, \tag{2}$$

$$n_1 = \bar{n}(d, \theta) + \Delta n \cdot o. \tag{3}$$

Here $(\Delta a, \Delta h, \Delta n) \geq 0$ represent the idea that ownership before founding generates (i) additional wealth or claimable resources, (ii) more relevant human capital, and (iii) stronger networks/credibility.

To found a new firm, the entrepreneur must invest a fixed amount $K > 0$ (startup capital, setup costs). Project payoff is

$$Y = A(\theta)\, \exp\{\alpha h_1 + \beta n_1\}\, \varepsilon, \qquad \varepsilon \geq 0,\ \mathbb{E}[\varepsilon] = 1,$$

so that prior ownership can raise expected returns through h_1 and n_1. $A(\theta)$ represents the idiosyncratic component of returns to entrepreneurship (ability, preferences, ...).

Regarding borrowing constraints, the individual can finance investment using own liquid

wealth and external finance limited by collateral/credibility:

$$K \leq \lambda a_1 + \phi n_1, \tag{4}$$

with $\lambda > 0$ and $\phi \geq 0$. This nests standard collateral constraints ($\phi = 0$) and allows credibility-based finance ($\phi > 0$).

Regarding consumption, if the individual chooses entrepreneurship $e = E$ and satisfies (4), then

$$c_1^E = a_1 - K + Y,$$

i.e, individual consumes liquid wealth a_1 net of entrepreneurial investment K and payoff Y.

If the individual stays employed/owner in incumbents ($e = S$), they receive deterministic income $w_S(x_1)$ and consume

$$c_1^S = a_1 + w_S(x_1).$$

The Solution. At $t = 1$, the value of entrepreneurship is

$$V_E(x_1) = \begin{cases} \mathbb{E}\left[u(a_1 - K + Y)\right], & \text{if } K \leq \lambda a_1 + \phi n_1, \\ -\infty, & \text{otherwise,} \end{cases}$$

and the value of staying is

$$V_S(x_1) = u(a_1 + w_S(x_1)).$$

The $t = 1$ choice is

$$e^*(x_1) = \begin{cases} E, & \text{if } V_E(x_1) \geq V_S(x_1), \\ S, & \text{otherwise.} \end{cases}$$

Define the continuation value at $t = 1$ as $V_1(x_1) = \max\{V_E(x_1), V_S(x_1)\}$.

At $t = 0$, the value of choosing $d = W$ is

$$V_0(W) = V_1(x_1(d = W, o = 0)),$$

and the value of choosing $d = O$ is

$$V_0(O) = \pi(R_p, \theta)\, V_1(x_1(d = O, o = 1)) + (1 - \pi(R_p, \theta))\; V_1(x_1(d = O, o = 0)),$$

where $x_1(\cdot)$ uses the laws of motion (1)–(3). The optimal track is

$$d^*(R_p, \theta) = \arg \max_{d \in \{W,O\}} V_0(d).$$

Results: Comparative Statics. Three conceptually distinct channels from R_p to entrepreneurship emerge:

1. *Direct liquidity channel:* $R_p \uparrow \Rightarrow a_0 \uparrow \Rightarrow a_1 \uparrow$, relaxing (4).
2. *Access-to-ownership channel:* $R_p \uparrow \Rightarrow \pi(R_p, \theta) \uparrow \Rightarrow o \uparrow$ in expectation.
3. *Ownership-to-entrepreneurship channel:* $o = 1 \Rightarrow (a_1, h_1, n_1)$ higher via $(\Delta a, \Delta h, \Delta n)$, raising both feasibility (through (4)) and desirability (through Y).

A simple implication is that, under $\Delta a, \Delta h, \Delta n > 0$ and $\partial \pi / \partial R_p > 0$, the reduced-form effect of parental resources on entry,

$$\frac{\partial}{\partial R_p} \Pr(e^* = E),$$

is often largely accounted for by changes in $\Pr(o = 1)$ and subsequent state shifts.

Formally, writing entry as

$$\Pr(e^* = E) = \Pr(e^* = E \mid o = 1) \Pr(o = 1) + \Pr(e^* = E \mid o = 0)(1 - \Pr(o = 1)),$$

then

$$\frac{\partial}{\partial R_p}\Pr(e^* = E) \approx \underbrace{\Big(\Pr(e^* = E \mid o = 1) - \Pr(e^* = E \mid o = 0)\Big)\frac{\partial}{\partial R_p}\Pr(o = 1)}_{\text{mediated by ownership}} + \epsilon,$$

where ϵ is residual direct effect via a_0. Thus, conditioning on pre-entrepreneur ownership o can substantially attenuate the parental gradient in entrepreneurship, rationalizing the empirical result.

Earlier Literature. The model presented above builds on several branches of existing literature. First, the occupational choice foundations stem from Lucas (1978) and Kihlstrom and Laffont (1979), where occupational choice is driven by heteregeneous managerial talent and risk aversion, respectively.

Second, regarding liquidity constraints and wealth-based entry, Evans and Jovanovic (1989) estimate a model, where wealth relaxes a financing constraint for entry into entrepreneurship. This is a direct predecessor of the $K \leq \lambda a$ feature of the model. Holtz-Eakin et al. (1994) study inheritance shocks and transitions into entrepreneurship interpreting the results through liquidity constraints. Banerjee and Newman (1993)—occupational choice with imperfect capital markets and wealth distribution determining who becomes an entrepreneur—is also close in spirit to the model of this paper.

Third, a mechanism not directly modeled above is learning and updating beliefs about entrepreneurial fit and returns. This relates to Jovanovic (1982), where agents learn about efficiency over time. Fourth, treating financial frictions in the form of collateral and credibility originate from Holmstrom and Tirole (1997) and Kiyotaki and Moore (1997).

4 Dynamic Implications

Thus far, the findings of this study have shown that children from prosperous origins are disproportionately likely to become business owners and entrepreneurs. The underlying roots of these patterns have also been analyzed extensively. Next, the focus turns to the dynamic implications, with three questions related to the socio-economic background (SEB) of entrepreneurs:

1. Is the SEB of entrepreneurs associated with the performance of their firms?
2. Is the SEB of entrepreneurs associated with their personal income development?
3. What are the implications for intergenerational income mobility?

Below, I address each question in turn. As a summary:

1. Overall, differences in firm performance by entrepreneurs' SEB are modest.
2. Although entrepreneurs on average earn much more than salaried employees, income differences by SEB are smaller among entrepreneurs than among salaried employees.
3. Intergenerational income mobility among entrepreneurial children is small due to the non-linear selection into entrepreneurship from top-income families and high average earnings of entrepreneurs.

4.1 Firms

Do children from prosperous backgrounds not only become entrepreneurs more frequently, but also establish better firms? The answer to this question is central for making normative assessments about the selection pattern—that is, the fact that socio-economic background predicts entrepreneurship. If the answer is yes, and their firms create more jobs and value added than firms established by other entrepreneurs, the high entrepreneurial incidence of

children from well-off families might even appear desirable. On the other hand, if the answer is no, there are strong grounds for fostering entrepreneurship among those from less privileged backgrounds.

There are various potential mechanisms through which parental income can influence entrepreneurial success. The four most obvious are entrepreneurship-specific skills, general cognitive skills, personality, and liquidity, all of which were discussed above in the selection analysis.

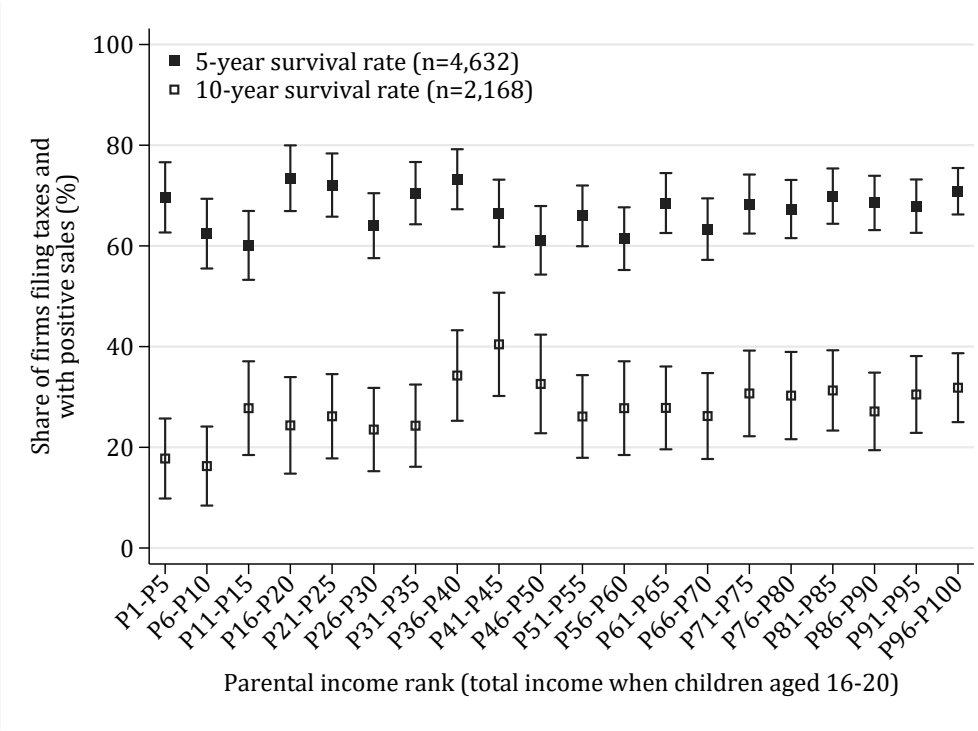
First, high-income parents are more often entrepreneurs and provide entrepreneurial opportunities for their children. This may be linked to specific human capital that supports entrepreneurial endeavors. Second, entrepreneurs differ in their formal schooling by parental income, which may contribute to differences in entrepreneurial success. Third, personality traits may also vary by parental income and ultimately shape entrepreneurial paths. Fourth, although the differences in initial equity by parental income were small, high parental income may still be positively associated with raising funds later on, either through direct access to parents' financial resources or through their networks.

To analyze firm performance, the ideal approach is to track firms from their inception over an extended period, ideally several years or even decades. However, data limitations impose a trade-off: the longer the follow-up period, the more firms are inevitably lost from the sample due to attrition. Since the data extend to 2021, a five-year follow-up allows tracking of firms founded between 2007–2016, with 18% of firms lost. With a ten-year follow-up, the share rises to 62%. Importantly, Figure B4 in Appendix B shows that the underlying selection pattern is nearly identical between the full sample and the follow-up-restricted samples.

Figure 7 shows five- and ten-year survival rates by parental income. A surviving firm is one that filed taxes and had positive sales throughout the respective period. The average five-year survival rate is roughly 70% and is flat across entrepreneurs' parental income. The average ten-year rate is around 30%, with a slight positive gradient by parental income. Overall, the socio-economic background of entrepreneurs appears only weakly, if at

all, related to the survival of their firms.

Figure 7: Firm survival by parental income



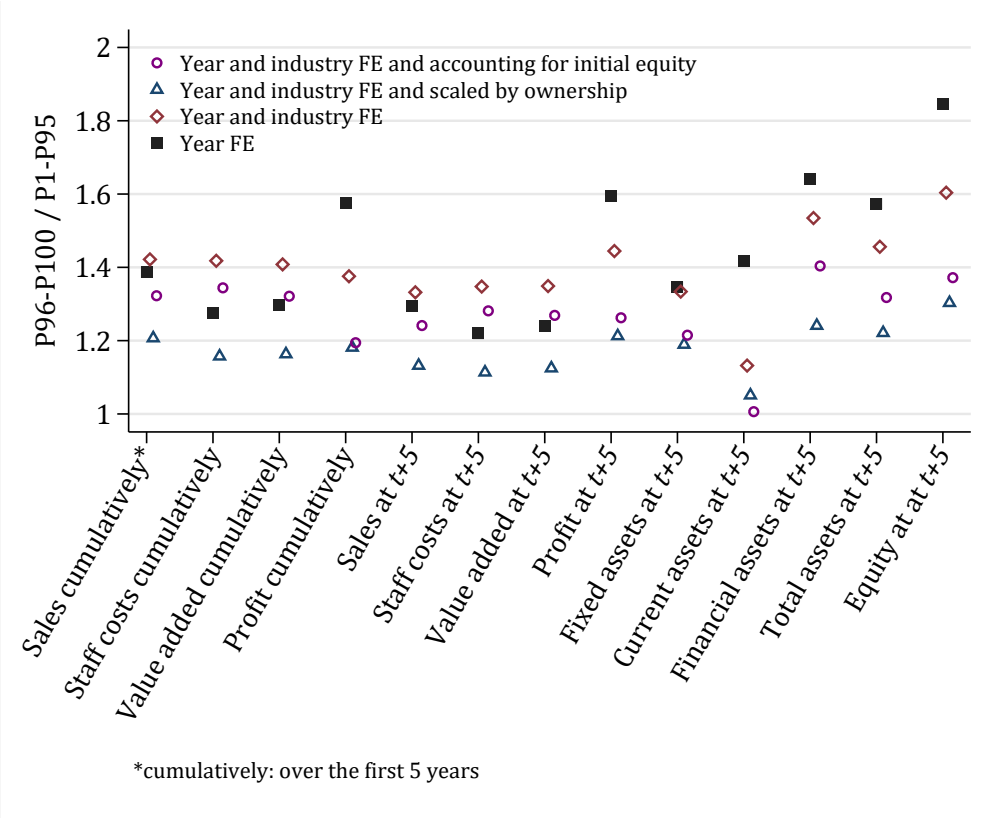
Notes: Figure shows the share of new firms that appear in the administrative balance sheet data with positive sales five and ten years after establishment, by entrepreneurs' parental income. Parental income is defined as the total pre-tax income of both parents when children are 16—20 years old. Overall, the figure demonstrates that the socio-economic background of entrepreneurs is only weakly, if at all, related to the survival of their firms.

Figure 8 summarizes differences in balance sheet figures by entrepreneurs' parental income. Information is condensed into a top 5% / bottom 95% ratio, while the full breakdowns are provided in Figure B5 in Appendix B.

When reading Figure 8 horizontally, the first four items show the key flows—sales, employment, value added and profit—cumulatively over the first five years of firms' lifespans. In other words, there is no conditioning on survival. Although the exact magnitudes vary by metric and specification, entrepreneurs from top 5% families appear to establish slightly better firms. The difference in sales, employment and value added shrink when focusing on a single year, $t + 5$. Since survival does not differ between the top 5% and the rest, this suggests that parental income is especially associated with getting firms up and running, but

less so with medium-run outcomes (five years). Profitability is the exception, as differences there do not diminish. The key stocks—that is, assets with a breakdown into fixed, current and financial assets, and equity—similarly suggest that firms founded by individuals from high-income families are in a better financial situation than firms founded by less fortunate individuals.

Figure 8: Balance sheet numbers at $t+5$ by parental income, top 5% / bottom 95% ratio



Notes: Figure summarizes differences in firm-level outcomes by entrepreneurs' parental income as a top 5% / bottom 95% ratio. Parental income is defined as the total pre-tax income of both parents when children are 16–20 years old. The full breakdown by ventiles (5% bins) is shown in Figure B5. See Appendix C for detailed definitions. Overall, the figure demonstrates that differences in firm performance by socio-economic background are modest.

The differences between estimates with only year fixed effects (solid black squares) and those with both year and industry fixed effects (hollow red diamonds) reflect variation in industry composition (see Table 2 and related material in Appendix B). Entrepreneurs from top 5% families tend to select into industries that are less labor-intensive, create less value

added, are more profitable, and have higher assets and equity. Adjusting for ownership share at founding, as an alternative measure of individual-specific contribution to firm performance, narrows these differences. This reflects the fact that top 5% individuals are more likely to create new firms in larger teams. Although initial equity differences are modest (see Figure 4), controlling for it reduces the differences in profits and assets substantially. This suggests that profitability differences largely reflect returns on initial assets and that even small initial differences persistently affect asset levels later on.

Overall, differences in firm performance by socio-economic background are modest. The full breakdowns in Figure B5 in Appendix B show that the estimates for the top 5% are typically not statistically distinguishable from those for the other brackets.

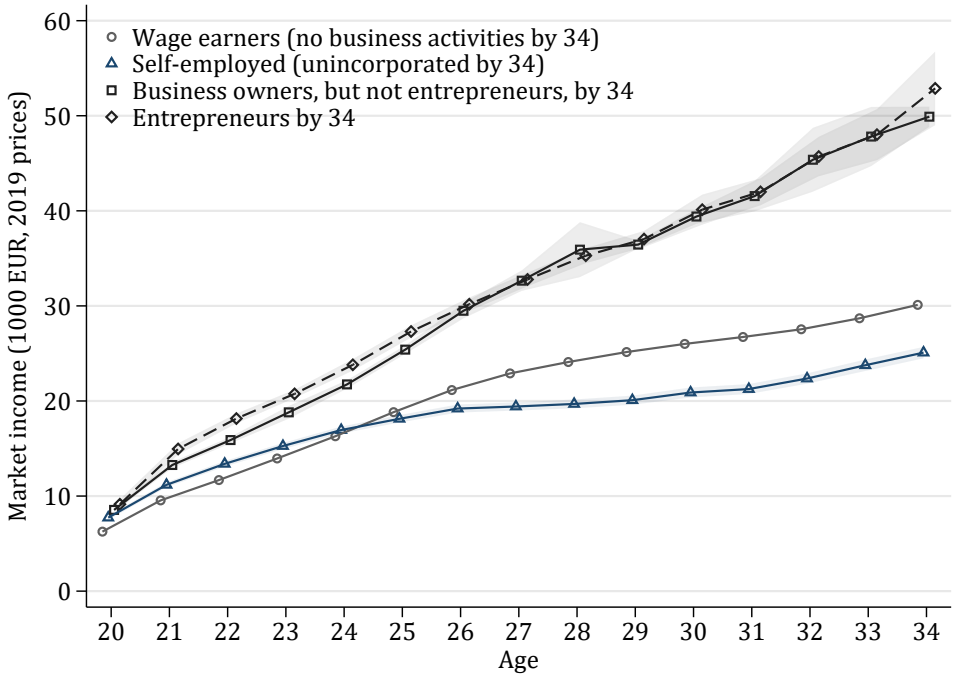
4.2 Personal Income Development

Another natural way to normatively assess the high entrepreneurial incidence of children from prosperous origins is to examine personal incomes by parental background. Section 4.1 showed that entrepreneurs from top 5% families tend to found better-performing firms, though the differences are modest. However, if the rewards in terms of personal income are disproportionately concentrated, fairness concerns may arise.

The age–income profiles in Figure 9 show that by their mid-30s entrepreneurs and other business owners earn roughly twice as much as wage earners and unincorporated self-employed, both in the raw data and when conditioning on observable characteristics. Moreover, the divergence begins early in adulthood. The differences are also evident in the tails at the 10th and 90th percentiles (see Figures B6 and B7 in Appendix B).

Figure 9: Age-income profiles by labor market status: mean income

(a) Raw data



(b) Conditional on observable characteristics

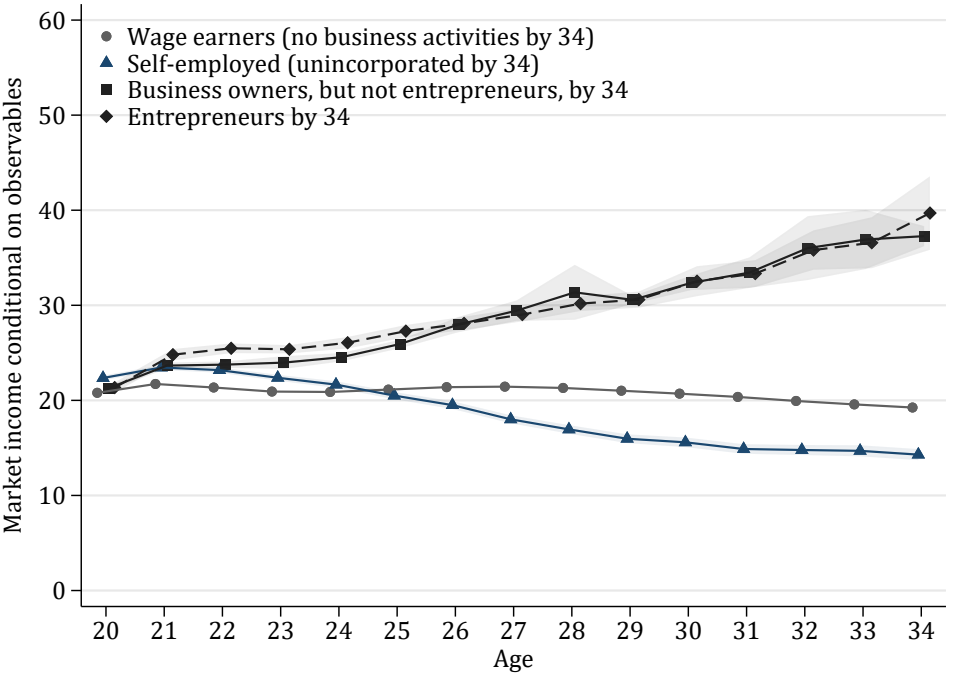
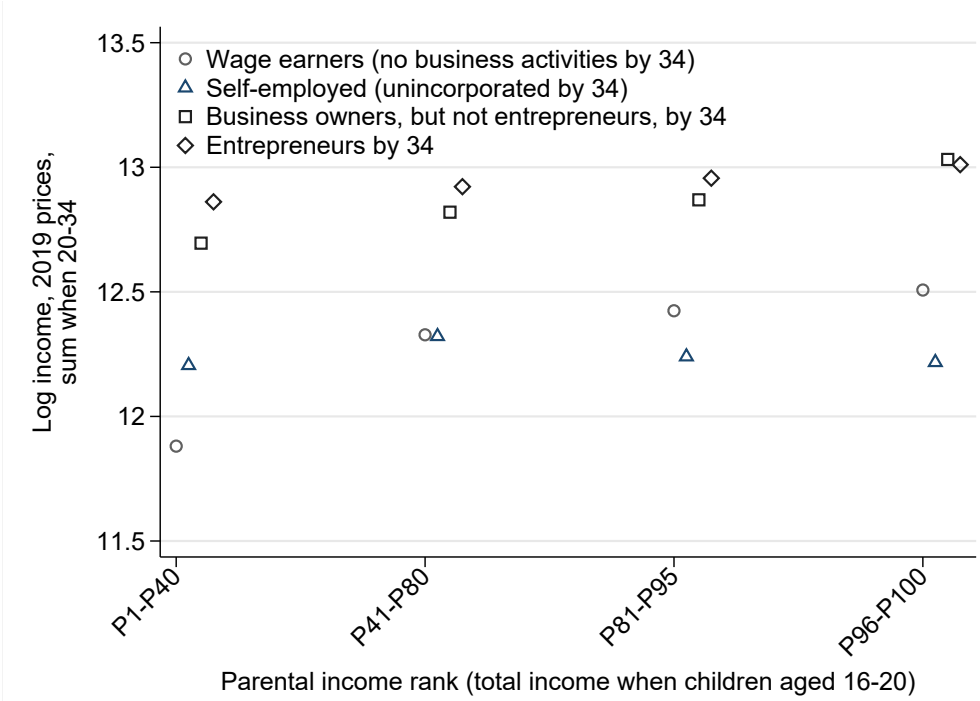


Figure 10: Personal income by labor market status and parental income

(a) Raw data



(b) Conditional on observable characteristics

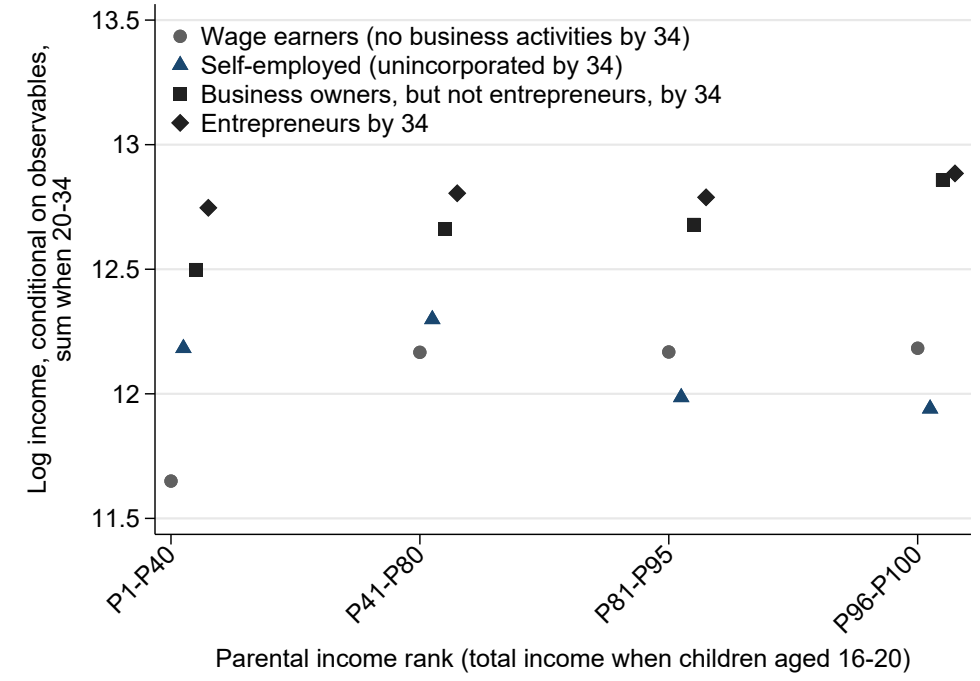
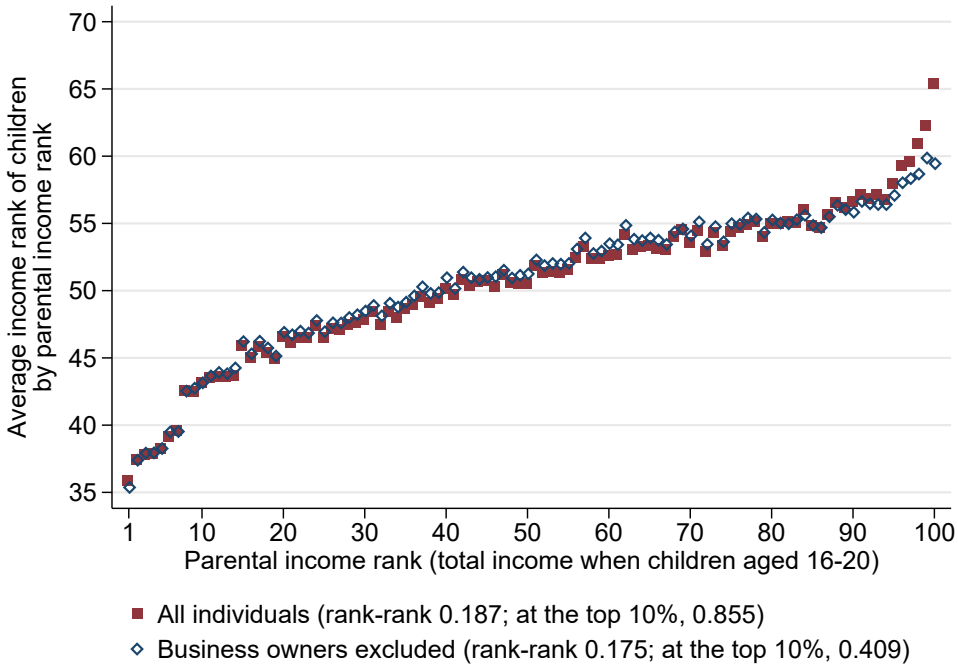
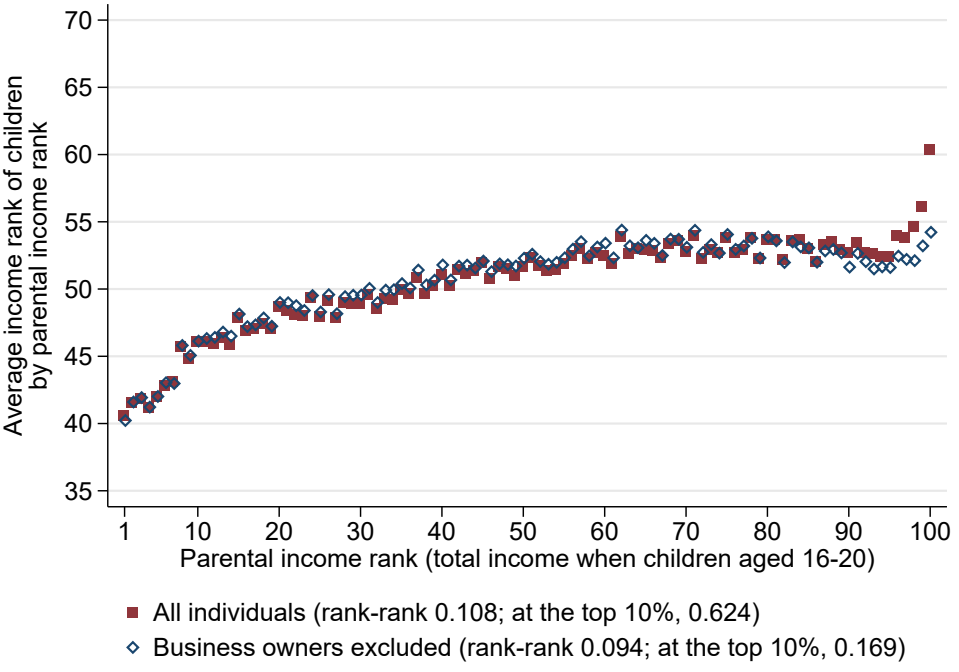


Figure 11: Rank-rank correlation with and without business owners

(a) Raw data



(b) Conditional on observable characteristics



Notes for Figure 9: Figure shows age-income profiles separately for wage earners, unincorporated self-employed, incorporated entrepreneurs and other owners of incorporated firms. The income concept is market income, i.e., the sum of salaried earnings, entrepreneurial income and capital income, in 2019 prices. Conditioning on observable characteristics include fixed effects of birth cohort, year, gender and paternal and maternal education and entrepreneurship. The figure shows that incorporated entrepreneurs and other owners of incorporated firms have much higher earnings than wage earners and unincorporated self-employed.

Notes for Figure 10: Figure shows personal income development by entrepreneurs' parental income separately for wage earners, unincorporated self-employed, incorporated entrepreneurs and other owners of incorporated firms. Parental income is defined as total pre-tax income of both parents when children are 16–20 years of age. Children are ranked into four groups based on parental income rank (P1-P40, P41-P80, P81-P95 and P96-P100). The income concept for children is market income, i.e., the sum of salaried earnings, entrepreneurial income and capital income, in 2019 prices, expressed as the total income when they are 20–34 years of age. Conditioning on observable characteristics include fixed effects of birth cohort, year, gender and paternal and maternal education and entrepreneurship. The figure shows that the differences in income by parental income are smaller among entrepreneurs than among other business owners and especially among wage earners.

Notes for Figure 11: Figure shows the average individual income rank in each rank of parental income. Parental income is defined as total pre-tax income of both parents when children are 16–20 years of age. Individual income is the sum of salaried earnings, entrepreneurial income and capital income, in 2019 prices, expressed as the total income when they are 20–34 years of age. The rank-rank correlations are calculated using raw and residualized income for all individuals and excluding owners of incorporated firms. Conditioning on observable characteristics include fixed effects of birth cohort, year, gender and paternal and maternal education and entrepreneurship. The figure shows that excluding business owners reduces the rank-rank correlations especially at the top of the parental income distribution.

The income differences shown in Figure 9 align with previous entrepreneurship literature. Levine and Rubinstein (2017), Halvarsson et al. (2018), and Harju et al. (2025) demonstrate that incorporated entrepreneurs tend to earn much more than salaried employees and unincorporated self-employed in the US, Sweden, and Finland, respectively. I show that these differences are not driven by either "real entrepreneurs" or other owners of incorporated firms; instead, both groups have very similar aggregate age–income profiles. Moreover, the differences between incorporated entrepreneurs and salaried employees and the unincorporated self-employed emerge already in the early 20s and widen substantially in the late 20s and early 30s.

Figure 10 shows personal income not only by labor market status, but also by parental income. Income is defined as the sum between ages 20 and 34, with individuals grouped into four parental-income brackets (P1–P40, P41–P80, P81–P95, and P96–P100). The differences in income by parental income are clearly smaller among entrepreneurs than among other business owners, and especially compared with wage earners. Among entrepreneurs in the raw data, the gaps between the top 5% and other brackets are 0.05, 0.09, and 0.15 log points for P81–P95, P41–P80, and P1–P40, respectively. With controls, the differences remain similar (0.10, 0.08, and 0.14). Among business owners, the gaps are two to three times larger than among entrepreneurs in all brackets. Among wage earners, the differences between the top 5% and P81–P95 and P41–P80 are modest, whereas the gap with the bottom 40% is very large (0.63 and 0.53 log points in the raw data and with controls, respectively).

4.3 Implications for Intergenerational Income Mobility

The highly non-linear selection into business ownership and entrepreneurship by parental income, combined with the very high incomes of individuals in these groups relative to wage earners and self-employed, is bound to have implications for intergenerational income mobility. Establishing counterfactual income development for business owners and entrepreneurs—that is, their income had they been salaried employees—is very difficult and not attempted

here. Instead, I evaluate the implications through a simple subsample analysis.

Specifically, consider the full sample and treat all individuals as they are (solid squares in Panel a of Figure 11). The full sample rank-rank correlation – the correlation between parental income rank and children's income rank, à la Chetty et al. (2014) – is 0.187. Among the highest-earning decile of parents, it is much larger, 0.855. As a simple illustrative exercise to address the role of business ownership, let us exclude them from the sample (hollow diamonds in Panel a of Figure 11). The full sample rank-rank correlation drops to 0.175, whereas the top 10% number is reduced massively to 0.409. When conditioning on observables, in Panel b of Figure 11, the rank-rank correlations are smaller in general, and the reduction due to excluding business owners is larger (from 0.108 to 0.094 in the full sample, and from 0.624 to 0.169 at the top parental decile).

This simplistic analysis provides a rough upper bound for the importance of business ownership in intergenerational income mobility. Conditional on observable characteristics, excluding business owners is associated with a 13% increase in mobility in the full sample. At the top parental decile, the increase is 73%.

5 Concluding Remarks

This study used unique data on business owners, their firms, and individual- and parental-level characteristics. I show that children from the top 1% of the parental income distribution are more than five times more likely to become business owners and almost three times more likely to become "real entrepreneurs" than those from the bottom 50%. Such patterns persist when using an incomplete measure of parental wealth instead of income, though the effects are smaller in magnitude.

The strongest channel behind the over-representation of entrepreneurs from high-income families is prior experience of business ownership before founding new firms. This finding is compatible with several conceptual mechanisms regarding skills and ability, and liquidity.

I develop an "ownership ladder" model, in which entrepreneurship is often the second step on the ladder, and high parental income is associated with people stepping onto that ladder early. Education, by contrast, acts as a suppressor: since higher parental income is associated with higher educational attainment and education itself is negatively related to entry into entrepreneurship, controlling for education sharpens the remaining parental income gradient. Residential background also appears as significant, suggesting role for localized advantages.

Entrepreneurs from different socio-economic backgrounds establish firms in distinctly different industries—computer programming being a top-half phenomenon and management consultancy a top-end phenomenon. This suggests that coming from prosperous origins is positively associated with human capital that provides entrepreneurial opportunities. The initial equity of new firms appears unrelated to entrepreneurs' socio-economic background, suggesting that liquidity constraints are not particularly important.

The performance of firms and the personal income development of entrepreneurs differ only slightly by socio-economic background. However, since business owners and entrepreneurs tend to earn much more than wage earners or the unincorporated self-employed, the highly non-linear selection patterns have major implications for intergenerational income mobility.

In future work, the specific mechanisms through which existing business ownership and schooling paths contribute to the differences in entrepreneurial incidence by parental background should be more fully explored. Regarding both, the role of networks seems particularly important. Adding to the vast literature on the personality traits of entrepreneurs, they should be analyzed by entrepreneurs' socio-economic background.

References

Aghion, P., Akcigit, U., Hyytinen, A., and Toivanen, O. (2023). Parental Education and Invention: The Finnish Enigma. *International Economic Review*, 64(2):453–490.

Aldrich, H. E. and Cliff, J. E. (2003). The Pervasive Effects of Family on Entrepreneurship: Toward a Family Embeddedness Perspective. *Journal of Business Venturing*, 18(5):573–596.

Azoulay, P., Jones, B. F., Kim, J. D., and Miranda, J. (2020). Age and High-Growth Entrepreneurship. *American Economic Review: Insights*, 2(1):65–82.

Banerjee, A. V. and Newman, A. F. (1993). Occupational Choice and the Process of Development. *Journal of Political Economy*, 101(2):274–298.

Bell, A., Chetty, R., Jaravel, X., Petkova, N., and Van Reenen, J. (2019). Who Becomes an Inventor in America? The Importance of Exposure to Innovation. *The Quarterly Journal of Economics*, 134(2):647–713.

Boháček, R. (2006). Financial Constraints and Entrepreneurial Investment. *Journal of Monetary Economics*, 53(8):2195–2212.

Bosma, N., Hessels, J., Schutjens, V., Van Praag, M., and Verheul, I. (2012). Entrepreneurship and Role Models. *Journal of Economic Psychology*, 33(2):410–424.

Cattaneo, M. D., Crump, R. K., Farrell, M. H., and Feng, Y. (2024). On Binscatter. *American Economic Review*, 114(5):1488–1514.

Chetty, R., Dossi, G., Smith, M., Van Reenen, J., Zidar, O., and Zwick, E. (2025). Creating New Businesses in America: The Determinants of and Returns to Entrepreneurship. Working Paper, Unpublished.

Chetty, R., Hendren, N., Kline, P., and Saez, E. (2014). Where Is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States. *The Quarterly Journal of Economics*, 129(4):1553–1623.

Dunn, T. and Holtz-Eakin, D. (2000). Financial Capital, Human Capital, and the Transition to Self-Employment: Evidence from Intergenerational Links. *Journal of Labor Economics*, 18:282–305.

Evans, D. S. and Jovanovic, B. (1989). An Estimated Model of Entrepreneurial Choice under Liquidity Constraints. *Journal of Political Economy*, 97(4):808–827.

Gendron-Carrier, N. (2025). Prior Work Experience and Entrepreneurship: The Careers of Young Entrepreneurs. *Journal of Labor Economics*.

Glaeser, E. L. (2009). Entrepreneurship and the City. In *Entrepreneurship and Openness*. Edward Elgar Publishing.

Guiso, L., Pistaferri, L., and Schivardi, F. (2021). Learning Entrepreneurship from Other Entrepreneurs? *Journal of Labor Economics*, 39(1):135–191.

Halvarsson, D., Korpi, M., and Wennberg, K. (2018). Entrepreneurship and Income Inequality. *Journal of Economic Behavior & Organization*, 145:275–293.

Harju, J., Juuti, T., and Matikka, T. (2025). Selection into Entrepreneurship, Income Mobility and Firm Performance. *Journal of Labor Economics (forthcoming)*.

Holmstrom, B. and Tirole, J. (1997). Financial Intermediation, Loanable Funds, and the Real Sector. *The Quarterly Journal of Economics*, 112(3):663–691.

Holtz-Eakin, D., Joulfaian, D., and Rosen, H. S. (1994). Entrepreneurial Decisions and Liquidity Constraints. *RAND Journal of Economics*, 25(2):334–347.

Hurst, E. and Pugsley, B. W. (2011). What Do Small Businesses Do? *Brookings Papers on Economic Activity*, (43):73–142.

Jovanovic, B. (1982). Selection and the Evolution of Industry. *Econometrica*, 50(3):649–670.

Kerr, S. P., Kerr, W. R., and Xu, T. (2017). Personality Traits of Entrepreneurs: A Review of Recent Literature. Working Paper 24097, National Bureau of Economic Research.

Kihlstrom, R. E. and Laffont, J.-J. (1979). A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion. *Journal of Political Economy*, 87(4):719–748.

Kiyotaki, N. and Moore, J. (1997). Credit Cycles. *Journal of Political Economy*, 105(2):211–248.

Knüpfer, S. (2025). Ownership of Privately Held Companies in Finland, 2006–2022. *Nordic Journal of Business*, 74(1):5–39.

La Porta, R. and Shleifer, A. (2014). Informality and Development. *Journal of Economic Perspectives*, 28(3):109–126.

Lazear, E. P. (2004). Balanced Skills and Entrepreneurship. *American Economic Review*, 94(2):208–211.

Lazear, E. P. (2005). Entrepreneurship. *Journal of Labor Economics*, 23(4):649–680.

Levine, R. and Rubinstein, Y. (2017). Smart and Illicit: Who Becomes an Entrepreneur and Do They Earn More? *The Quarterly Journal of Economics*, 132(2):963–1018.

Lindquist, M., Sol, J., and Van Praag, M. (2015). Why Do Entrepreneurial Parents Have Entrepreneurial Children? *Journal of Labor Economics*, 33(2):269–296.

Lindquist, M. and Vladasel, T. (2025). Are Entrepreneurs More Upwardly Mobile? *Journal of Business Venturing*, 40(4):106498.

Lucas, R. E. (1978). On the Size Distribution of Business Firms. *The Bell Journal of Economics*, pages 508–523.

Paukkeri, T., Ravaska, T., and Riihelä, M. (2023). The Role of Privately Held Firms in Income Inequality. IFS Working Paper, 23/36.

Quadrini, V. (2009). Entrepreneurship in Macroeconomics. *Annals of Finance*, 5(3):295.

Roy, A. D. (1951). Some Thoughts on the Distribution of Earnings. *Oxford Economic Papers*, 3(2):135–146.

Uusitalo, R. (2001). Homo Entreprenaurus? *Applied Economics*, 33(13):1631–1638.

Appendix

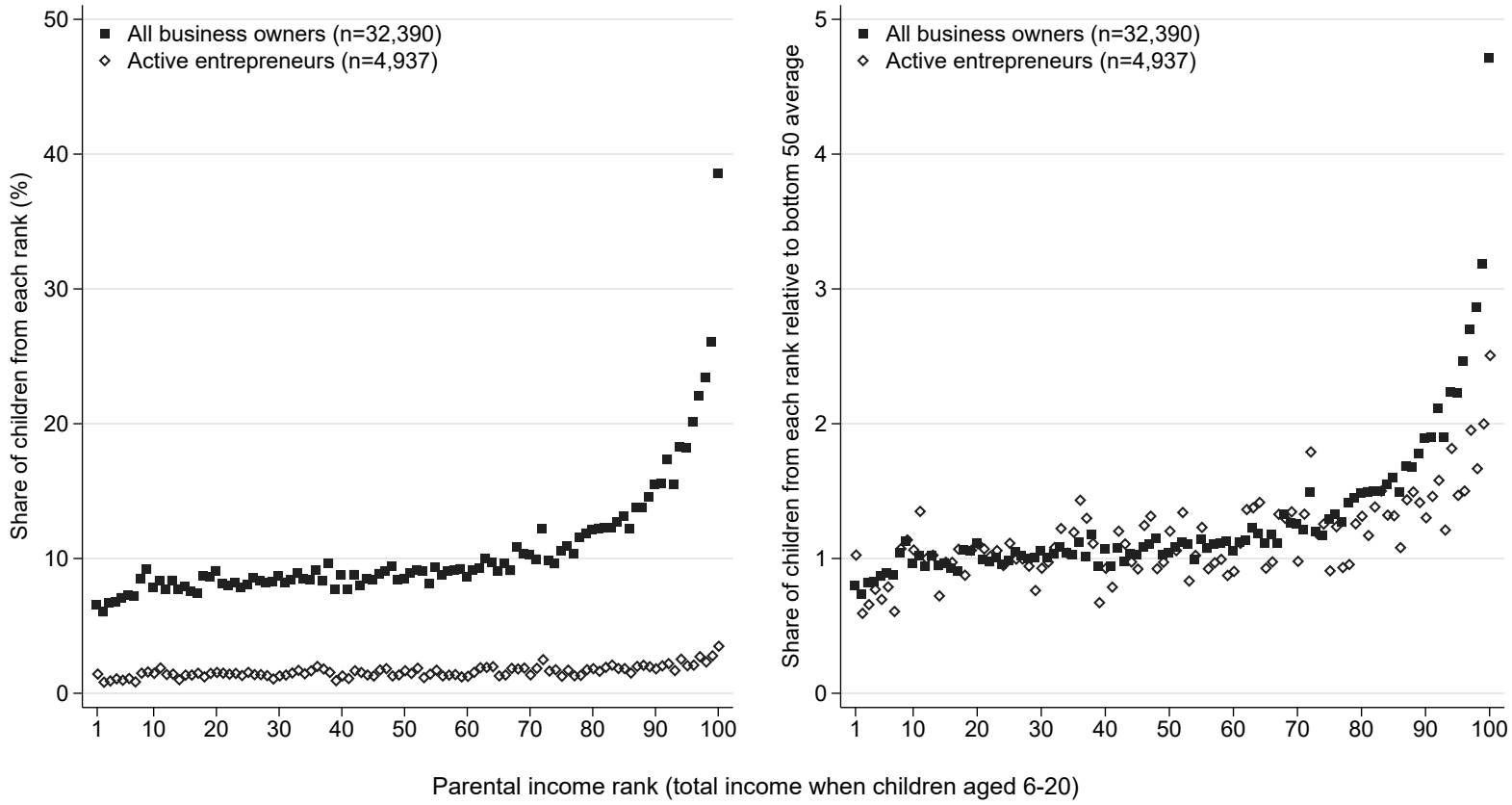
A Patterns in Entrepreneurship: Other Measures of Socio-Economic Background & Alternative Sample

Table A1: Sample means by labor market status, birth cohorts 1971-1975

	All	Wage earners	Self-employed	All business owners	Entrep.	Other owners
Female	49%	52%	51%	30%	26%	30%
Bsc by 24	7%	7%	4%	7%	7%	8%
Market income at 24	8,982	8,576	8,899	11,282	10,956	11,336
Msc by 34	18%	17%	10%	23%	21%	23%
Market income at 34	27,584	25,081	20,538	42,694	40,625	43,036
Msc, mom	7%	6%	6%	10%	10%	10%
Msc, dad	14%	13%	12%	19%	18%	19%
Entrepreneur, mom	2%	2%	3%	3%	2%	3%
Entrepreneur, dad	3%	3%	5%	6%	5%	7%
Parental income rank	50	49	47	58	56	58
Board member or CEO				75%	100%	71%
CEO				35%	60%	31%
Board head				21%	30%	19%
Board member, not head				60%	83%	56%
Board vice member				16%	11%	17%
Individuals	288,656	240,169	5,935	42,552	6,035	36,517

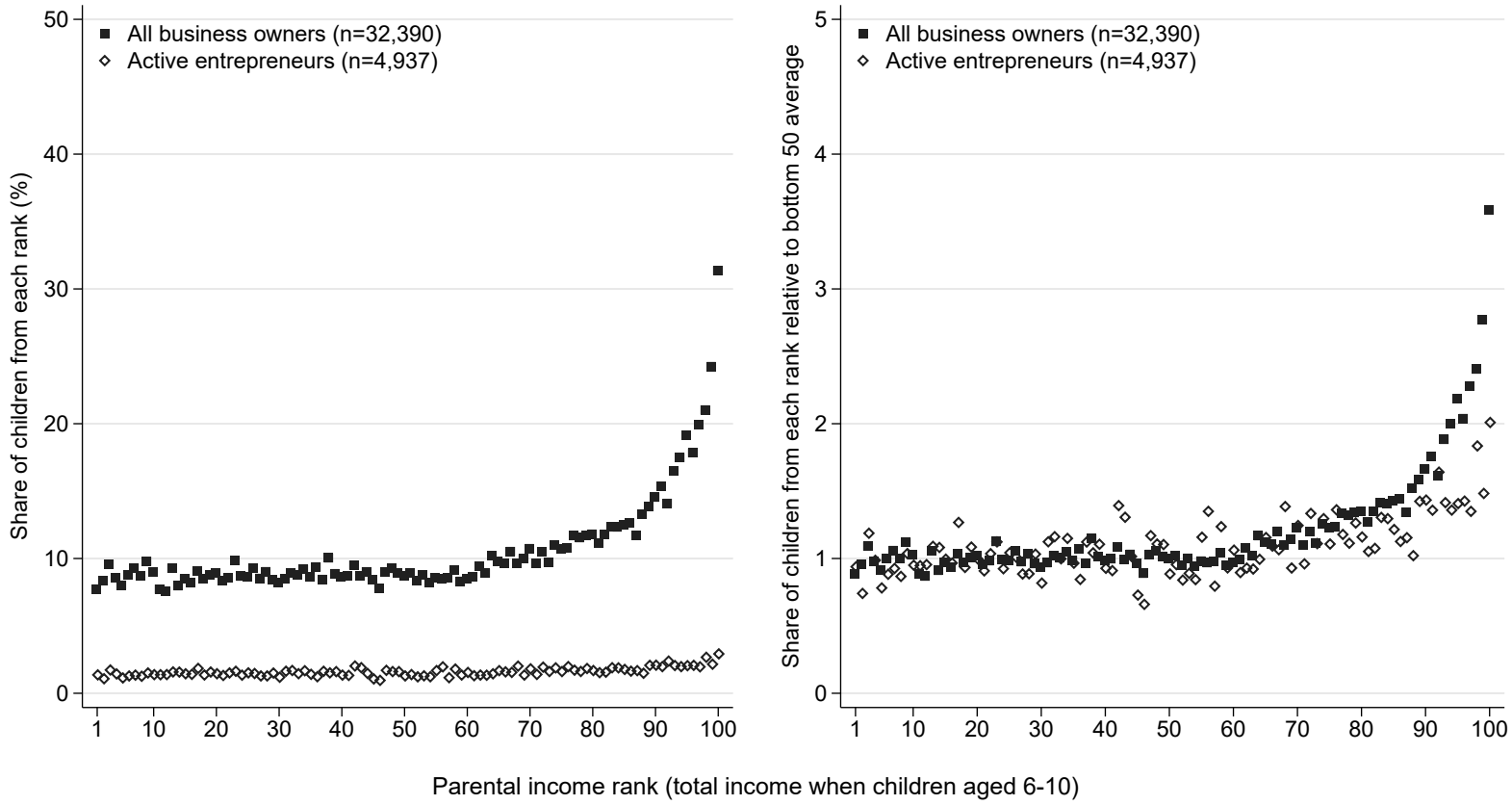
Notes: Table presents the mean value of each variable for all individuals, wage earners, unincorporated self-employed and incorporated business owners, who are further split into entrepreneurs and other owners. The sample is the one with birth cohorts 1971–1975. See Section 2 and Appendix C for details on the definitions. The characteristics are either constant for an individual or measured at a specific age. Board and CEO statuses are defined as "ever during the sample period" in businesses they have ownership in. The table demonstrates that entrepreneurs and other business owners are distinctively different from wage earners and self-employed in various dimensions.

Figure A1: Business ownership and entrepreneurship by parental income (age bracket 6-20)



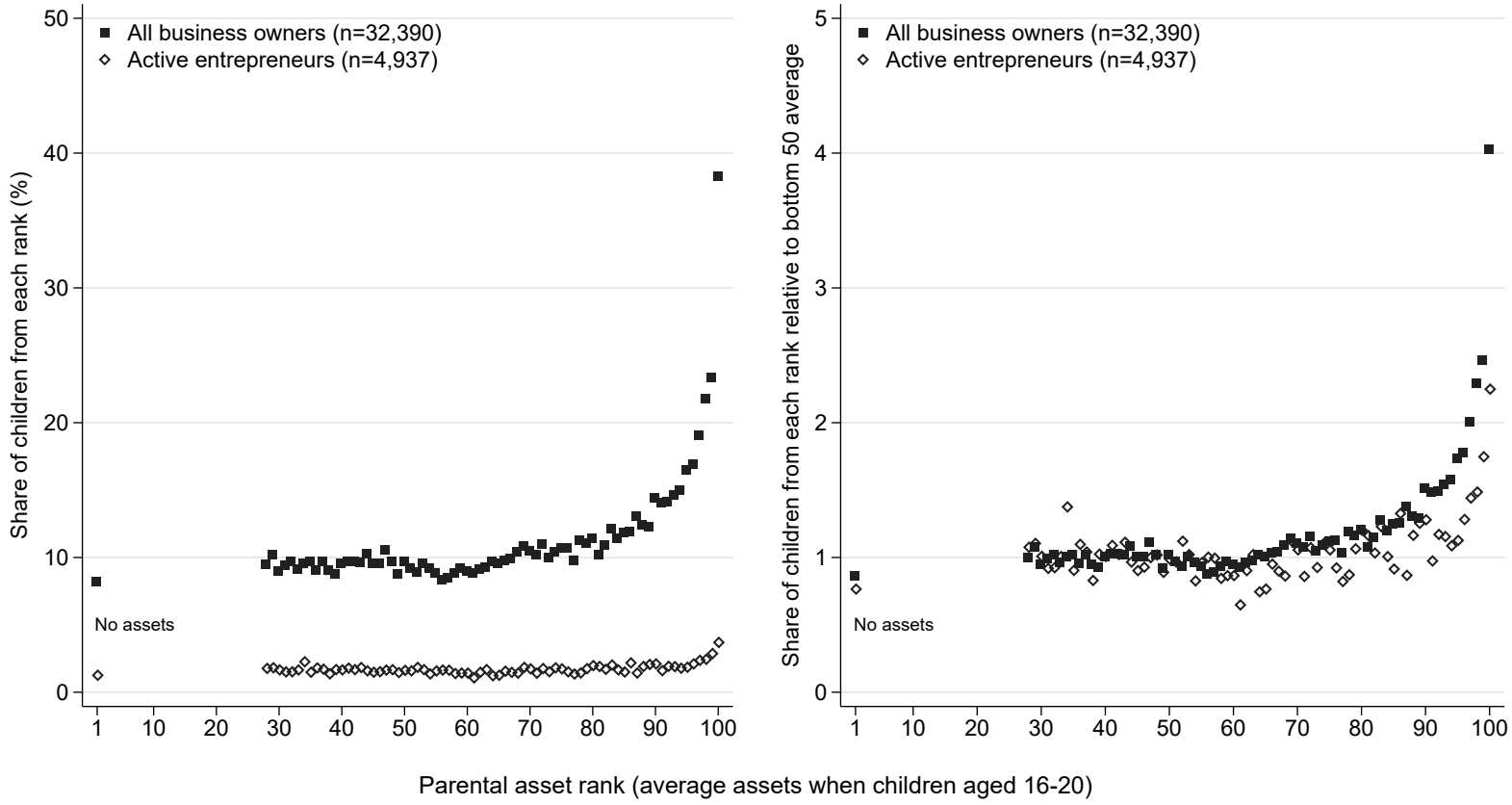
Notes: Figure shows the incidence of business ownership and entrepreneurship by parental income, defined as total pre-tax income of both parents when children are 6–20 years of age. On the left, the graph shows by parental income rank the share of children who are business owners and entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom half average. The figure demonstrates that children from top of the parental income distribution are much more likely to become business owners and entrepreneurs than children from the middle or bottom of the distribution.

Figure A2: Business ownership and entrepreneurship by parental income (age bracket 6-10)



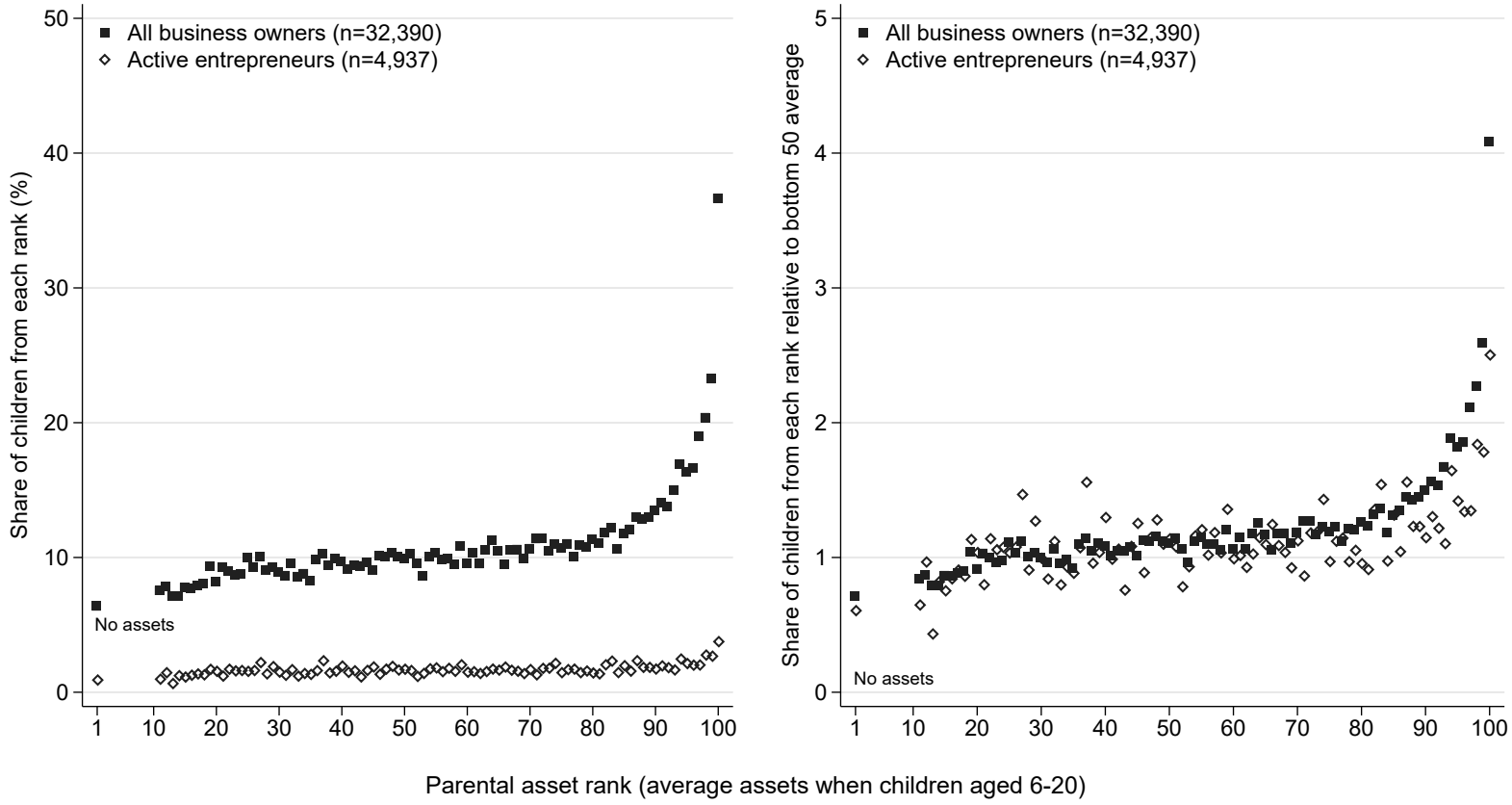
Notes: Figure shows the incidence of business ownership and entrepreneurship by parental income, defined as total pre-tax income of both parents when children are 6–10 years of age. On the left, the graph shows by parental income rank the share of children who are business owners and entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom half average. The figure demonstrates that children from top of the parental income distribution are much more likely to become business owners and entrepreneurs than children from the middle or bottom of the distribution.

Figure A3: Business ownership and entrepreneurship by parental wealth (age bracket 16-20)



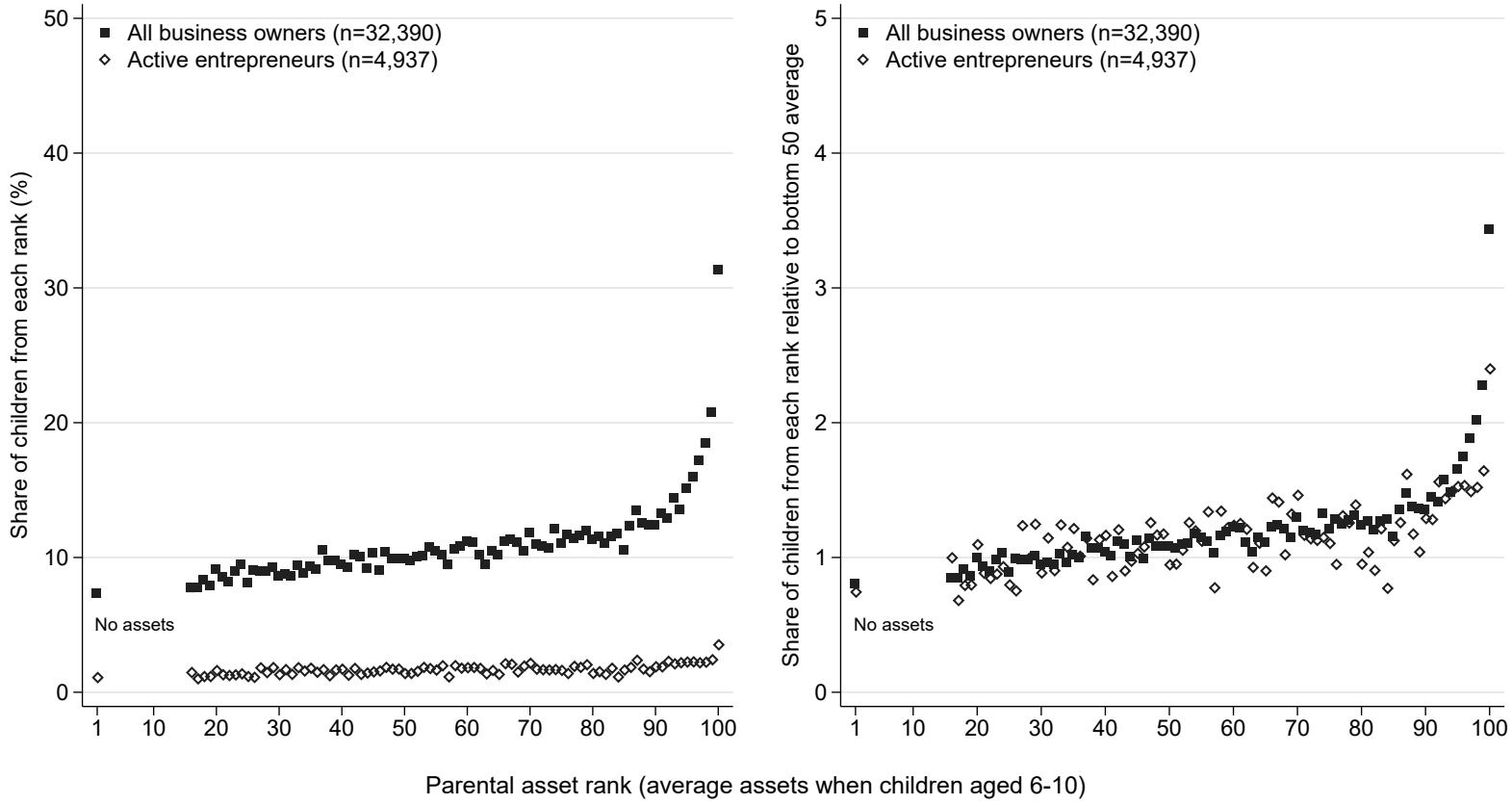
Notes: Figure shows the incidence of business ownership and entrepreneurship by parental wealth, defined as average assets of both parents when children are 16–20 years of age. On the left, the graph shows by parental asset rank the share of children who are business owners and entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom half average. The figure demonstrates that children from top of the parental wealth distribution are much more likely to become business owners and entrepreneurs than children from the middle or bottom of the distribution.

Figure A4: Business ownership and entrepreneurship by parental wealth (age bracket 6-20)



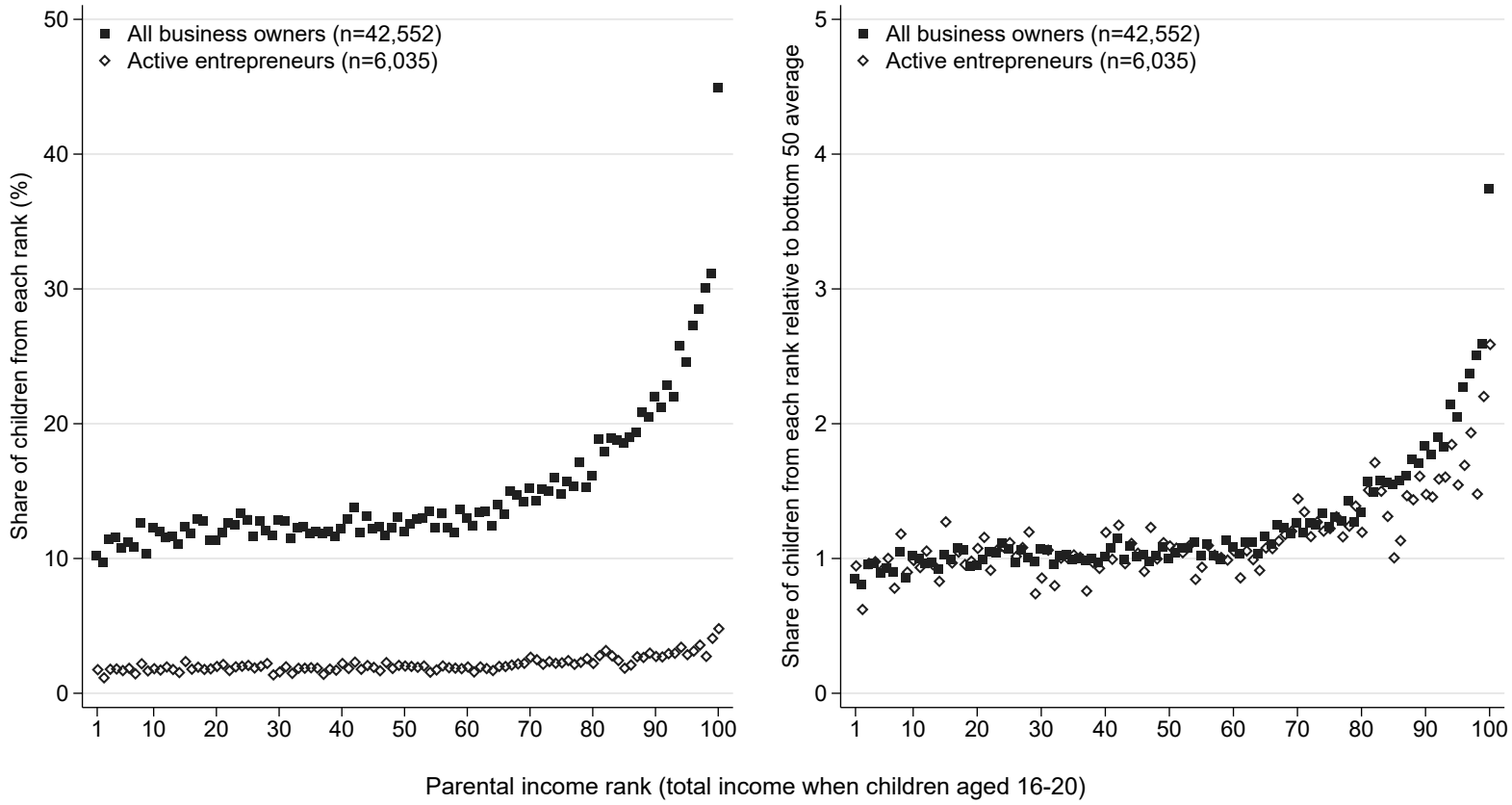
Notes: Figure shows the incidence of business ownership and entrepreneurship by parental wealth, defined as average assets of both parents when children are 6–20 years of age. On the left, the graph shows by parental asset rank the share of children who are business owners and entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom half average. The figure demonstrates that children from top of the parental wealth distribution are much more likely to become business owners and entrepreneurs than children from the middle or bottom of the distribution.

Figure A5: Business ownership and entrepreneurship by parental wealth (age bracket 6-10)



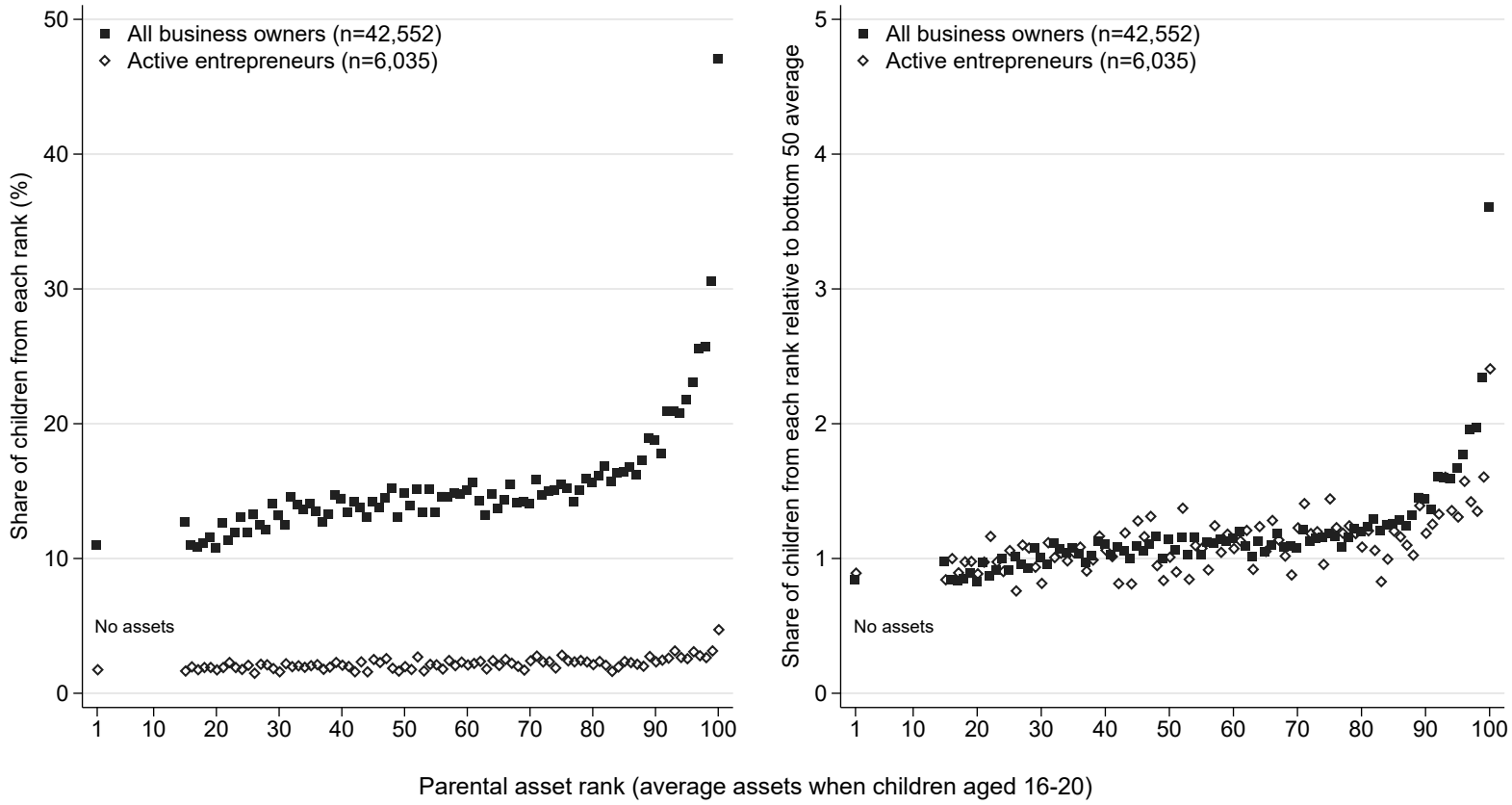
Notes: Figure shows the incidence of business ownership and entrepreneurship by parental wealth, defined as average assets of both parents when children are 6–10 years of age. On the left, the graph shows by parental asset rank the share of children who are business owners and entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom half average. The figure demonstrates that children from top of the parental wealth distribution are much more likely to become business owners and entrepreneurs than children from the middle or bottom of the distribution.

Figure A6: Business ownership and entrepreneurship by parental income, birth cohorts 1971-1975 (age bracket 16-20)



Notes: Figure shows the incidence of business ownership and entrepreneurship by parental income, defined as total pre-tax income of both parents when children are 16–20 years of age for birth cohorts 1971–1975. On the left, the graph shows by parental income rank the share of children who are business owners and entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom half average. The figure demonstrates that children from top of the parental income distribution are much more likely to become business owners and entrepreneurs than children from the middle or bottom of the distribution.

Figure A7: Business ownership and entrepreneurship by parental wealth, birth cohorts 1971-1975 (age bracket 16-20)



Notes: Figure shows the incidence of business ownership and entrepreneurship by parental wealth, defined as average assets of both parents when children are 16–20 years of age for birth cohorts 1971–1975. On the left, the graph shows by parental asset rank the share of children who are business owners and entrepreneurs by age 34. On the right, the shares are expressed relative to the bottom half average. The figure demonstrates that children from top of the parental wealth distribution are much more likely to become business owners and entrepreneurs than children from the middle or bottom of the distribution.

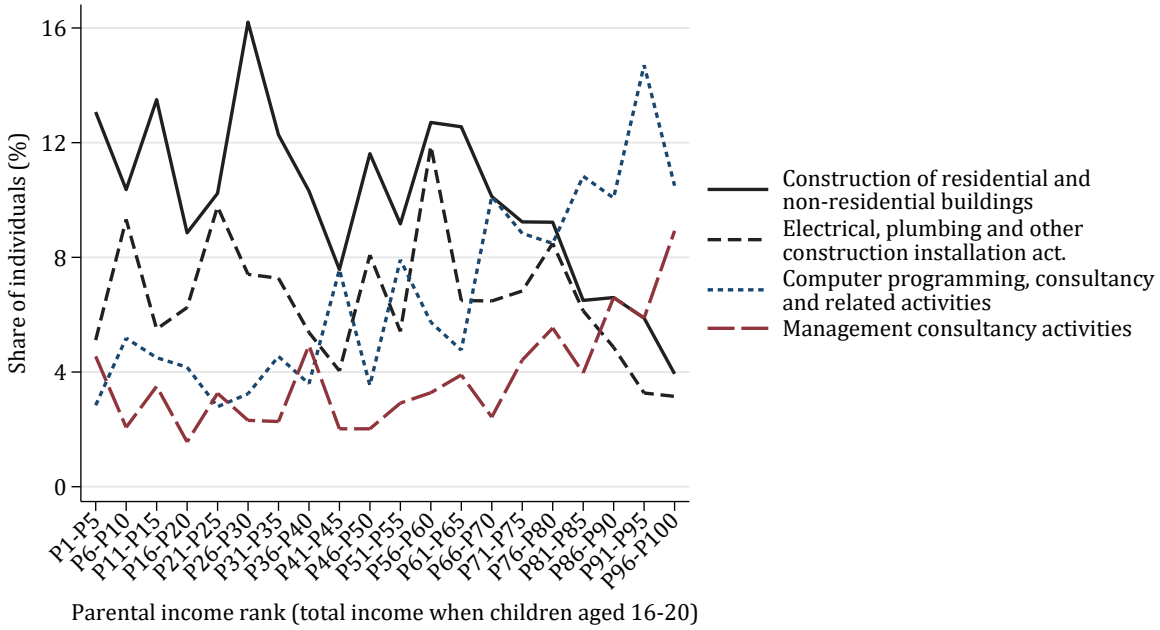
Table A2: Top 1% vs. bottom 50% over-representation using alternative rankings

	Business ownership	Entrepreneurship
Income, cohorts 1981-1985, age bracket 16-20	5.058629	2.765358
Income, cohorts 1981-1985, age bracket 6-20	4.711682	2.506092
Income, cohorts 1981-1985, age bracket 6-10	3.584083	2.009276
Wealth, cohorts 1981-1985, age bracket 16-20	4.028049	2.248553
Wealth, cohorts 1981-1985, age bracket 6-20	4.085067	2.502568
Wealth, cohorts 1981-1985, age bracket 6-10	3.435367	2.399139
Income, cohorts 1971-1975, age bracket 16-20	3.741241	2.587992
Wealth, cohorts 1971-1975, age bracket 16-20	3.60814	2.407114

Notes: Table summarizes the differences in the incidence of business ownership and entrepreneurship by socio-economic background (SEB) between different definitions of SEB. The ratios are collected from Figure 1 and Figures A1 - A7.

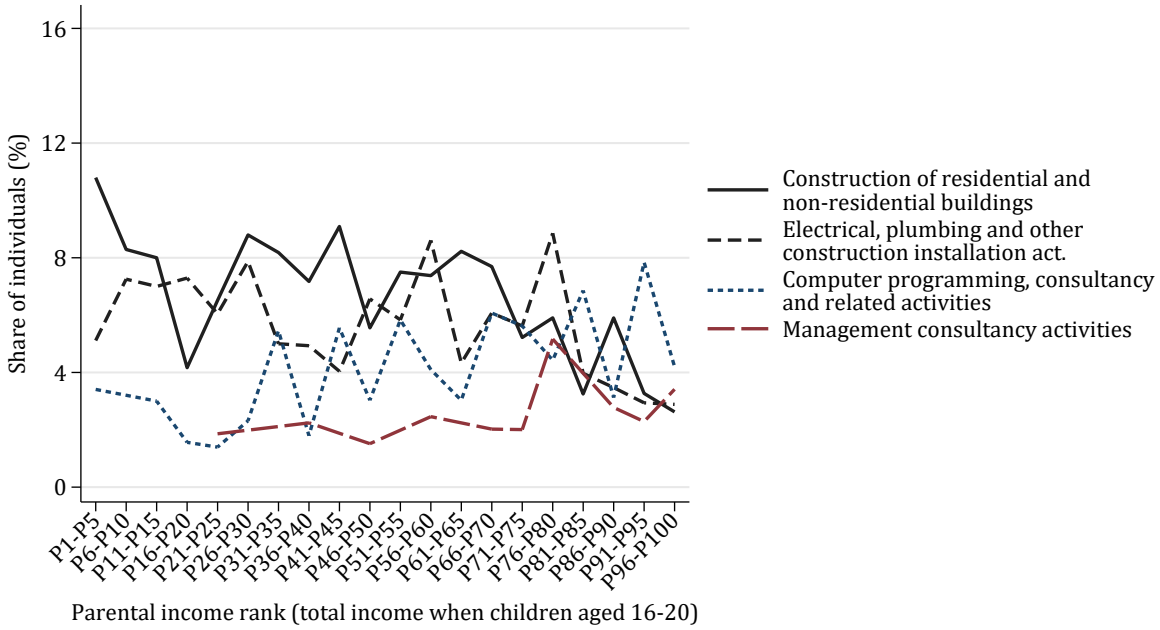
B Additional Tables and Figures

Figure B1: The frequency of four prominent industries of new firms by entrepreneurs' parental income



Notes: Figure shows the frequency of four prominent industries of new firms by entrepreneurs' parental income defined as total pre-tax income of both parents when children are 16–20 years of age. Table demonstrates that management consultancy is frequent among individuals from high socio-economic ranks, computer programming is common at the top half of the parental income distribution, while firms related to construction are frequent across the board with declining frequency at the top ranks.

Figure B2: The frequency of four prominent industries as employees just before becoming an entrepreneur by entrepreneurs' parental income



Notes: Figure shows the frequency of four prominent industries as employees just before $(t-1)$ becoming an entrepreneur by entrepreneurs' parental income defined as total pre-tax income of both parents when children are 16–20 years of age. Table demonstrates that management consultancy is frequent among individuals from high socio-economic ranks, computer programming is common at the top half of the parental income distribution, while firms related to construction are frequent across the board with declining frequency at the top ranks.

Table B1: Two most frequent industries of new firms by entrepreneurs' parental income for all ventiles of the distribution

Parental income rank	Rank of industry	Name of industry	Share of individuals
P1-P5	1	Construction of residential and non-residential buildings	12.5 %
P1-P5	2	Freight transport by road and removal services	5.1 %
P6-P10	1	Construction of residential and non-residential buildings	10.3 %
P6-P10	2	Electrical, plumbing and other construction installation activities	9.8 %
P11-P15	1	Construction of residential and non-residential buildings	13.9 %
P11-P15	2	Restaurants and mobile food service activities	6.4 %
P16-P20	1	Construction of residential and non-residential buildings	8.9 %
P16-P20	2	Electrical, plumbing and other construction installation activities	6.8 %
P21-P25	1	Construction of residential and non-residential buildings	10.4 %
P21-P25	2	Electrical, plumbing and other construction installation activities	9.9 %
P26-P30	1	Construction of residential and non-residential buildings	16.3 %
P26-P30	2	Electrical, plumbing and other construction installation activities	7.2 %
P31-P35	1	Construction of residential and non-residential buildings	12.1 %
P31-P35	2	Electrical, plumbing and other construction installation activities	6.7 %
P36-P40	1	Construction of residential and non-residential buildings	10.7 %
P36-P40	2	Electrical, plumbing and other construction installation activities	5.4 %
P41-P45	1	Computer programming, consultancy and related activities	8.4 %
P41-P45	2	Construction of residential and non-residential buildings	7.4 %
P46-P50	1	Construction of residential and non-residential buildings	11.4 %
P46-P50	2	Electrical, plumbing and other construction installation activities	8.5 %
P51-P55	1	Construction of residential and non-residential buildings	9.0 %
P51-P55	2	Computer programming, consultancy and related activities	7.8 %
P56-P60	1	Construction of residential and non-residential buildings	13.1 %
P56-P60	2	Electrical, plumbing and other construction installation activities	11.4 %
P61-P65	1	Construction of residential and non-residential buildings	12.3 %
P61-P65	2	Electrical, plumbing and other construction installation activities	6.0 %
P66-P70	1	Construction of residential and non-residential buildings	10.2 %
P66-P70	2	Computer programming, consultancy and related activities	8.6 %
P71-P75	1	Construction of residential and non-residential buildings	9.7 %
P71-P75	2	Computer programming, consultancy and related activities	9.3 %
P76-P80	1	Construction of residential and non-residential buildings	9.4 %
P76-P80	2	Computer programming, consultancy and related activities	9.1 %
P81-P85	1	Computer programming, consultancy and related activities	10.4 %
P81-P85	2	Construction of residential and non-residential buildings	6.4 %
P86-P90	1	Computer programming, consultancy and related activities	9.4 %
P86-P90	2	Management consultancy activities	6.3 %
P91-P95	1	Computer programming, consultancy and related activities	14.6 %
P91-P95	2	Management consultancy activities	6.1 %
P96-P100	1	Computer programming, consultancy and related activities	10.6 %
P96-P100	2	Management consultancy activities	8.1 %

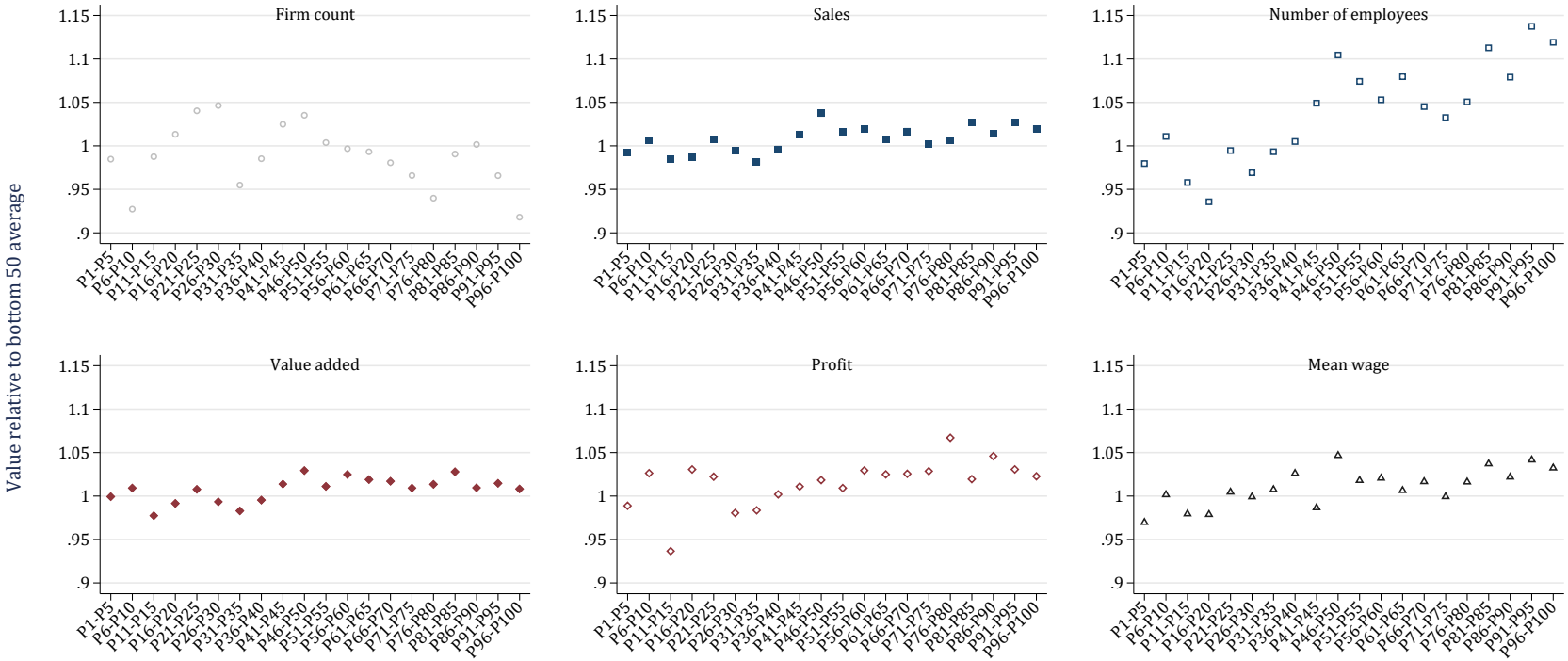
Notes: Table shows the two most frequent 3-digit industries of new firms by entrepreneurs' parental income defined as total pre-tax income of both parents when children are 16–20 years of age. Table demonstrates that management consultancy is frequent among individuals from high socio-economic ranks, computer programming is common at the top half of the parental income distribution, while firms related to construction are frequent across the board with declining frequency at the top ranks.

Table B2: Two most frequent industries as employees just before becoming an entrepreneur by entrepreneurs' parental income for all ventiles of the distribution

Parental income rank	Rank of industry	Name of industry	Share of individuals
P1-P5	1	Construction of residential and non-residential buildings	10.2 %
P1-P5	2	Electrical, plumbing and other construction installation activities	5.1 %
P6-P10	1	Construction of residential and non-residential buildings	8.8 %
P6-P10	2	Electrical, plumbing and other construction installation activities	7.7 %
P11-P15	1	Construction of residential and non-residential buildings	7.9 %
P11-P15	2	Electrical, plumbing and other construction installation activities	6.9 %
P16-P20	1	Electrical, plumbing and other construction installation activities	7.8 %
P16-P20	2	Freight transport by road and removal services	4.7 %
P21-P25	1	Construction of residential and non-residential buildings	6.6 %
P21-P25	2	Electrical, plumbing and other construction installation activities	6.1 %
P26-P30	1	Construction of residential and non-residential buildings	9.5 %
P26-P30	2	Electrical, plumbing and other construction installation activities	8.1 %
P31-P35	1	Construction of residential and non-residential buildings	8.5 %
P31-P35	2	Computer programming, consultancy and related activities	5.4 %
P36-P40	1	Construction of residential and non-residential buildings	7.1 %
P36-P40	2	Electrical, plumbing and other construction installation activities	4.9 %
P41-P45	1	Construction of residential and non-residential buildings	8.9 %
P41-P45	2	Freight transport by road and removal services	5.4 %
P46-P50	1	Electrical, plumbing and other construction installation activities	7.0 %
P46-P50	2	Construction of residential and non-residential buildings	6.0 %
P51-P55	1	Construction of residential and non-residential buildings	7.4 %
P51-P55	2	Electrical, plumbing and other construction installation activities	5.7 %
P56-P60	1	Electrical, plumbing and other construction installation activities	8.6 %
P56-P60	2	Construction of residential and non-residential buildings	8.2 %
P61-P65	1	Construction of residential and non-residential buildings	7.7 %
P61-P65	2	Electrical, plumbing and other construction installation activities	3.8 %
P66-P70	1	Construction of residential and non-residential buildings	7.8 %
P66-P70	2	Electrical, plumbing and other construction installation activities	5.7 %
P71-P75	1	Computer programming, consultancy and related activities	6.1 %
P71-P75	2	Electrical, plumbing and other construction installation activities	5.7 %
P76-P80	1	Electrical, plumbing and other construction installation activities	9.4 %
P76-P80	2	Construction of residential and non-residential buildings	6.0 %
P81-P85	1	Computer programming, consultancy and related activities	7.1 %
P81-P85	2	Electrical, plumbing and other construction installation activities	4.3 %
P86-P90	1	Construction of residential and non-residential buildings	5.6 %
P86-P90	2	Electrical, plumbing and other construction installation activities	3.5 %
P91-P95	1	Computer programming, consultancy and related activities	8.4 %
P91-P95	2	Construction of residential and non-residential buildings	3.2 %
P96-P100	1	Management consultancy activities	3.5 %
P96-P100	2	Computer programming, consultancy and related activities	3.5 %

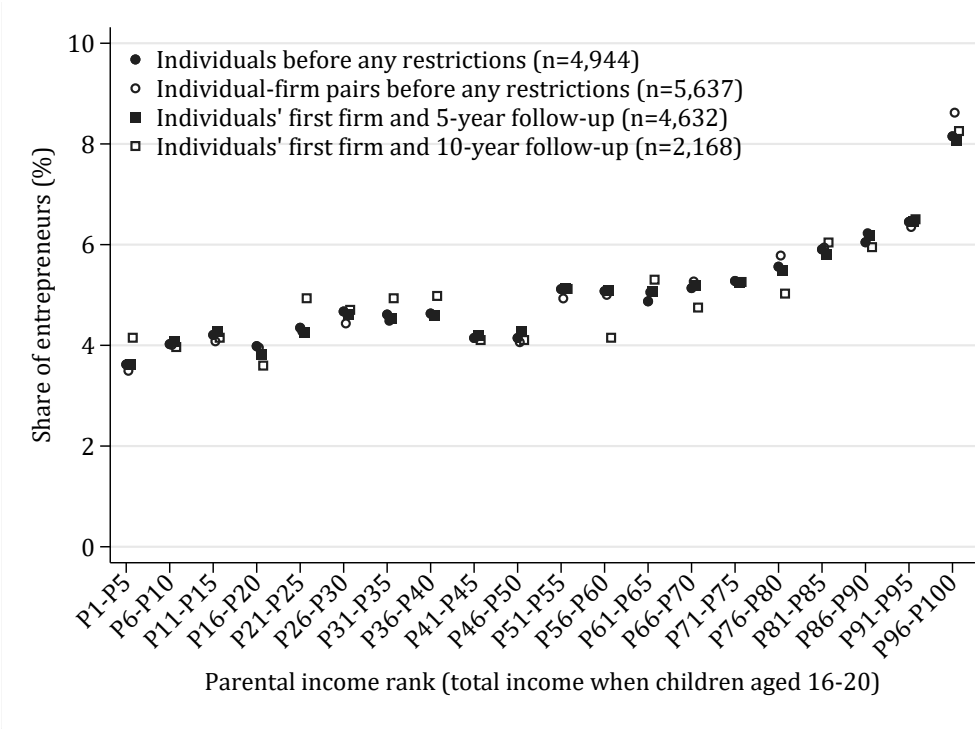
Notes: Table shows the two most frequent 3-digit industries as employees just before $(t-1)$ becoming an entrepreneur by entrepreneurs' parental income defined as total pre-tax income of both parents when children are 16–20 years of age. Table demonstrates that management consultancy is frequent among individuals from high socio-economic ranks, computer programming is common at the top half of the parental income distribution, while firms related to construction are frequent across the board with declining frequency at the top ranks.

Figure B3: Characteristics of pre-entrepreneurship employers by parental income



Notes: Table shows characteristics of firms where entrepreneurs worked just before $(t-1)$ becoming entrepreneurs by entrepreneurs' parental income defined as total pre-tax income of both parents when children are 16–20 years of age. The differences in sales, value added, profits and mean wages are very small, and show no clear pattern. Entrepreneurs from top-income families tend to have worked in firms with slightly more employees and have worked in slightly fewer firms.

Figure B4: Distribution of entrepreneurs by parental income and follow-up restrictions



Notes: Figure shows entrepreneurial incidence by entrepreneurs' parental income in different samples with varying follow-up restrictions. Parental income is defined as total pre-tax income of both parents when children are 16–20 years of age. The figure demonstrates that the underlying selection pattern is nearly identical between the full sample and samples restricted by the follow-up.

Figure B5: Firm performance by parental income, full breakdown

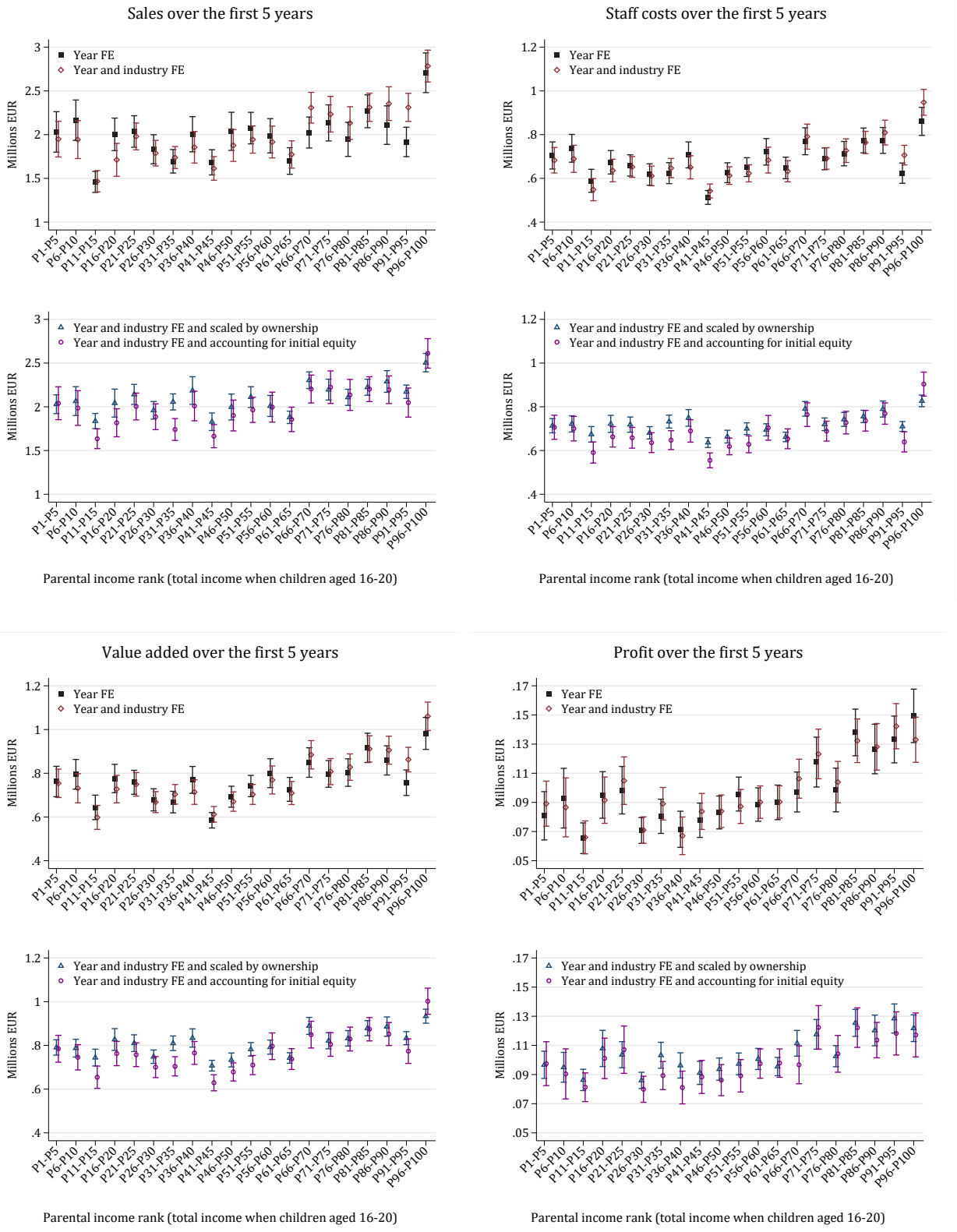
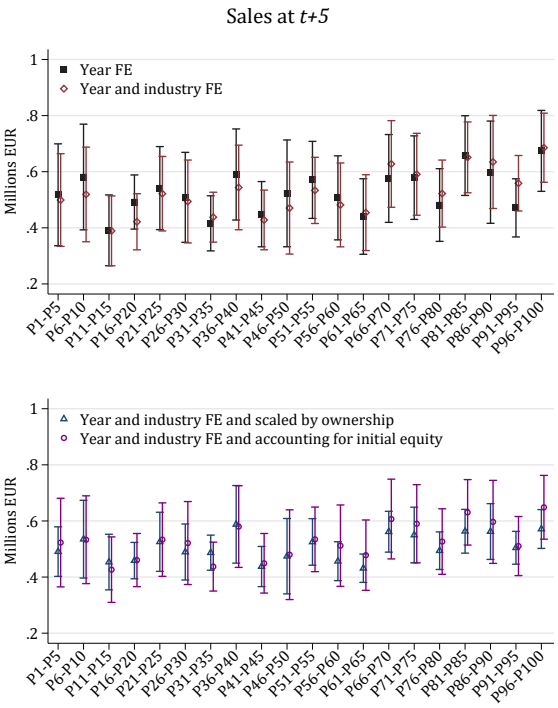
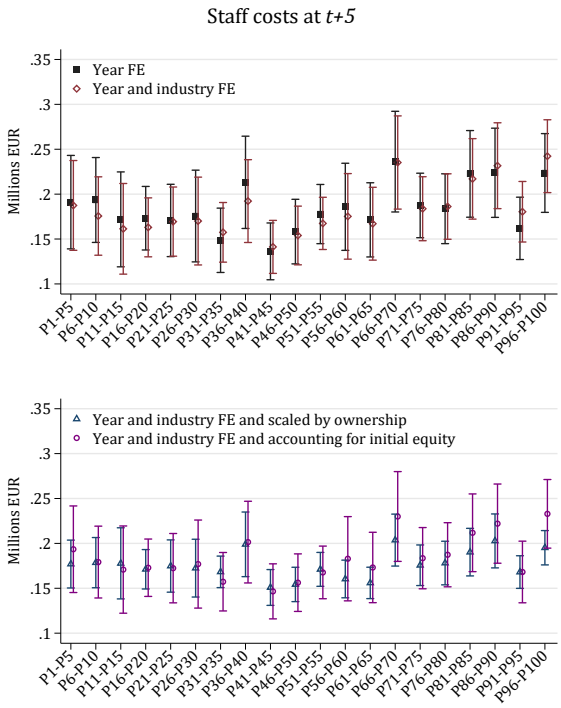
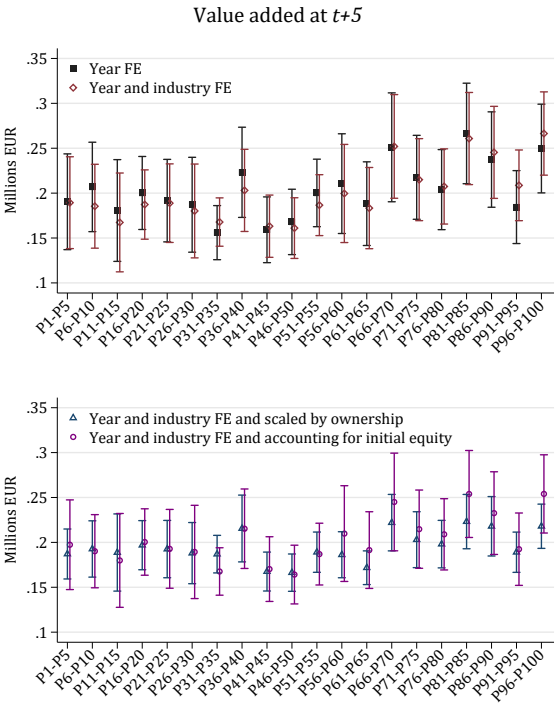


Figure B5 continues







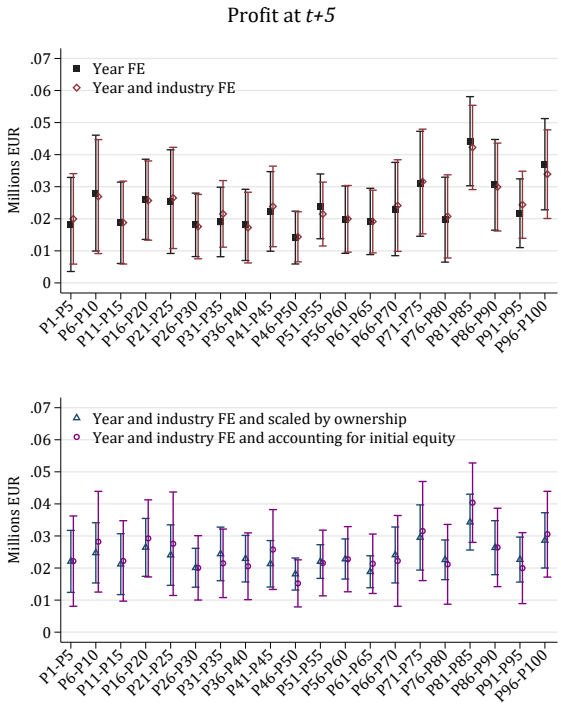


Figure B5 continues

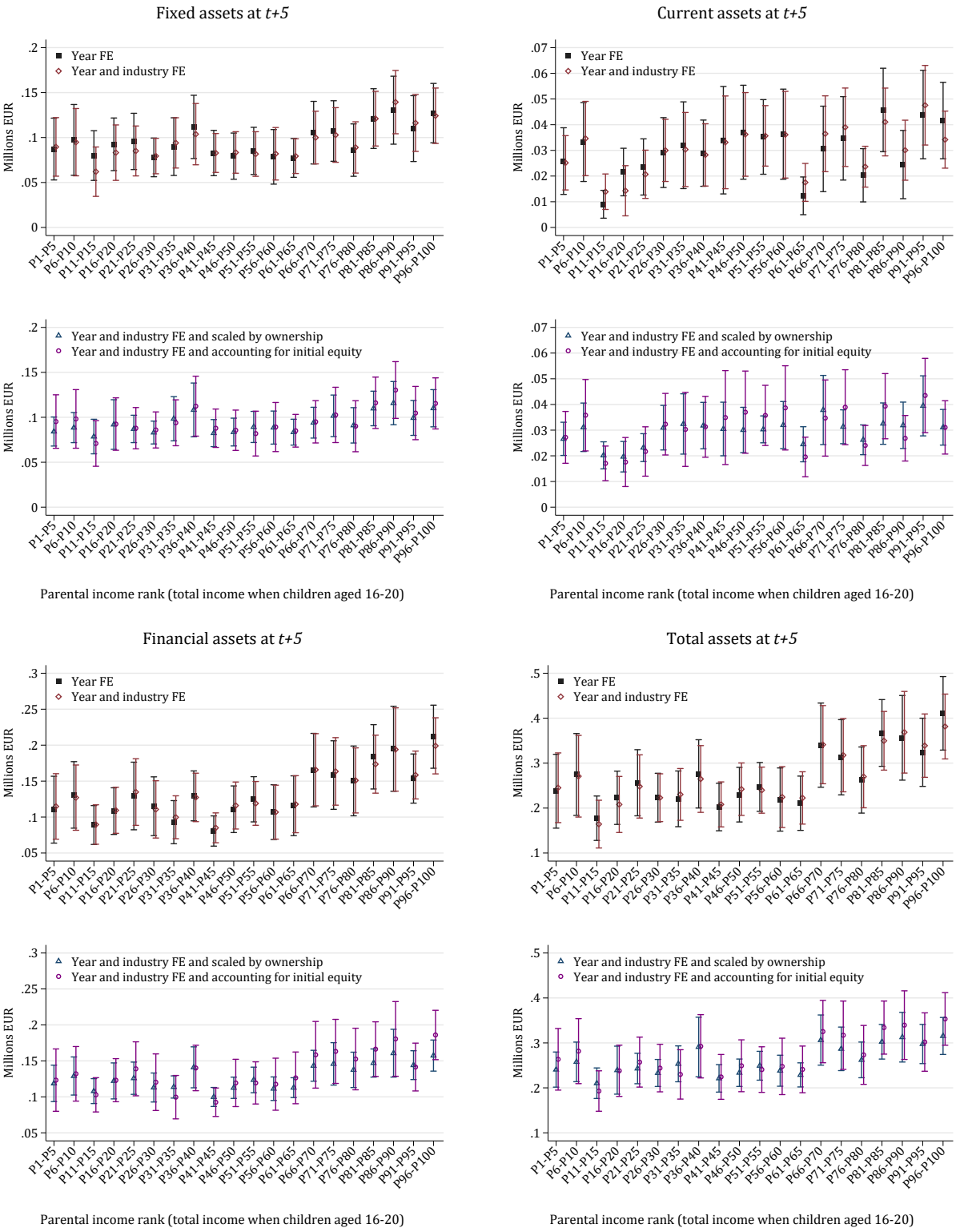
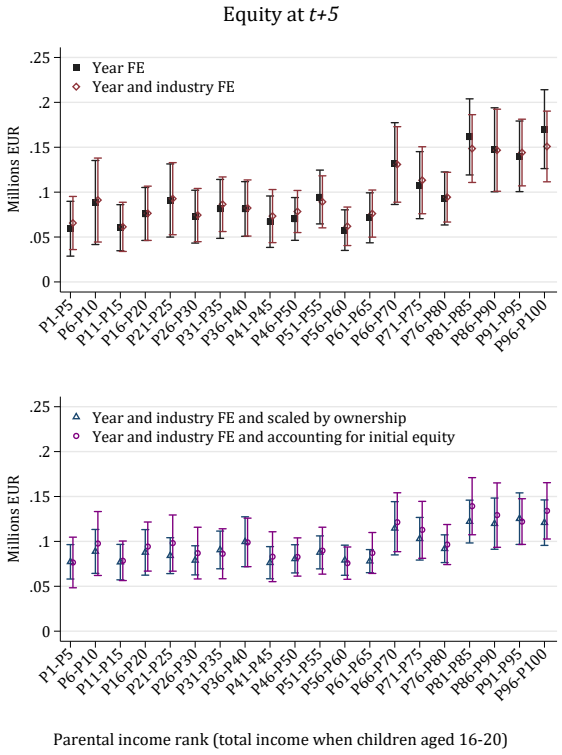


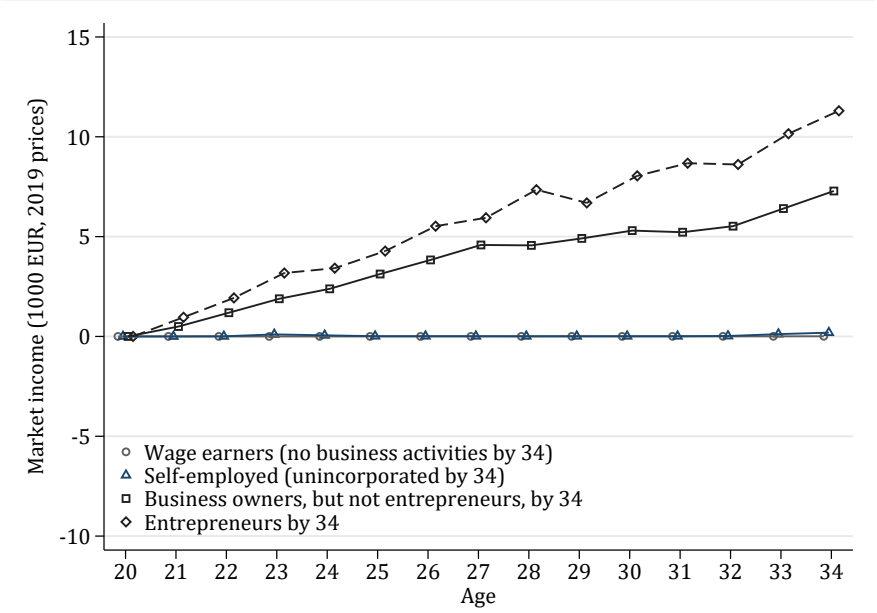
Figure B5 continues



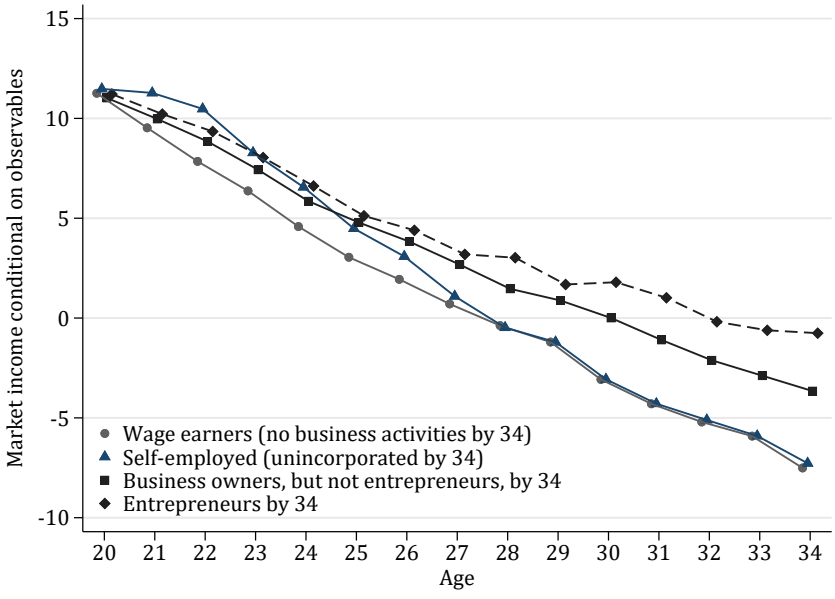
Notes: Figure shows the full breakdown of firm-level outcomes, summarized in Figure 8 as a top 5% / bottom 95% ratio, by entrepreneurs' parental income. Parental income is defined as total pre-tax income of both parents when children are 16–20 years of age. See Appendix C for detailed definitions. Overall, the figure demonstrates that the differences in firm performance by socio-economic background are modest.

Figure B6: Age-income profiles by labor market status: 10th percentile

(a) Raw data



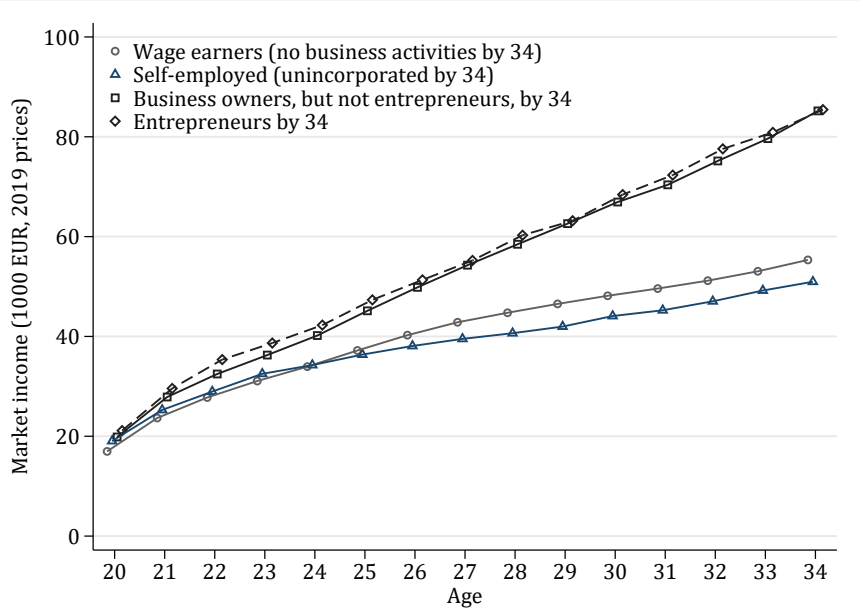
(b) Conditional on observable characteristics



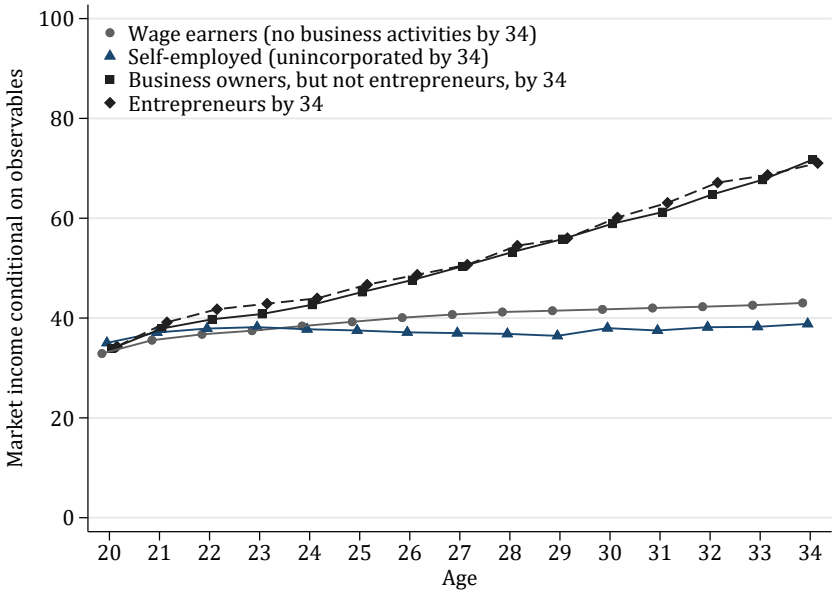
Notes: Figure shows age-income profiles separately for wage earners, unincorporated self-employed, incorporated entrepreneurs and other owners of incorporated firms. The income concept is market income, i.e., the sum of salaried earnings, entrepreneurial income and capital income, in 2019 prices. Conditioning on observable characteristics include fixed effects of birth cohort, year, gender and paternal and maternal education and entrepreneurship.

Figure B7: Age-income profiles by labor market status: 90th percentile

(a) Raw data



(b) Conditional on observable characteristics



Notes: Figure shows age-income profiles separately for wage earners, unincorporated self-employed, incorporated entrepreneurs and other owners of incorporated firms. The income concept is market income, i.e., the sum of salaried earnings, entrepreneurial income and capital income, in 2019 prices. Conditioning on observable characteristics include fixed effects of birth cohort, year, gender and paternal and maternal education and entrepreneurship.

C Detailed Definitions

Privately held corporation (PHC): Corporate form where owners' liability is limited to their invested capital, protecting them from personal liability for the company's obligations (osakeyhtiö in Finnish).

Entrepreneur: Owners of PHCs, i.e. incorporated entrepreneurs, who meet the following five criteria. 1) one must establish a new firm that is active for at least three years. 2) one has to own 20%, and be the largest owner (can be tied) through the first 3 years. 3) one has to be the CEO or board member (can also be the chair). 4) one is required to have an employment spell in the owned firm during the first three years of operations. 5) to rule out investors, one is not allowed to own more than five firms.

Socio-economic background: Parental income or assets. Income refers to income subject to state taxation (total earned income + total capital income), which is consistently defined and observed for the full population of Finns starting in 1987. Assets refer to taxable assets covering real estate, buildings, shares, and assets related to business and profession. Those residing in Finland also paid it on bonds, debentures, and other forms of debt securities. Data cover 1987-2005 because the wealth tax was abolished after 2005. Income and assets are calculated as the total parental ones (father + mother), and the baseline measure is parental income when the children are 16-20 years old. Additionally, I define socio-economic background using age brackets 6-10 and 6-20, for both income and assets, to test for the robustness of the empirical analysis.

Parental entrepreneurship: I label parents as entrepreneurs if their socio-economic status (SES) was entrepreneur in all four years 1990, 1993, 1995 and 2000, for which we have data. SES is defined by Statistics Finland based on information about the person's main activity, profession, professional status, and industry. Using identical entrepreneurship classification between parents and children is not feasible since the data on ownership of PHCs starts only in 2006.

Parental education: I define highly-educated parent as someone with a master's degree.

Family business: I define family businesses as ones, where at least one parent owns at least 10% at the time or one year before children become owners.

Market income: Income before taxes and transfers, i.e., the sum of labor earnings and entrepreneurial and capital income.

Wage earner: I define individuals who do not engage in any business activities (incorporated or unincorporated) by age 34 as wage earners.

Self-employed: I define children as self-employed if their socio-economic status (SES) was entrepreneur in at least five years when 25-34 years old, and they do not own shares in PHCs. SES is defined by Statistics Finland based on information about the person's main activity, profession, professional status, and industry.

Industry: I classify industries at the 3-digit level following the NACE classification.

Sales: Sales, or turnover, is comprised of sales income from products and services belonging to the enterprise's operations proper from which any granted discounts, value added tax, and other direct taxes based on sales volume have been deducted.

Staff costs: The sum of wages and salaries subject to withholding tax and comparable expenses, personnel expenses determined directly on the basis of the wage or salary, such as pension expenses, social security contributions, statutory and voluntary personal insurance contributions, and pension expenses.

Value added: Revised operating margin + wages and salaries + other personnel expenses.

Profit: Result for the financial period = total profit + change in cumulative accelerated depreciation and reserves. The result for the financial period take into consideration all of the enterprise's income and expenses for the financial period, as well as future expenses and losses recorded in advance as obligatory reserves.

Fixed assets: The total fixed assets of the balance sheet comprises three main groups: intangible assets, tangible assets and investments. Fixed assets refer to items that are intended to generate income continuously over several financial periods.

Current assets: Current assets refer to commodities intended for assignment or consumption as such or after further processing. Total current assets comprises materials and supplies, work in progress, finished goods, goods (merchandise) and other current assets (incl. advance payments) altogether.

Financial assets: Total financial assets comprises current and non-current receivables from items recorded as current assets in the balance sheet, current asset securities and the sum of cash and bank deposits. Financial assets are defined in the accounting act but they do not form an item in the balance sheet format.

Total assets: Total sum of fixed, current assets and financial assets.

Equity: The item contains all equity items total. For communities, equity comprises share, co-operative and other similar capital, funds, retained earnings and result for the period. Other company forms and funds present their equity items as applicable, taking into account the equity forms prescribed by their respective special legislation.

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