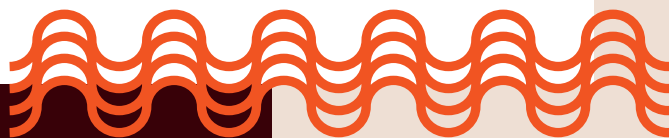Jarkko Harju
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Selection into Entrepreneurship, Income Mobility and Firm Performance

Labore

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ABSTRACT

Using full-population data from Finland, we show that individuals at the top of the income distribution are significantly more likely to start new incorporated businesses. High-income earners also establish more successful and productive businesses than others. In contrast, parental income is not linked with selection into new entrepreneurship or firm-level outcomes. We find that income gains from entrepreneurship are rather similar across individual and parental characteristics, and that entrepreneurship is associated with upward income mobility regardless of initial income levels. Overall, our findings suggest that entrepreneurship can serve as an upward economic ladder for individuals from diverse backgrounds.

JEL Codes: L26, J24, J3

Keywords:
entrepreneurship, income mobility, productivity

TIIVISTELMÄ

Yrittäjäksi valikoituminen, tuloliikkuvuus ja yritysten menestys

Tutkimme yrittäjäksi valikoitumista, kuinka yrittäjyys on yhteydessä yksilöiden tulokehitykseen ja kuinka yrittäjien tausta on yhteydessä yritysten menestykseen. Hyödynnämme koko väestön kattavia suomalaisia rekisteriaineistoja keskittyen henkilöihin, jotka siirtyvät palkkatyöstä yrittäjyyteen täytettyään 25 vuotta. Henkilöt, jotka olivat huipputuloisia jo palkansaajina, siirtyvät osakeyhtiömuotoisiksi yrittäjiksi selvästi muita todennäköisemmin. Vastaavaa valikoitumista ei tapahdu vanhempien tulojen perusteella, mutta monet uusista yrittäjistä tulevat yrittäjäperheistä. Yrittäjyyden tuomat kasvut henkilökohtaisissa tuloissa ovat huomattavat ja jakautuneet tasaisesti riippumatta yrittäjien omista aiemmista tuloista tai vanhempien tuloista. Sen sijaan korkeat tulot palkansaajana ennen yrittäjäksi ryhtymistä ovat yhteydessä keskeisiin yritysten menestystä kuvaaviin mittareihin, kuten tuottavuuteen ja työpaikkojen luomiseen. Arvioimme lisäksi, kuinka yrittäjäksi valikoituminen ja yrittäjyyteen liittyvät tuloloikat ovat yhteydessä tuloeroihin.

JEL koodit: L26, J24, J3

Avainsanat:
yrittäjyys, tuloliikkuvuus, tuottavuus

Labore

1 Introduction

Entrepreneurs are pivotal for generating growth, innovation and employment opportunities (see e.g. Aghion et al. 2018a; Decker et al. 2014), and they are often rewarded for their risk-taking, as business owners tend to occupy the top of the income distribution in many developed countries (see e.g. Smith et al. 2023, 2019; Halvarsson et al. 2018). However, despite a large literature on selection into entrepreneurship and differences in incomes between entrepreneurs and salaried workers (see e.g. Hamilton 2000; Moskowitz and Vissing-Jørgensen 2002; Hurst and Lusardi 2004; Levine and Rubinstein 2017; Kerr et al. 2017), we do not exactly know who benefits from entrepreneurship and who creates the largest spillovers to the economy. Therefore, we ask does becoming an entrepreneur increase the incomes of those who are already well-off, or does it provide an upward ladder for those who come from less privileged backgrounds? Also, we ask which characteristics of entrepreneurs are associated with job creation and productivity?

This article provides comprehensive empirical evidence on selection into entrepreneurship and the dynamic implications of new business creation using population-wide administrative data linking together wage earners, business owners and their firms. Our study integrates various separate strands of literature on selection and income development among entrepreneurs (Kerr et al. 2017; Levine and Rubinstein 2017; Garnadt et al. 2023, among many others), the intergenerational mobility of entrepreneurs (Lindquist and Vladasel 2022), and the role of individual (Hvide and Møen 2010; Queiro 2022) and parental (Hurst and Lusardi 2004; Hurst and Pugsley 2011; Lindquist et al. 2015) characteristics in entrepreneurial activity.

On top of individual-level outcomes often covered in the literature, our study provides novel evidence on the productivity and job creation of new firms, and reveals how individual and parental characteristics are associated with firm performance over time. As our main result, we find that the individual income of the entrepreneur strongly predicts key firm-level outcomes such as sales, employment and productivity. In contrast, we find that parental income and parental entrepreneurship are not associated with the economic performance of new firms. Despite these differences in firm outcomes, we show that incorporated entrepreneurship is linked with positive individual-level income gains throughout both individual and parental income distributions, providing a ladder for upward income mobility for individuals coming from less privileged backgrounds.

A necessary requirement for our study is the opportunity to combine high-quality panel data sets from many sources and to link firm-level data with their owners. We merge together population-wide administrative registers of wage earners, business owners, and their firms using detailed data sources from Finland. These data contain information on key individual and firm-level outcomes, such as detailed income information on individuals and their parents, and the financial statements of firms. We use these data to define the

exact establishment dates of the businesses and their full ownership structures, and to distinguish newly established businesses from existing ones. We construct a tractable and visually clear timeline around the event of founding a new business, enabling us to follow individuals over a long time period before and after the firm was established.

Following recent literature, Levine and Rubinstein (2017) most notably, we split business owners into owners of incorporated and unincorporated firms, and primarily focus on incorporated entrepreneurs. Earlier studies document that incorporated entrepreneurs more often engage in risky business ventures and conduct non-routine cognitive tasks than unincorporated business owners, and that the owners of incorporated businesses typically end up earning much more than other business owners and wage earners (see e.g. Hurst and Pugsley 2011; Levine and Rubinstein 2017, 2020; Lindquist and Vladasel 2022).

We depart from the earlier literature in one key aspect. Instead of asking how being an entrepreneur is associated with various characteristics, we ask how the decision to become an entrepreneur and establish a new business with no previous experience in running one shapes the income dynamics of new entrepreneurs coming from different backgrounds. Thus, we focus on new business creation instead of, for example, individuals joining existing companies as new owners. This potential selection feature is widely acknowledged in theory (see e.g. Evans and Jovanovic 1989, Hamilton 2000), but it is systematically missing from empirical analyses.[1] This paper is the first to study selection into entrepreneurship and the consequent individual- and firm-level outcomes using a systematic timeline from before and after the start of the new business. Most earlier studies rely on either cross-sectional data or survey-based panels with relatively few individuals followed over time (see e.g. Hamilton 2000, Moskowitz and Vissing-Jørgensen 2002, Levine and Rubinstein 2017, Halvarsson et al. 2018), which tend to over-represent business owners who manage mature firms.

The most striking new finding of our analysis is that the personal income of the entrepreneur strongly predicts the development of key firm-level outcomes such as survival rate, annual sales and the number of employees. As an illustration of the magnitudes, annual sales of the firms founded by top decile earners are roughly twice as large than that of the firms founded by bottom decile individuals after ten years since the firm was established. However, value added and productivity of the new firms established by top decile individuals are slightly smaller than for the firms founded by entrepreneurs coming from the upper-middle part of income distribution, portraying an inverse U-shaped relationship between individual income and firm productivity. All of these findings are robust to controlling for the industry and initial equity of the new firms, and to splitting the sample by parental experience in entrepreneurship.

In contrast, we find that firm-level outcomes do not significantly increase with parental

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[1]One notable exception is a study by Berglann et al. (2011), who follow one cohort of new entrepreneurs over time using Norwegian panel data.

income or parental background in entrepreneurship. However, parental background in entrepreneurship evens out the differences in key firm outcomes by individual income. Also, the combination of both high parental income and parental entrepreneurship is associated with increased annual sales and the number of employees, but not with productivity or value added of the firm.

We observe that the likelihood of starting a new business slightly decreases by parental income ranks, in contrast to the observed clear positive selection into entrepreneurship at the top of the individual income distribution. The difference of this result and the previously documented positive association between entrepreneurship and parental income (Dunn and Holtz-Eakin 2000; Levine and Rubinstein 2017; Lindquist and Vladasel 2022) stems from our specific focus on new business creation. We find that children from high-income families are more likely to join an existing matured business, and these cases are excluded from our main sample of those who established their first incorporated business after turning 25 years of age.

From the income mobility perspective, our findings suggest that entrepreneurship is linked with upward income mobility in the society. This notion stems from the fact that the positive personal income gains associated with entrepreneurship (on average 20%) occur rather evenly across both individual and parental income distributions and for those with and without entrepreneurial parents. This means that those who come from less well-off backgrounds also gain from entrepreneurship in terms of personal income, even though selection into entrepreneurship is much larger at the very top of the individual income distribution. Large income mobility of entrepreneurs is highlighted by our observations that compared to regular wage earners, new entrepreneurs are significantly more likely to reach the top 1% and 10% of the income distribution among those who originally come from the middle and bottom parts of the distribution. However, low-income individuals are much less likely to start a new incorporated business compared to high-income individuals, which limits the scope of entrepreneurship in shaping income mobility in the society.

Our findings emphasize that the positive aggregate benefits of entrepreneurship, such as job creation and productivity, increase with entrepreneurs' individual income. In contrast, the individual-level income gains associated with entrepreneurship are rather evenly distributed among entrepreneurs coming from different backgrounds. We find that while 17.5% of all new incorporated businesses are established by top 10% wage earners, they make up almost one third of total sales (30.1%), value added (31.5%) and labor costs (30.9%) ten years after the new firms were established. At the same time, personal income gains from entrepreneurship are 11 percentage-points larger among top 10% earners compared to others (28 vs. 17%). These findings underline that individual benefits from entrepreneurship do not necessarily go hand in hand with its broader benefits in the society. Also, our findings on firm-level employment suggest that the benefits from en-

trepreneurship among firms founded by high income earners are to a large extent shared with employees.

Earlier literature argues for the importance of the role of parental background in entrepreneurship and the associated human capital channel in explaining entrepreneurial traits and activity (see e.g. Dunn and Holtz-Eakin 2000; Hurst and Lusardi 2004; Hurst and Pugsley 2011; Lindquist et al. 2015). Our results provide novel empirical evidence suggesting that the intergenerational transmission of entrepreneurship does not systematically explain firm outcomes in the longer run. Our findings on the higher sales and employment outcomes for firms founded by the children of top-income entrepreneurial parents suggest that the transmission of entrepreneurial skills is concentrated only among parents who themselves succeeded as entrepreneurs. Instead, our results suggest that individual abilities and skills reflected by individual income from before the firm was established are key factors in explaining firm performance over time.

Finally, we find that many key observations, such as incorporated entrepreneurs' higher incomes compared to wage earners (Levine and Rubinstein 2017; Halvarsson et al. 2018) and the high share of business income at the very top of the distribution (Smith et al. 2019; Bruil et al. 2022), are strikingly similar in Finland compared to other countries, strengthening the external validity of our findings. However, similarly as in previous related studies, we underline that our findings are descriptive in nature and do not reflect the causal effects of entrepreneurs' background on personal income development and firm success. This is highlighted, for example, by the clear selection into new entrepreneurship at the the top of the personal income distribution.

The paper proceeds as follows: Section 2 presents a brief conceptual framework on the factors determining selection into entrepreneurship, income trajectories, mobility and firm outcomes. Section 3 describes the data and explains the detailed definitions and the empirical approach we use in our analysis. Section 4 presents the results on selection into entrepreneurship and income mobility. In Section 5, we analyze firm performance. Section 6 concludes.

2 Theoretical Background and Predictions

Selection into entrepreneurship has attracted a lot of attention in economics. Lucas (1978) outlines a model where an individual considers a choice of being a salaried worker or an entrepreneur based on whether he or she has managerial 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 relative advantage in either of these fields. Lazear (2004, 2005) argues that the combination of skills is more important than a distinct entrepreneurial skill in selection into being a business owner. Entrepreneurs need to be "jacks-of-all-trades": they need to be multi-

skilled generalists rather than experts in any single skill. In all of these frameworks, human capital, skills and ability related to starting and running a successful business are central for selection into entrepreneurship.

Parental background can also play an important role explaining selection into entrepreneurship (Hurst and Lusardi 2004; Sorensen 2007; Lindquist et al. 2015). Parental income and wealth can be correlated with entrepreneurial human capital and the ability of the child, indicating positive selection by parental income into entrepreneurship. Relatedly, parental entrepreneurship can be linked to the entrepreneurial skills of children, leading to selection into entrepreneurship based on parental entrepreneurship.

A well-recognized potential barrier for setting up a new business is liquidity constraints (Evans and Jovanovic 1989). Starting a business typically requires capital, and acquiring these resources externally might be challenging due to, for example, various frictions in the financial market. Thus, in addition to the human capital channel in a more general sense, we identify liquidity as another prominent determinant of selection into entrepreneurship. In our empirical analysis, we study how individual and parental income and parental background in entrepreneurship are linked to both selection into entrepreneurship and the initial financial resources of the new firms.

Preferences for "being your own boss", perceived work flexibility, attitudes toward risk and other similar traits are also likely to be correlated with the decision to become an entrepreneur (see e.g. Kerr et al. 2017 for a review). As an example, Hurst and Pugsley (2011) argue that various non-pecuniary benefits related to entrepreneurship play a key role in starting a business for many individuals. Additionally, preferences for entrepreneurship can be shaped through parental entrepreneurship such that the children of entrepreneurial parents prefer starting a business of their own (see e.g. Lindquist et al. 2015) irrespective of individual and parental incomes.

In terms of income trajectories, the above discussed selection models predict that entrepreneurship increases earnings after starting a business compared to being a wage earner. Lazear's framework of multi-skilled entrepreneurs suggests that prior earnings as a wage earner predict both selection into entrepreneurship and individual income development after establishing a business if the skills that are valued and rewarded at the labor market are also important in running a successful business. In addition, parental income can explain both selection into entrepreneurship and income development if parental income is linked to skills that are important for entrepreneurship. Also, human capital and skills related to family experience in running a business can positively affect the income trajectories of entrepreneurs as well as selection. However, the children of entrepreneurial parents might have strong preferences for running a business independently of their skills, which could lead to lower incomes in comparison to other entrepreneurs or a career as a wage earner.

The above theoretical models do not unambiguously predict who will gain the most

from entrepreneurship. Models that highlight the importance of distinct entrepreneurial skills or ability (e.g. Lucas 1978; Roy 1951) imply that entrepreneurship can increase incomes for all who self-select into starting a new business based on these skills. However, if the gains from entrepreneurship are linked with skills that are also rewarded at the labor market (Lazear 2004, 2005), the gains from entrepreneurship can be concentrated among those with higher initial earnings. Therefore, it is an empirical question whether entrepreneurship opens up a way for the individuals at the top of the distribution to become even richer, or does it provide an upward ladder for less well-off individuals to reach the top of the income distribution. Entrepreneurship is often considered as a key channel for income mobility in the society (see e.g. Fairlie 2004), indicating that entrepreneurship increases the incomes of also those with lower individual and parental income, compared to regular wage earners with similar background characteristics. This channel suggests that the returns from entrepreneurship would be high also for those who do not select into entrepreneurship based on their individual income or parental characteristics. To study these channels empirically, we analyze how individual income before establishing a new business, parental income and parental entrepreneurship are associated with income gains from entrepreneurship, and how the gains differ by individual and parental incomes.

In addition, selection and income trajectories can be linked to liquidity constraints. High-income individuals are likely to have more financial resources to start a business relative to low income individuals, and their businesses can perform better with higher initial capital leading to higher individual incomes. This can create a positive correlation between prior income, the likelihood of starting a business and individual income trajectories. Similarly, high-income parents, or parents with experience in financing their own firms, could also ease the financial barriers of entrepreneurship for their children, leading to both higher selection into entrepreneurship and increased earnings as an entrepreneur.

In terms of firm performance, Lucas (1978) and Evans and Jovanovic (1989) argue that the skills of an entrepreneur translate to the firm distribution such that the most high-skilled entrepreneurs would run the most successful businesses. In this framework, selection into entrepreneurship, individual earnings and spillovers of the business in the economy in terms of, for example, job creation or productivity, are correlated with each other. However, individual benefits from entrepreneurship do not necessarily go hand in hand with productivity and job creation of the new firms. For example, it could be that high-income individuals are more likely to establish businesses that require only few workers but high levels of cognitive skills, such as consultancies, indicating that the firm mainly generates a high return on the human capital of its main owner. In turn, middle- and low-income individuals may be more likely to set up businesses that operate in more labor-intensive sectors, implying that the returns on entrepreneurship are shared more broadly in the society. We study these questions by analyzing the associations between individual and parental characteristics of the entrepreneurs and key firm performance

measures over time.

3 Data and Definitions

3.1 Data

Our analysis builds on detailed population-wide administrative data from Statistics Finland and the Finnish Tax Administration. These data enable us to link together individual-level income information and background characteristics, firm ownership information and date of establishment, and firm-level tax returns and financial statements. The data are unique in the entrepreneurship literature both in terms of details and coverage.[2]

Individual-level Data. The individual-level data from Statistics Finland include detailed information on annual income (wages, dividends, capital gains and other sources of earned and capital income), education (level and field of highest degree), age, place of residence, marital status, and the number of children. The data contain the universe of individuals living in Finland from 1987 to 2019 with unique individual-year identifiers. We can also link children to their parents (biological and adoptive) for all individuals born after 1952 and living in Finland on the last day of each year.

Firms. Our firm-level data set includes annual financial statements (profit and loss accounts, balance sheet information) from Statistics Finland, tax return information from the Finnish Tax Administration, and the establishment dates of firms from the Finnish Patent and Registration Office from 1997 to 2019. The data include firm-year identifiers and additional background characteristics for firms such as industry classification codes and the organizational form.

Ownership Information. For the owners of privately held corporations, we use two separate data sets to identify the ownership structures: 1) the main owner information from the Tax Administration for those owners who received dividend income from their firm, available for 1997–2016, and 2) the full ownership database from Statistics Finland,

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[2]We provide a brief comparison to data used in previous related studies in Online Appendix E. Previous studies on business owners using Finnish data have documented that entrepreneurship appears to be a character trait that runs in the family (Uusitalo 2001), that entrepreneurs' education is positively associated with entrepreneurial success and that smaller firms spawn new entrepreneurs more frequently than larger firms (Hyytinen and Maliranta 2008). Within-twin analysis (Hyytinen et al. 2013; Maczulskij and Viinikainen 2023) suggests that entrepreneurs earn a negative earnings premium, work more, have greater responsibilities, but also have greater control over their work, and that self-confidence predicts entry into entrepreneurship and entrepreneurial success. Previous experience in a high-productivity firm strongly predicts high productivity and probability of survival for the entrepreneur's new firm (Maliranta and Nurmi 2019). Paukkeri et al. (2023) show that entrepreneurs dominate the top of the distribution in Finland, which is similar to our findings. Finally, recent studies on Finnish inventors (Aghion et al. 2018b, 2022, 2023) also use similar data sources as we do.

available for 2006–2019. Combining these data enables us to track down the main owners with dividend income from their firm from 1997–2005 and the full ownership structure from 2006–2019.[3] Second, we use a data set including all self-employed and partnership firm owners from the Tax Administration available for 1997–2016. Both of these data sets include unique firm-owner-year identifiers, and we can merge these data with all the individual-level data sets.

Sample Restrictions. Similarly as in the recent literature on the income development and personality traits of entrepreneurs (Levine and Rubinstein 2017; Halvarsson et al. 2018), we restrict our baseline sample to individuals who are 25–64 years old when establishing their business and to individuals with positive wage income and/or entrepreneurial income in a given year. Also, we restrict our main sample to individuals for whom we observe child-parent links. This last restriction drops all immigrants and individuals born before 1953 from the sample.

3.2 Definitions

In this section, we discuss our definition of entrepreneurship and details on firm entry, firm ownership, income measurement and the timeline we use in this study. We provide a comprehensive list of key variables and their definitions in Online Appendix D.

Incorporated and Unincorporated Entrepreneurs. A key question in our study and related earlier work is how to define self-employment and entrepreneurship. The literature has long acknowledged that various types of businesses and their owners can differ significantly from each other in terms of the type of business activity (see e.g. Lazear 2004). For example, Evans and Leighton (1989) and Hurst and Pugsley (2011) illustrate that only a small share of self-employed businesses seek to engage in growth-targeted activities. Levine and Rubinstein (2017) show that incorporated entrepreneurs are more likely to engage in activities that are closely related to tasks that increase productivity and demand stronger cognitive skills, compared to unincorporated business owners who are less likely to conduct non-routine cognitive tasks. The key legal differences that separate the incorporated from unincorporated firms, namely a separate legal entity and the owners' limited liability, also make an incorporated business preferable for entrepreneurs who seek to engage in more risky business ventures.

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[3]Figure A1 in Online Appendix A shows the shares of new incorporated and unincorporated entrepreneurs by year. As is visible from the figure, for incorporated entrepreneurs there is a data break in 2006, as we only observe the main owners receiving dividends from their firm before 2006, and from then onwards we observe all main owners of incorporated firms. We use all the firm starts in our baseline analysis. Our main findings are not sensitive to using data before or after 2006, as shown in Table B1 in Online Appendix B.

Recent findings by Levine and Rubinstein (2017) and Halvarsson et al. (2018) highlight that the incomes of the owners of incorporated and unincorporated businesses differ significantly from each other, such that the owners of incorporated businesses earn much more than other business owners and wage earners in both the US and Sweden, respectively. Therefore, pooling all business owners together tends to mask important heterogeneity in income development and income mobility across different types of business owners.

In the Finnish context, there are several key features that differ between unincorporated firms, consisting of sole proprietors (single owner) and partnership firms, and incorporated firms labeled as privately held corporations. First, the owners of unincorporated firms are personally liable for all the financial commitments such as debts and other obligations of the firm, but the financial liability of incorporated firms is limited to the capital invested in the firm. Second, unincorporated firms are in general subject to more lenient administrative and accounting requirements compared to incorporated firms, including e.g. single-entry bookkeeping, and no requirements for capital installments or assigning a board of directors. Third, in the Finnish tax system, unincorporated firms are pass-through entities, meaning that their profits are allocated to their owners as personal taxable income. Incorporated firms constitute separate tax entities, and their profits are taxed at the corporate tax rate. Owners of privately held corporations pay a wage or dividend tax on income withdrawn from the firm.[4] Therefore, as in many other countries and institutional contexts, an unincorporated business tends to be a more suitable choice for those who seek to run a simple business with no immediate intention for growth. In contrast, an incorporated firm is more suitable for entrepreneurs who are oriented towards risk-taking and growth-seeking business activities.

Following these lines of reasoning, in our analysis we divide business owners into incorporated (IE) and unincorporated (UIE) entrepreneurs based on the organizational form of the firm, allowing us to track down potential differences in income trajectories and mobility outcomes between different types of business owners. We define the organizational form of the business based on its organizational form in the year when it was established, and include the owners using this definition even if the firm later changes its organizational form.[5] Our primary focus is on the IE, who we show to be distinctively different from both UIE and wage earners (WE).

Firm Entry. We define the first year of an incorporated business such that it is the first full year after the establishment date when the firm first reports positive sales. We use a similar sales condition for unincorporated businesses but also require the owners to receive at least 50% of their gross market income from the firm in the first year after the

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[4]Online Appendix C presents a more detailed description of the differences in the tax schedules between the organizational forms.

[5]In our data, changing the organizational form is rare, as less than 3% of firms change their organizational form from unincorporated to incorporated within their first 10 years.

establishment date in order to focus on entrepreneurs who are actively engaged in their business operations. This last restriction is particularly important as some wage earners receive additional earnings from an unincorporated business that they run alongside their main occupation, and we do not want to label them as being firm owners in our analysis.

Firm Ownership. Our analysis focuses on the main owners of firms, defined as individuals who own the largest share of the firm when it is established. These individuals typically bear the largest entrepreneurial risk but are also those who are likely to gain most in terms of income if the business ends up being successful. For incorporated business owners, we directly observe the ownership share of the business for each owner in the data, and for the owners of unincorporated businesses, we define the main owner status for the owner whose income from the firm is the largest. If two or more individuals own equal shares of a firm using the above definitions, they are all considered as main owners. Importantly, we do not condition on the success of the business in our baseline analysis. After the first year, we allow the firm to go bankrupt or the owner to lose the status as the main owner, but we still label these individuals as entrepreneurs throughout our sample period.

We narrow our focus to individuals who are *new* business owners, defined as individuals who have no current or prior ownership of another incorporated or unincorporated firm in our data. We allow for transitions between the two types of entrepreneurship. This means that individuals can be labeled as new incorporated entrepreneurs if they had no prior ownership of an incorporated business but were sole proprietors or involved in a partnership, and vice versa. We label as wage earners those individuals with positive wage income who have no ownership of *any* firm over the whole period we observe in the data. This allows us to focus on the implications of new business creation on individual income development, excluding those who, for example, join an existing firm as a new partner or inherit an operating business from their parents.[6]

We define parental background in entrepreneurship using administrative data starting from 1987. We define the parent(s) of an individual as entrepreneur(s) if he or she is labeled as a business owner for at least 5 years in our data according to the socioeconomic status defined by Statistics Finland. This approach enables us to use a similar definition for parental entrepreneurship using our full data for 1987–2019, as the more detailed ownership data starts only from 1997.

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[6]Previous literature argues that inherited firms constitute only a small share of entrepreneurs. For example, they comprise 5.6% of firms in the US (Parker 2009) and 2.2% in Sweden (Lindquist et al. 2015). Furthermore, our ownership definition excludes those wage earners who, for example, join a firm as a minority partner with a very small ownership share but continue to work in the same firm. These types of ownership arrangements often tend to serve as a commitment tool for high-profile workers and do not represent the type of risky entrepreneurship we aim to focus on in this study.

Income Measurement. Our baseline individual income measure is disposable income, which denotes the net-of-tax-and-benefits annual incomes of individuals from all income sources observed in our data. We observe disposable incomes for all wage earners and business owners in each year from 1995 onward, which allows us to follow individual incomes over a long time period and enables a careful comparison of income development and mobility between the groups. Furthermore, disposable income is a relevant income measure when considering income mobility outcomes in the distribution, as it also captures differences in taxation and benefits both between wage earners and business owners and between the owners of different types of organizational forms. However, we use market income before taxes and transfers as an alternative income measure, and these results are qualitatively similar to those using disposable income (see Online Appendix B). All income variables are presented in 2005 prices using the Consumer Price Index of Statistics Finland.

In addition to income levels, we analyze the relative income development and income mobility of individuals by using individual and parental income ranks. These denote the individual's relative position in the income distribution by percentile or decile points. We define the rank of each individual in the *full* population consisting of both wage earners and business owners before the firm was established (as explained in more detail below). We define parental income ranks using a distribution of the average annual household-level market income (labor and capital income) of the parents when they were 45–50 years old. We use market income for the parents to be able to define the ranks of those individuals whose parents were of that age after 1987, as the disposable income measure is not available in our data before 1995. Our results are robust to defining parental ranks using disposable incomes after 1995.[7]

Timeline. To our knowledge, our study is the first to follow new business owners long before and after they established their first business using population-wide panel data that cover transitions into entrepreneurship over multiple years.[8] This enables us to provide visually clear and tractable evidence on selection into entrepreneurship and the income development and mobility of business owners.

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[7]Defining an exact boundary between the firm and the owner's incomes can be challenging (see e.g. Kopczuk and Zwick 2020). In addition to income withdrawn from the firm as wages, dividends and capital gains, the owners of privately held corporations can retain earnings in their firm, which do not show up in the administrative data in the year that they are accrued. As an additional analysis to study the relevance of this income source and as a robustness check to our baseline analysis, we follow a similar type of approach as in Alstadsæter et al. (2023) and allocate earnings retained in the firms to each owner of an incorporated firm based on their ownership share of the firm, and include this income on top of the market income observed in the administrative data. The results in Online Appendix B show that the income dynamics follow a similar pattern when retained earnings are included, but including them naturally increases income gains from entrepreneurship compared to wage earners.

[8]Our data include transitions into entrepreneurship that took place between 1998 and 2014. Berglann et al. (2011), the only other study that we know of that follow new entrepreneurs over time in a similar way, focus on transitions that take place between October 2000 and October 2001 in Norway.

For business owners, we define the year $t = 0$ as the year they start their new business, and then follow their income development from before and after they started their business. As mentioned above, in our baseline analysis we follow new business owners regardless of whether they remain as business owners after $t = 0$, i.e. we do not condition our analysis on firm survival or the individual remaining as the main owner of the firm after $t = 0$.

To obtain a similar timeline for wage earners, we randomly allocate a "pseudo-start year" ($t = 0$) for individuals who over our sample period never engage in any business activities. Therefore, in year $t = 0$ the wage earners do not actually start a business, but this timeline allows us to describe the overall income trajectories of wage earners using a similar timeline as for business owners. This approach provides us with an intuitive benchmark for the general earnings growth in the economy. As with entrepreneurs, we follow the same wage earners throughout our sample period. In our baseline analysis, we follow the income development from 5 years before to 10 years after $t = 0$, i.e., from $t - 5$ to $t + 10$.

In addition to individual income, we use a similar approach to study firm outcomes and how their development differs by income ranks and other characteristics. We focus on survival rates and key balance sheet measures: sales, number of employees and staff costs, value added (revenue – costs), productivity (value added per employee), and the likelihood of R&D investments. As there is no pre-period for new firms, we analyze the development of firm outcomes for their first 11 years, i.e. from t to $t + 10$. We analyze firm-level outcomes cumulatively up to the year $t + 10$ and illustrate our findings as binned scatter plots over individual and parental income decile ranks. This approach provides a comprehensive view of the longer-run success of the business while taking into account potential differences in firm survival across the individual and parental income distributions. We account firm survival by including the non-surviving firms in the data but replacing their reported values for the outcome by zero after the firm has exit the data. To estimate conditional means by ranks reliably, we follow the recent approach of Cattaneo et al. (2024).

Finally, we acknowledge that starting a business and becoming an entrepreneur are not exogenous events. We further underline this by providing detailed evidence on selection into entrepreneurship below. Therefore, our goal is *not* to provide evidence of the causal effects of starting a business on income development. Instead, we provide visually clear and transparent stylized findings on selection into entrepreneurship, and income development, mobility and firm outcomes for those who self-selected to become entrepreneurs.

3.3 Descriptive statistics

Individual-level statistics. Panel A of Table 1 presents the cross-sectional descriptive statistics for the full sample in 1997–2019. Similarly to the well-established existing evidence (see e.g. Halvarsson et al. 2018; Levine and Rubinstein 2017), the table illustrates that incorporated entrepreneurs (IE) earn on average much more (mean disposable income 31,097 and market income 40,348 euros) than wage earners (22,353 and 26,995 euros) and unincorporated entrepreneurs (21,565 and 24,679 euros). In addition, IEs are less likely to be women (24%). They are only slightly more likely to be highly educated, married, have more children and live in the capital city region compared to wage earners (WE) and unincorporated entrepreneurs (UIE). Also, the groups do not differ by average age.

Similarly as in many previous studies (Lindquist et al. 2015; Fairlie and Robb 2007; Sorensen 2007; Uusitalo 2001; Dunn and Holtz-Eakin 2000), our data show that both IEs and UIEs are more likely to have at least one parent who was also an entrepreneur compared to WEs (24%, 23% and 17%, respectively). The parental income ranks are very similar between the groups on average – a key feature that we provide more details on in Section 4.1.

Panel B of Table 1 presents the same statistics for IEs and UIEs one year before they started their business $(t-1)$ and for WEs one year before the randomly allocated pseudo-start years. The table shows that those who select to become an IE earn significantly more than WEs and UIEs already *before* they started their business (mean disposable incomes of 28,049, 20,596 and 17,371 euros, respectively). The distinct differences in gender and parental entrepreneurship remain similar as in the full cross-sectional data. However, the other observed characteristics such as age and the share living in the capital region are rather similar between the groups in this sample too.[9]

Firm-level statistics. Table 2 presents the descriptive statistics for new incorporated firms. The table describes the firms in their first year (Panel A) and ten years after their establishment (Panel B). The average 10-year survival rate is around 60%. We examine five firm-level business activity measures covering the scale and productivity of the firms. The variables we study include annual sales, number of employees and staff costs, value added and value added per employee (productivity). The table presents the mean, median and 10th, 90th and 99th percentile-point values for these variables.

Table 2 shows that, on average, new firms report sales of approximately 470,000 euros, employ three workers and pay 110,000 in wages at the end of their first year. After ten

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[9]Figure A2 in Online Appendix A shows that the owners of new incorporated businesses are seemingly older than one might perhaps first expect. New IEs are typically between 30–40 years old (average 35) at the time they start their first business. In contrast, the largest share of new unincorporated firms are founded by individuals below 30 years of age. For more details on the differences in education between entrepreneurs and wage earners, see Figures A3 and A4 in Online Appendix A.

years, the average sales has increased to nearly one million euros, the number of employees to roughly 7 workers and wage costs to 300,000 euros on average. The average values for value added (revenue – variable costs) are 130,000 euros and 325,000, and for productivity (value added per worker) 40,000 and 33,000 euros in the first and tenth year, respectively.

Table 2 highlights that there is considerable variation between firm outcomes across the distribution. For example, at the 10th percentile of the distributions the firms do not have any employees and report annual sales below 22,000 euros even after ten years since the firm is established (on average). In contrast, at the 90th percentile the number of employees and annual sales has reached nearly 15 persons and almost two million euros after ten years, respectively. The values at the top 1% of firms are even more striking, as these firms report sales of over 13 million euros and have over 80 employees on average in the tenth year after establishment.

Additionally, we observe that new incorporated firms represent a wide variety of different industries, but construction, retail trade and computer programming are among the most frequent industries (Online Appendix A Figure A5). Also, the same industries stand out across both the individual and parental income distributions (Online Appendix A Table A1). Management consultancy, however, is among the most prominent industries only among those who were top earners before becoming entrepreneurs. Among those who were in the top individual quintile and who come from top quintile families, management consultancy comprises 13.6% of new businesses. Yet, construction, wholesale, retail trade and restaurants cover roughly a quarter of the new firms among these entrepreneurs too.

4   Selection and Income Mobility

In this section, we study selection into entrepreneurship based on both individual and parental characteristics. We focus on illustrating how the likelihood of starting a new business correlates with individual and parental incomes, and analyze how individual and parental income ranks are correlated with the initial equity of the new business. Then we study the income trajectories and mobility of new entrepreneurs by their individual and parental characteristics.

4.1   Selection into Entrepreneurship

Selection by individual and parental income.   We begin by zooming into the individual income distribution to analyze self-selection to starting a new business. The upper panel of Figure 1 presents the average likelihood of starting a new incorporated (IE) or unincorporated (UIE) business by individual income rank percentiles, measured one year before individuals started their business ($t-1$). The figure shows the shares of new entrepreneurs (vertical axis) coming from each percentile point in the overall income

distribution (horizontal axis), which is measured including both entrepreneurs and wage earners.

From the figure we can observe that there is a non-monotonic association between becoming an IE and the individual income rank percentile. Individuals located in the top 20% of the overall income distribution are much more likely to start an incorporated business compared to the rest of the distribution, where the likelihood of starting an incorporated business only weakly increases with income. The share of top income earners is even more striking the closer we zoom into the right tail: more than half of the starters are in the top earnings quartile a year before setting up their first firm, 17% come from the top 5%, and the top 1% spawns more than 5% of new business owners. However, we find that within the top 1%, the very top 0.1% of earners are as likely as others at the top to become entrepreneurs. In contrast, low income individuals are more likely to start an unincorporated business compared to the rest of the distribution, and there is only a weak increase in this likelihood at the very top of the distribution. This means that selection into unincorporated self-employment differs visibly from selection into incorporated entrepreneurship.

The observed positive connection between income and entrepreneurship and the stark difference in selection between the firm types is well in line with the earlier literature (see e.g. Lazear 2004; Evans and Leighton 1989; Levine and Rubinstein 2017). However, our more granular analysis underlines that the positive selection into incorporated entrepreneurship appears to hold non-monotonically only at the top of the distribution, instead of continuously increasing by income throughout the distribution. This finding is similar to the non-linear association between individual wealth and starting a business documented previously by Hurst and Lusardi (2004) in the US.

The lower panel of Figure 1 illustrates the correlation between parental income rank and the likelihood of becoming a new IE or UIE. In contrast to individual incomes, this likelihood decreases almost linearly with parental income for both types of entrepreneurs, except for the very bottom of the distribution. This means that we do not observe positive selection into any type of entrepreneurship by parental income, and that the association between individual and parental incomes and selection into entrepreneurship differ significantly from each other, particularly among incorporated entrepreneurs.[10]

Our observation of the negative selection into entrepreneurship by parental income clearly differs from previous evidence from the US regarding inventors, who are documented to overwhelmingly come from high-income families (Bell et al. 2019). Also, this pattern differs from incorporated business owners in the US and Sweden, where it is

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[10]Figure A6 in Online Appendix A shows that this observation holds when we use disposable income or capital income instead of market income to define parental income ranks. For capital income, roughly a third of new incorporated business owners come from families with zero capital income while the pattern is flat at roughly one percentage per percentile rank from the 40th percentile all the way to the top of the parental capital income distribution.

observed that family income positively predicts the probability of owning an incorporated business (Dunn and Holtz-Eakin 2000; Levine and Rubinstein 2017; Lindquist and Vladasel 2022).

We find that these differences between our findings and the previous literature can be explained by our explicit focus on entrepreneurs who start *new* businesses, which departs from previous studies that have focused on entrepreneurship in general – effectively emphasizing entrepreneurs who join an existing firm or whose firms eventually succeeded. First, when using cross-sectional data (years 2006 and 2014 as two examples) that include all current business owners in Figure A7 in Online Appendix A, we indeed observe that *all* incorporated entrepreneurs more often come from high-income families. Second, from the figure we can see a similar pattern when we look at new entrepreneurs who join *existing* businesses, as those with higher-income parents are more likely to join an existing firm as a new owner compared to others. These findings mean that when we focus on mature surviving firms instead of new business creation, we find a positive link between being an incorporated business owner and having high-income parents. In contrast, using the different samples has practically no effect on the association between parental rank and unincorporated entrepreneurship. Therefore, the associations between parental income and selection into new entrepreneurship can be different compared to what we can learn from the findings in the previous literature that do not particularly focus on new business creation.

Above in Table 1 we show that entrepreneurial children are more likely to have entrepreneurial parents than children who never engage in any business activities. However, parental entrepreneurship *does not* explain the selection based on individual or parental incomes presented above. Figure 2 shows that the shares of new incorporated entrepreneurs in each income bin are strikingly similar for both those with and without entrepreneurial parents. This finding illustrates that the selection pattern by income does not depend on parental entrepreneurship at all.

Initial equity of the new firm. In order to assess the relevance of the ability and liquidity channels in explaining selection, we evaluate the association between the initial equity invested in the new firms and income ranks and parental entrepreneurship. We use the equity observed in the firm in its first year to proxy how individual and parental background is linked with firms' available capital when they are established.

Figure 3 presents the initial equity of the incorporated firms in logarithmic scale (vertical axis) by individual and parental income rank deciles (horizontal axis) and by parental background in entrepreneurship. The figure shows the estimates conditional on the industry of the firm, which takes into account potential differences in the industry composition between the firms in each rank.

The upper graph in Figure 3 shows that there is a positive and almost monotonic

association between individual incomes at $t - 1$ and the equity of the new firm in year $t = 0$ when the firm is established. This means that individual income is tightly linked with the initial equity invested in the firm almost throughout the distribution. In contrast, the lower graph shows that initial equity is not positively associated with parental income. This suggests that higher parental income is not reflected in higher capital installments in the firm. One reasonable explanation for this finding is that those who start a new incorporated business are typically older than one might first expect, as the average age of new owners is 35 (see Table 1, Panel B). This suggests that parental income or wealth might not be tightly linked with the financial decisions or actions of their children once they are well into their adulthood. The findings are very similar in the without controlling for differences in the industry composition between income groups.

Figure 3 shows that parental entrepreneurship is not strongly associated with initial equity of the newly established firms, as the equity estimates do not differ by parental background in entrepreneurship across both the individual and parental income distributions. The only exception to this is the difference among children whose parents are top earners, although the estimate is not statistically or economically significant. Overall, the patterns suggest that having an entrepreneurial parent is not linked with the equity channel that could potentially explain larger selection into entrepreneurship by those with entrepreneurial parents.

Above we show that the positive selection into entrepreneurship by individual income is concentrated only at the very top of the individual distribution with a steep increase in the likelihood to become an entrepreneur among the top 10% of income earners (upper panel of Figure 1). However, a closer examination of the link between initial equity and individual income reveals that initial equity is not sharply increasing among the top 10% of income earners, in contrast to the sharp increase in the likelihood of starting a business at the very top. This evidence suggests that the large share of top income earners choosing to start a business is likely to be associated with the perceived human capital as an entrepreneur or preferences for entrepreneurship, in contrast to only reflecting the presence of liquidity constraints. This finding echoes the results of Hurst and Lusardi (2004) on individual wealth and starting a business. However, a caveat to this discussion is that in addition to liquidity constraints, the initial equity of the firm can also at least partly reflect the ability of the entrepreneur in acquiring funding for the start-up. On the other hand, either ability or liquidity channels do not appear to be directly linked with parental income, as the share of new entrepreneurs (lower panel of Figure 1) and the initial equity of the new firms are not positively correlated with the parental income rank.[11]

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[11]In Table A2 in the Online Appendix, we evaluate the relative importance of various observable characteristics by analyzing their role in explaining selection into entrepreneurship, following the approach by Azen and Budescu (2003). Previous experience in being an unincorporated self-employed and pre-entrepreneurship industry are important in explaining selection into entrepreneurship. Other observable

4.2 Income Trajectories and Income Mobility

Average income trajectories. We analyze individual-level income trajectories from five years before to 10 years after the new firm was established. To portray the differences in income dynamics between incorporated entrepreneurs and wage earners often studied in the literature (see e.g. Evans and Jovanovic 1989, Hamilton 2000, Moskowitz and Vissing-Jørgensen 2002, Levine and Rubinstein 2017), we estimate the following regression:

$$y_{ist} = \sum_{j \neq -1} \psi_j \times \mathbb{1}[j = t] + \sum_{j \neq -1} \delta_j \times \mathbb{1}([j = t] \times IE) + \eta_s + X_{is} + \epsilon_{ist}, \quad (1)$$

where y is log income for individual i in year s at event time t, which is the start year of entrepreneurship. We omit the event time dummy $t-1$ so that the estimated event time coefficients ψ_j represent income development relative to the year just before the start of the randomly allocated pseudo-start years for wage earners. δ_j are the coefficients for the difference in income development between entrepreneurs (IE) and wage earners. We portray the income development separately for the two groups to transparently illustrate their underlying income development over time, where ψ_j gives estimates relative to $t = -1$ for wage earners and $\psi_j + \delta_j$ for entrepreneurs. η_s represent year dummies flexibly controlling for the overall time trend. X_{is} include typical Mincer-type controls (age, gender and level of education, and all their interactions and quadratic and cubic terms for age), and individual and parental percentile income ranks. Individual rank is defined as an average rank before starting a business between the years $t-5$ and $t-1$, and parental income is observed when the parents are 45–50 years old.

Also, as discussed above in Section 3.2, we do not condition on the success of the business in our analysis. After the first year of business, we allow the firm to go bankrupt or the owner to lose the status as the main owner, but we still label these individuals as entrepreneurs throughout our sample period. Similarly, we follow the same wage earners around their assigned pseudo-start year with no additional wage earners joining or leaving the sample (although some do exit the sample due to moving abroad or dying).[12]

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characteristics play only a small role. For example, the level and field of education have practically no predictive power on selection into incorporated entrepreneurship, as illustrated in more detail in Online Appendix A Figure A4.

[12]Our empirical approach in studying the income mobility of entrepreneurs has clear similarities with a staggered difference-in-differences setup. As is well known, this approach suffers from challenges related to differences in treatment timing and treatment effect heterogeneity, see Roth et al. (2023) for a review. Although our aim is to provide descriptive evidence without causal claims, we want to make sure that the magnitudes of our estimates are not driven by these potential issues. Our setup differs from the examples often discussed in the recent literature, as our benchmark group (wage earners) only consists of "never-treated" individuals. Also, in our setting, the post-entrepreneurship years are always relative to the randomly defined year for the benchmark group, which allows us to estimate the dynamics related to the treatment timing. In Panel B of Figure 4, we will compare the OLS coefficients to the heterogeneity-adjusted coefficients using two estimators designed to address issues related to staggered treatment and treatment effect heterogeneity, namely, Borusyak et al. (2021) and Callaway and Sant'Anna (2021). Our

Panel A of Figure 4 shows the income trajectories separately for all IE and WE while controlling for all interactions of age, sex and education, and the interactions using age squared and age cubed, and individual and parental income ranks. The first general finding from the graph is that there is a clear difference between the income development of IEs compared to WEs. The average income trajectory of IEs is more steeply increasing in comparison to WEs already before the start of the business. This shows that there is selection into entrepreneurship based on not only individual income as discussed above, but also by the growth rate of individual income. Another interesting finding is the clear dip in the incomes of IE, approximately 8%, in the year the business is established ($t = 0$). This is feasible because it can take some time for a new corporation to be able to operate at full capacity and for the owner to withdraw income from the newly founded firm. The individual incomes of IEs then quickly catch up after this drop and increase more rapidly in the years following the establishment of the business compared to wage earners. After 10 years, entrepreneurs earn on average about 17% more than wage earners, relative to the year before the firm was established.[13] These findings align with the earlier evidence which shows that incorporated entrepreneurs tend to earn much more than similar wage earners over time (see e.g. Berglann et al. 2011, Levine and Rubinstein 2017, Halvarsson et al. 2018).[14]

In Panel B of Figure 4, we plot the differences in income trajectories between IE and WE. We use OLS with and without controls, and estimators designed to address potential issues related to treatment timing and treatment effect heterogeneity (Callaway and Sant'Anna 2021, Borusyak et al. 2021) as robustness checks. The estimated differences between incorporated entrepreneurs and wage earners are rather similar in all of these specifications. Panel C of Figure 4 shows the regression results using a coarsened exact matching (CEM) approach where we more carefully balance the observed differences between WE and IE before the firm is established.[15] After matching the overall implications

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results using these estimators are very similar to our baseline model.

[13]In euros, IEs saw their disposable income increase from 22,000 to 28,000 during the five years before the start of the business, and eventually to 41,000 10 years after becoming entrepreneurs, on average. For WEs, the corresponding numbers are 17,000, 20,000 and 25,000 euros.

[14]We test the sensitivity of our findings in various dimensions. These results are presented and discussed in more detail in Online Appendix B. First, Figure B1 for market income paints a similar picture as Figure 4 did for disposable income, although the difference between entrepreneurs and wage earners are slightly smaller. Second, including earnings retained in the firm and not distributed as wages and dividends for the owners of incorporated firms does not change the overall pattern of income trajectories, but it increases the income levels of IEs by an almost constant annual share of 15% starting right from the first year after the business was established. Table B1 shows that our findings do not crucially change when looking at various subsamples of entrepreneurs. Most importantly, our findings are not sensitive to defining the main owners of incorporated firms using either data from the Finnish Tax Administration or Statistics Finland (discussed in more detail in Section 3). Also, we do not observe significant differences in income gains between entrepreneurs operating in more traditional industries such as manufacturing or transportation, and industries characterized by highly specialized human capital skills, such as consultancy or health services, as illustrated in Figure B5 in Online Appendix B.

[15]We use the average income rank deciles between $t - 3$ and $t - 1$, the growth in rank between $t - 3$ and $t - 1$, parental income rank, a dummy for a parent being an entrepreneur, average share of labor

remain mostly similar as in Panels A and B.

Panel D of Figure 4 shows the income trajectories separately for IEs with and without entrepreneurial parents (with controls). The figure shows that having entrepreneurial parents is not associated with individual-level income gains, despite the positive association between parental entrepreneurship and the likelihood of starting a new business. Parental entrepreneurship is clearly linked with selection into entrepreneurship in many other countries too (see e.g. Lindquist et al. 2015; Sorensen 2007; Dunn and Holtz-Eakin 2000), but there is limited evidence on whether those who come from entrepreneurial families earn more as entrepreneurs compared to others. Our evidence suggests that selection into entrepreneurship by parental entrepreneurship is associated with entrepreneurial preferences rather than entrepreneurial skills or ability stemming from parents, which would be reflected as higher earnings from entrepreneurship.[16]

Income trajectories by individual and parental income. The average income trajectories presented above leave open the question of whether income development differs by individual and parental income. Analyzing the association between individual and parental incomes jointly within the same data and context allows us to evaluate their relative significance for the individual income development of entrepreneurs. Previous literature has studied these associations separately, but it remains an open question whether individual or parental incomes are the key drivers behind the individual incomes of entrepreneurs. To study the income distributions jointly, we group IEs and WEs into five individual and parental income quintiles, thus dividing the data into 25 individual-parental income bins. We then interact these bins with the event timeline in equation (1), and present the differences in income trajectories between IEs and WEs in these groups in Figure 5, in a similar fashion as in Panel B of Figure 4 above.

Each panel of Figure 5 illustrates the differences in income trajectories from $t-5$ to $t+10$ between IEs and WEs by parental income quintiles for a given individual income quintile before $t=0$. For example, the top-left graph of the figure shows the trajectories for those coming from the bottom quintile of the individual income distribution (Individual P1–P20) and from each of the parental income quintile (Parent P1–P20...P81–P100).

As our main finding, the figure suggests that the relative income gains are rather evenly distributed in all of these groups. This implies that income development as a new

earnings relative to total income in $t-3$ and $t-1$, and age, gender, place of residence and the number of children at $t-1$ in the CEM weighting procedure to match the groups. For more details on the CEM method, see e.g. Iacus et al. (2012).

[16]In Figure 4, we do not condition on firm survival or the main owner status of entrepreneurs. To examine how survival affects the income trajectories of entrepreneurs, in Appendix A Figure A8 we split entrepreneurs into two groups by whether they are still the main owners of the business or not five years after they started the business. Unsurprisingly, the trajectories differ substantially between these groups such that those who are no longer main owners after five years have a flatter income trajectory compared to those entrepreneurs who survive after five years, starting already from the first years of business.

entrepreneur is not closely linked with either individual income from before the firm was established or parental income. One exception to this pattern is that parental income is slightly positively associated with income development among those who were already at the top of the individual distribution before the firm was established (the lower-right panel of Figure 5). For these individuals, given their high initial incomes, the gains from entrepreneurship over comparable wage earners translate into over 34,000 euros at $t+10$. In other bins, the monetary increases are 10,000–22,000 euros, with an average of 15,000 euros at $t+10$. Also, Figure 5 reveals that dividing the sample by individual and parental income narrows the differences in income trajectories between entrepreneurs and wage earners before the start of the business, and that the largest income losses in the year of starting a business are among individuals with the highest original income levels.[17]

Overall, our findings above demonstrate that entrepreneurship is associated with significant personal income gains across both individual and parental income distributions, despite the pronounced selection into entrepreneurship at the top of the income distribution. This suggests that entrepreneurship does not only benefit those already at the top, but also provides an upper ladder for those coming from less well-off backgrounds. Also, the positive gains at the top suggest that entrepreneurship further increases incomes at the top of the distribution. Next, we analyze and discuss these issues in more detail.

Income mobility. Figure 6 illustrates the changes in the income distribution over time. First, Panel A depicts how the share of entrepreneurs (vertical axis) in each income bin (horizontal axis) developed from one year before starting a business (rank at $t-1$) to 10 years after that (rank at $t+10$). The figure shows that roughly 5% of incorporated entrepreneurs were among the top 1% of income earners already in the year before they established their first business. Ten years later their share increases to almost 11%. Therefore, consistent with our findings on selection and income development, new entrepreneurs appear to occupy the top of the distribution even before starting a business, and their prevalence at the top is clearly increased by the positive income gains associated with incorporated entrepreneurship.[18] Additionally, Panel A highlights that the prevalence of *new* incorporated business owners at the top of the distribution 10 years after they established their first firms closely resembles the share of *all* incorporated entrepreneurs at the top, measured using the cross-sectional data in 2006–2016. This gives further evidence that the length of our event study window (transition) is sufficiently

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[17]Unconditional trajectory estimates are very similar to the conditional trajectories presented in Figure 5. Also, the results are similar when using market income instead of disposable income and when adding earnings retained in the firm on top of market income, as illustrated and discussed in Figures B2 and B3 in Online Appendix B.

[18]This line of reasoning is of course more or less incomplete, as we do not account for a counterfactual where the entrepreneurs never established their businesses. Nevertheless, based on these findings it seems that entrepreneurship amplifies pre-existing differences in incomes at the top, while the role of selection in explaining the high share of business owners at the top is also notable.

long to capture the over-representation of entrepreneurs at the top of the distribution in the entire population (steady state).

Panels B–E of Figure 6 describe the income mobility patterns in the distribution in more detail. Panels B and C plot the likelihoods of reaching the top 1% and top 10% of the income distribution ten years after starting the new business for incorporated business owners and wage earners coming from different parts of the individual distribution before the year $t = 0$, respectively. In both of these panels, incorporated business owners clearly dominate regular wage earners in the likelihood of reaching the top of the distribution (except for those at the top 1% before the firm was established). This further demonstrates that entrepreneurship is associated with upward mobility in the distribution for a large number of income groups, not only among those who were already at the top before establishing their first business. However, it is important to keep in mind that starting a business is not a common channel for low income individuals to reach the top of the income distribution, as a rather small share of these individuals end up starting a new incorporated business. For example, in our data only 0.4–0.8% of individuals at the bottom decile of the distribution started a new business each year. Also, as discussed above, there is a distinctive positive selection into new entrepreneurship by initial income levels, meaning that those who were already at the top of the income distribution are much more likely to start a new business compared to low-income individuals.

Panels D and E of Figure 6 present similar mobility graphs by the parental income rank. We find that the likelihood of reaching the top of the individual income distribution is higher for entrepreneurs than wage earners throughout the parental income distribution, highlighting the upward income mobility of new entrepreneurs compared to wage earners regardless of parental income. In addition, we find that the differences in the likelihood of reaching the top of the distribution between entrepreneurs and wage earners are larger at the bottom of parental income distribution compared to panels B and C. Nevertheless, entrepreneurs from high-income families are more likely to reach the top 1% of the distribution compared to wage earners with similar parental income.

Finally, previous evidence from other countries show that business owners significantly contribute to observed top-end inequality, as their share at the top of the income distribution is striking in many countries (Smith et al. 2019, 2023; Halvarsson et al. 2018). Figure A9 in Online Appendix A illustrates how entrepreneurship contributes to the income shares at the top by showing that business income clearly dominates at the top of the distribution also in Finland. The figure shows that wage income is the main income source from the 90th to the 99th percentile of the overall income distribution of all income earners. For example, at the 90th percentile approximately 90% of aggregate income consists of wage income. The share of non-wage income (business income + other capital income) gradually increases the closer we approach the very top of the income distribution, and this share increases very sharply when we move to the richest 0.1%, where

the share of wage income falls below 40% of aggregate income, and non-wage income represents more than 60% of total income. This evidence is very similar as is presented for the US by Smith et al. (2019). Despite the clear differences in the level of overall income inequality, the institutional settings and the tax systems for business owners, business income and other capital income clearly dominate the very top of the distribution in both of these countries. Perhaps surprisingly, the share of non-wage income is even larger for the top 0.1% in Finland compared to the US.[19]

5 Firm Performance

Next, we extend our analysis from individual-level outcomes to firm performance. We provide novel evidence on how individual and parental background is connected to key firm outcomes such as employment and productivity. Using our detailed data, we can carefully examine the associations between owner characteristics and the economic performance of the new businesses over a long time after the business was established. In particular, our analysis allows us to narrow the focus to the connections between individual and parental characteristics and successful new business creation, instead of characterizing these types of links for all types of existing business owners as is typically in done in the previous literature.[20]

Firm survival. A first key measure for the success of a new business is its survival rate. Studying firm survival reveals how successful entrepreneurs coming from different backgrounds are in their business ventures in terms of the general viability of the business. In Figure 7, we present 10-year survival rates for owners coming from different individual and parental income rank deciles and by parental entrepreneurship. We define a surviving firm as a firm which we observe in our administrative data, and define a firm exit year

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[19]Additionally, the inclusion of firm-level retained earnings has a notable impact on the income composition at the top in Finland. In this analysis we divide earnings retained in the firm and not distributed as wages or dividends to the main owner based on the ownership shares of the firm. Figure A9 in Online Appendix A shows that including retained earnings in the market income measure further increases the share of non-wage income at the very top from 60% to almost 80%. This further highlights the role of retained earnings at the very top, similarly as has been recently illustrated using data from the US (Piketty et al. 2017; Kopczuk and Zwick 2020), Norway (Alstadsæter et al. 2023) and the Netherlands (Bruil et al. 2022).

[20]There is only limited earlier evidence on linking owner characteristics to firm performance measures. Existing evidence suggests that the founders of successful businesses are older than commonly thought (Azoulay et al. 2020), innovators often come from the top of the income distribution (Bell et al. 2019) and are responsive to tax incentives (Akcigit et al. 2022), and that education and human capital are important for explaining firm dynamics (Queiro 2022; Cooper et al. 1994; Kangasharju and Pekkala 2002). Also, Holtz-Eakin et al. (1994) show that receiving an inheritance increases firm survival in the US. Hvide and Møen (2010) find that start-up size increases linearly with the owner's prior wealth from the middle wealth brackets to the top in Norway. Andersen and Nielsen (2012) document that entrepreneurs embarking on a business venture after acquiring windfall wealth in Denmark have significantly lower survival rates and profits, in contrast to a matched sample of entrepreneurs who did not experience an influx of unexpected financial resources.

as the first year we no longer observe the firm in the tax record data. Therefore, non-survival includes firm exits for all potential reasons, including, for example, bankruptcies, voluntary firm closures and acquisitions by other firms.

The upper panel of Figure 7 shows that the firm survival rate is positively associated with individual income. However, there are only small differences in firm survival by parental entrepreneurship. This means that those with higher incomes are more likely to establish more viable firms, even though the relative individual-level income trajectories presented above differ much less across the income distribution, as shown in Section 4.2. Also, even though parental entrepreneurship is linked with selection into entrepreneurship, it does not predict firm survival over its first ten years (at $t + 10$, the survival rates are 64% and 62% for entrepreneurs with and without entrepreneurial parents, respectively). The lower panel of Figure 7 shows that there is no clear association between firm survival and parental income. Again, there are no stand-out differences in firm survival by parental entrepreneurship.[21]

Balance sheet data. Next, we focus on the key economic outcomes of new firms over the first ten years after their establishment. Similarly as above, we conduct the analysis by individual and parental income decile ranks and for those with and without entrepreneurial parents. We measure the firm-level outcomes cumulatively over the first ten years of the business. We add up the annual measures for each firm and compare the average outcomes of these accumulated variables between the groups. This approach provides a comprehensive view of the longer-run success of the business while taking into account the differences in firm survival across the individual and parental income distributions described in Figure 7. We account for firm survival by including the non-surviving firms in the data but replacing their reported values for the outcomes with zero after the firm has exited the data. This means that those firms who do not survive over their entire first ten years contribute to the accumulated figures only during those years they were actively operating their business. As described in Section 3.2, we follow the approach in Cattaneo et al. (2024) to plot the binned scatter plots for the firm-level

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[21]Figure A10 in Online Appendix A shows the full survival rate dynamics over the first ten years. The differences in survival between top and bottom earners emerge early on, and the gap widens steadily over time, finally reaching the levels portrayed in the upper panel of Figure 7. Figure A11 shows the survival rates by the same groups using only bankruptcy declarations as a measure of firm survival. Bankruptcies can be considered as an extreme measure for firm exits. A firm cannot simply decide to go bankrupt, as a bankruptcy petition needs to be filed to a court either by the firm owner herself or its creditors, and the court then decides on the outcome of the petition instead of the firm owners. Also, bankruptcy is expensive and undesirable for the owner. When bankruptcy is declared, the owner can no longer decide on how to use the firm's assets, as they are then liquidated and paid to the creditors. Also, bankruptcy is likely to harm the reputation of the owner. The findings in Figure A11 are qualitatively very similar to those in Figure A10 that includes all types of firm exits, but the survival rates using only bankruptcies are in general higher throughout the distributions compared to all firm exits, as can be expected. The only exception is that entrepreneurs from the top decile families are very unlikely to bankrupt relative to entrepreneurs from lower down the parental income distribution.

outcomes.

Figure 8 displays the results by individual income deciles and parental entrepreneurship status. In the figure we control for firm industry and initial equity in the first year of business. Three key findings emerge from the figure: first, we find that firm size tends to increase with individual income, especially in the lower part of the income distribution. This trend is particularly evident for annual sales and the number of employees of the firm. As an illustration of the magnitudes, average annual sales and the number of employees of the firms are 96 and 88% higher when comparing the bottom and top 10% of the individual income distributions.

Second, we find that staff costs, value added and value added per employee (measuring labor productivity) first increase rapidly by individual income at the bottom of the distribution, but then flatten out and slightly fall at the very top of the distribution, portraying a reverse U-shaped association between these outcomes and the individual income of the entrepreneurs. This suggests that firm-level productivity is in general somewhat smaller at the firms founded by top income earners compared to those coming from the upper-middle part of the income distribution. However, the firms founded by top income individuals are slightly more likely to invest in R&D activities compared to other firms. Nevertheless, in all of these outcomes too, the differences between the entrepreneurs coming from the bottom and top of the distribution are stark: value added, staff costs, productivity and the likelihood of R&D investments are 180, 87, 115 and 26% higher when comparing the bottom and top 10% of the individual income distributions, respectively. Overall, we find that while 17.5% of all new incorporated businesses are established by top 10% wage earners, they make up almost one third of all sales (30.1%), value added (31.5%) and labor costs (30.9%) ten years after the new firms were established.

Third, the figure shows that family background in entrepreneurship predicts the economic success of new firms much more weakly. When comparing the bottom and top 10% of the distributions, the average differences between the firms founded by those with and without entrepreneurial parents are 26, 14, 4, 11, 6 and 5% for sales, number of employees, staff costs, value added, productivity and the likelihood of R&D investments, respectively. However, the figure shows that parental entrepreneurship levels out the differences in firm outcomes by individual income from the 3rd decile onward. This suggests that the differences in firm-level outcomes by income are not as large for those who come from entrepreneurial families. In particular, the size of the firm in terms of sales and the number of employees is slightly smaller for top income entrepreneurs with entrepreneurial parents than those coming from the 8th and 9th decile of the income distribution. Nevertheless, it is important to note that only 24% of entrepreneurs have entrepreneurial parents (see Table 1).

Figure 9 presents similar graphs by parental income and parental entrepreneurship. The figure shows that the association between firm outcomes and parental income is

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much weaker than for individual income discussed above. Annual sales and the number of employees do not grow by parental income, and the firms founded by those with top income parents appear to end up smaller than those with bottom and middle income parents after ten years since the firm was established. Similar general pattern is also observed for value added and productivity of the firm.

However, Figure 9 shows that sales and the number of employees are larger for those entrepreneurs with both high parental income and entrepreneurial parents. This suggests that the firms founded by the children of more successful entrepreneurs (i.e. those with higher earnings) tend to establish new firms that end up being larger. However, it is again worth noting that only 24% of all incorporated entrepreneurs have entrepreneurial parents, meaning that this association concerns only a small share of new entrepreneurs in our sample. Also, the differences in value added and productivity between the firms of entrepreneurs with high parental income and entrepreneurial parents do not as clearly differ from other firms. Finally, estimates without controls (not included in the figures for brevity) are very similar to those with controls, indicating that differences between the industry composition and initial capital assets across the distribution do not drive the results presented in Figures 8 and 9.[22]

As discussed above, the estimates in Figures 8 and 9 include non-surviving firms. To better understand the role of surviving firms behind our findings, we conduct the analysis summarized in Figures 8 and 9 by following only those firms that survive until $t + 10$. These results are reported in Figures A13 and A14 in Appendix A. As can be expected, the levels of the outcomes are much higher when only studying the surviving firms. However, the increasing patterns of firm-level outcomes by individual income are similar to those presented in Figure 8, but they are somewhat less pronounced. Consistent with the flat patterns by parental income regarding survival (Figure 7) and balance sheet outcomes (Figure 9), we find no clear association between firm outcomes and parental income rank when conditioning on firm survival.

Earlier literature underlines the role of parental background and the associated human capital channel and intergenerational transmission of entrepreneurial skills in explaining entrepreneurial traits and activity (see e.g. Dunn and Holtz-Eakin 2000; Hurst and Lusardi 2004; Hurst and Pugsley 2011; Lindquist et al. 2015). Our observations show that key-firm-level outcomes, even conditional on the industry of the firm and its initial equity position, are rather similar between those new entrepreneurs who come from entrepreneurial families and those without entrepreneurial parents. This finding is pronounced when comparing the clear correlation between individual income and firm

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[22]Table A3 in Online Appendix A describes how various factors explain the development of the number of employees and value added in a unified regression framework, similarly as in Section 4. In addition to individual income, entrepreneurs' industry before entrepreneurship, Mincerian characteristics (sex, age, education) and all their interactions, and firms' industry interacted with initial equity predict the success of new firms.

outcomes to that of parental entrepreneurship and firm performance.

An important exemption to this general pattern, however, is that the size of the firm is, on average, larger for those with both entrepreneurial parents and high parental income. This suggests that the transmission of knowledge and skills from entrepreneurial parents related to running a successful business seem to be important in explaining key firm outcomes, but only for the small group of entrepreneurs whose parents also succeeded as entrepreneurs themselves. Also, we find that parental entrepreneurship decreases some of the differences in firm outcomes by individual income. This suggests that given the observed skills at the labor market reflected by differences in individual income, parental entrepreneurship and its associated entrepreneurial skills are to a some extent linked with the success of the firm, particularly for those with lower individual incomes.

We find that parental income is not linked with firm performance, with the exception of those with entrepreneurial parents discussed above. This suggests that even though parental earnings and wealth are often observed to be tightly correlated with individual income and various other important child outcomes such as education (see e.g. Ermisch et al. 2012; Chetty et al. 2014; Björklund and Jäntti 2020), they do not appear to systematically correlate with successful entrepreneurship.

Instead, individual income prior to establishing a new business is more strongly and consistently linked with firm performance. Since this relationship cannot be explained by differences in initial equity of the firm or industry composition, we interpret that earnings from salaried employment are indicative of entrepreneurial ability. This ability can include, for example, cognitive skills that help in day-to-day business operations, and skills in creating networks to raise external funding and reaching potential customers.

However, our findings show that the firms established by entrepreneurs coming from the top decile of the distribution perform slightly worse in terms of productivity compared to those coming from the 8th and 9th deciles, despite the distinct selection into entrepreneurship at the very top discussed above. This suggest that selection into entrepreneurship at the top is driven also by other factors than just entrepreneurial skills or ability, such as perceived work flexibility or attitudes toward risk. However, the firms founded by top decile individuals do not significantly differ from those established by individuals slightly lower at the distribution in terms of employment. This suggests that the lower firm-level outcomes cannot be easily explained by the firms creating a higher return for the human capital of the owner coming from the top compared to those coming from the upper-middle part of the distribution. Also, as shown in Figure A12 in Appendix A, there is no significant difference in firm outcomes by income within the top decile of the individual income distribution.

Finally, our firm-level findings differ from our observations above that personal income gains from entrepreneurship are not as tightly linked with individual income as the firm-level outcomes. This highlights that firm-level findings may differ from individual-level

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observations often studied in the earlier literature. Therefore, extending the analysis to firm performance delivers a different and more comprehensive view on the implications of new entrepreneurship in the society for entrepreneurs coming from different backgrounds. Also, our findings on the increased number of employees and productivity by individual income indicate that the benefits from new business creation are shared more broadly within the economy. This implies that the increased firm-level outcomes do not only reflect the benefits of individual entrepreneurs, such as in the case if the firm-level outcomes would only correspond to higher returns to the human capital of the owner. Instead, together with the results on similar individual income gains by income ranks, a distinguishable share of the benefits of successful entrepreneurship by these characteristics are shared with workers.

6 Conclusions

In this paper, we provide evidence on selection into entrepreneurship, income mobility and firm performance by individual and parental characteristics. In contrast to most of the existing literature, we focus on new entrepreneurs who establish new firms, instead of studying how various characteristics are linked with being a business owner in general.

We observe distinctive selection into incorporated entrepreneurship at the very top of the individual income distribution, but no similar selection by parental income. We find that incorporated entrepreneurship is associated with clear positive income gains compared to both unincorporated business owners and wage earners, and that these gains are rather evenly distributed across both the individual and parental income distributions and by parental background in entrepreneurship. Furthermore, we find that new incorporated business owners who come from the bottom and middle parts of the income distribution are much more likely to reach the top income brackets than wage earners. Therefore, our findings demonstrate that entrepreneurship does not only benefit those already at the top, but also provides an upper ladder for those coming from less well-off backgrounds. However, starting a new incorporated business is still a rather rare event among low-income individuals, but more common at the very top of the income distribution. Therefore, the distinctive self-selection of high-income earners into entrepreneurship compared to low-income earners mitigates overall income mobility in the distribution.

Our firm-level results show that the individual income of entrepreneurs from before the firm was established strongly predicts various firm performance measures. We find that top 10% wage earners who started a new business make up almost one third of total sales (30.1%), value added (31.5%) and labor costs (30.9%) ten years after the new firms were established. In contrast, parental income and parental entrepreneurship are not strongly associated with key firm outcomes. Together with the fact that the individual-level income gains associated with entrepreneurship are more evenly distributed among

entrepreneurs coming from different backgrounds, our firm-level analysis underlines that individual gains from entrepreneurship do not necessarily go hand in hand with the broader benefits of entrepreneurship in the society, such as employment and productivity growth.

Data Availability

Code and information about the proprietary data used in this article are available in JOLE's Dataverse repository (Harju et al. 2025).

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Tables and Figures

Table 1: Descriptive statistics, individuals

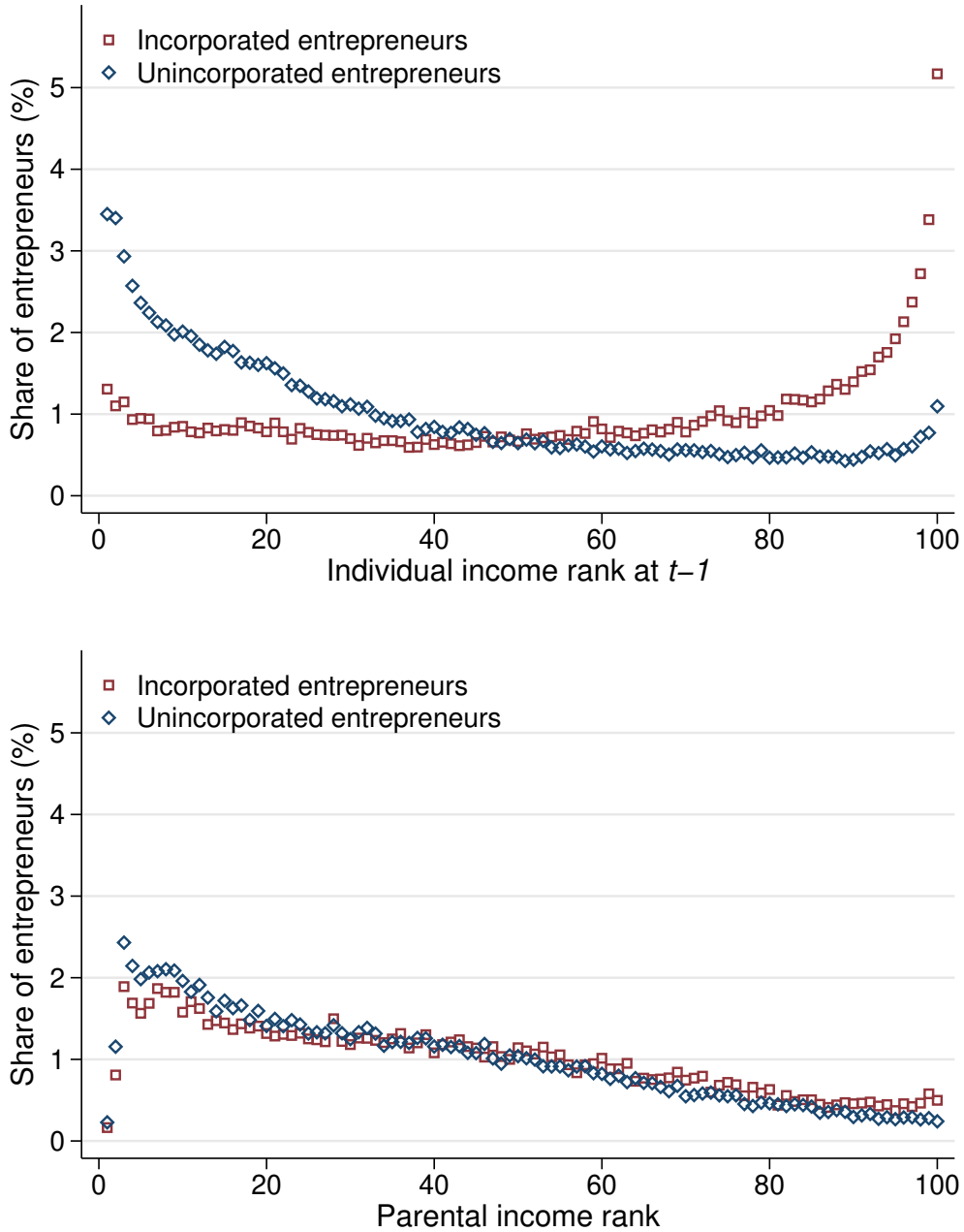|	All	Wage earners	Entrepreneurs		
			All	Unincorporated	Incorporated
Panel A: Full sample, 1997–2019					
Observations	9,214,232	7,994,448	1,219,784	866,905	403,565
Share of observations	100%	86.5%	13.5%	9.6%	4.5%
Disposable income	22,637	22,353	24,455	21,565	31,097
Disposable income rank	51	52	50	45	61
Market income	27,313	26,995	29,393	24,679	40,348
Market income rank	51	51	49	44	61
Parental income rank	35	34	37	36	40
Parent entrepreneur	0.18	0.17	0.23	0.23	0.24
Age	37	37	36	36	37
Female	0.48	0.51	0.33	0.37	0.24
Secondary education or higher	0.42	0.44	0.34	0.30	0.42
Tertiary education or higher	0.28	0.28	0.23	0.20	0.30
Capital city region	0.22	0.22	0.23	0.22	0.25
Married	0.47	0.47	0.48	0.46	0.54
Number of children	1.13	1.11	1.21	1.18	1.29
Panel B: Sample at *t–1*, 1997–2013					
Observations	659,446	569,044	90,402	61,876	28,707
Share of observations	100%	86.0%	14.0%	9.5%	4.5%
Disposable income	20,619	20,596	20,765	17,371	28,049
Disposable income rank	49	50	43	36	59
Market income	24,424	24,499	23,954	18,081	36,623
Market income rank	49	50	43	35	59
Parental income rank	35	34	37	36	40
Parent entrepreneur	0.18	0.17	0.23	0.23	0.24
Age	34	34	34	33	35
Female	0.49	0.51	0.33	0.38	0.25
Secondary education or higher	0.41	0.43	0.34	0.30	0.43
Tertiary education or higher	0.27	0.27	0.23	0.20	0.30
Capital city region	0.23	0.23	0.23	0.23	0.25
Married	0.43	0.42	0.45	0.42	0.51
Number of children	1.06	1.04	1.16	1.12	1.25

Notes: Table presents the mean value of each variable for all individuals, wage earners and the owners of unincorporated and incorporated businesses. Panel A presents the statistics for the full sample in 1997–2018, including all wage earners and business owners. Panel B describes the sample in year $t-1$, one year before the business was established and one year before the randomly allocated pseudo-start years at $t = 0$ for wage earners for the years 1998–2013. This sample includes the main owners of businesses, and is limited to the year 2013 as we follow each individual for a minimum of five years. Secondary education includes high school and vocational education. Tertiary education includes a bachelor's or a higher degree. Capital city region includes Helsinki, Espoo, Vantaa and Kauniainen. The detailed definitions of the variables are presented in Online Appendix D.

Table 2: Descriptive statistics, new incorporated businesses

	Sales (1000 EUR)	Number of employees	Staff costs (1000 EUR)	Value added (1000 EUR)	Productivity (1000 EUR)
Panel A: First year of business operations					
Mean	470	3.1	110	130	40
Median	131	1.6	44	54	35
Percentile 10	21	0.2	0	1	5
Percentile 90	651	6.0	222	259	78
Percentile 99	4,210	25.0	1,012	1,170	192
Panel B: Ten years after being established					
Mean	916	6.8	298	325	33
Median	225	2.1	80	92	42
Percentile 10	22	0.2	0	1	11
Percentile 90	1,865	13.5	598	686	87
Percentile 99	13,218	84.8	3,990	3,844	239

Notes: Table presents descriptive statistics for firm-level outcomes. Panel A presents the mean, median, and 10th, 90th and 99th percentile outcomes for the first full year of business operations and Panel B ten years after the business was established. Panel A includes 25,364 firms and Panel B 12,449 firms. The difference in the numbers of observations between the two panels is partly explained by firm survival and partly by us not observing all surviving firms for ten years in the full data. Sales refer to annual sales from products and services after taxes, number of employees to full-time equivalent employees, and staff costs to annual wages, salaries and other personnel expenses such as pension and social security contributions but excluding income taxes. Value added refers to sales minus variable costs, and productivity is defined as value added divided by the number of employees. The detailed definitions of the variables are presented in Online Appendix D.

Figure 1: Share of new entrepreneurs by individual and parental income
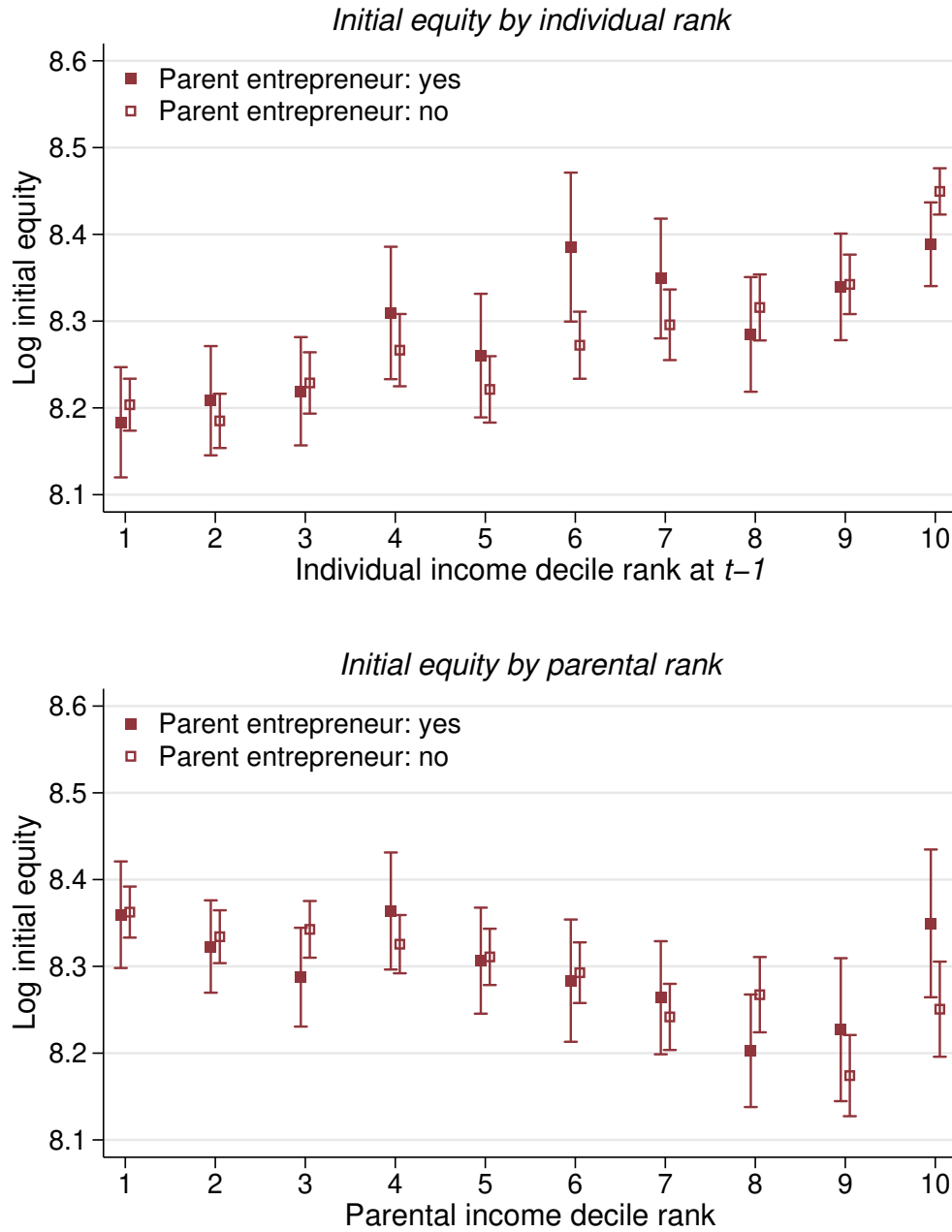

Notes: Figure presents the percentage shares of new incorporated (red squares) and unincorporated (blue diamonds) business owners in each individual income rank percentile (upper graph) measured one year before establishing the business ($t-1$), and by their parental income rank percentile (bottom graph). Individual income ranks are calculated from the distribution of disposable income in $t-1$ including all individuals (entrepreneurs and wage earners) in our baseline sample. Parental income is calculated as average annual household market income when the parents were 45–50 years old. The figure shows that individuals at the top of the individual income distribution are much more likely to start a new incorporated business, but there is no similar selection into starting an unincorporated firm. Also, there is a negative association between starting a new firm and parental income.

Figure 2: Share of new incorporated entrepreneurs by individual and parental income and by parental entrepreneurship

Notes: Figure presents the percentage shares of new incorporated business owners in each individual income rank percentile (upper graph) measured one year before establishing the new business ($t-1$) and by their parental income rank percentiles (bottom graph). The sample of entrepreneurs is divided in two depending whether at least one of their parents was an entrepreneur. Individual income ranks are calculated from the distribution of disposable income in $t-1$ including all individuals in our baseline sample. Parental income is calculated as average annual household market income when the parents were 45–50 years old. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. The figure shows that the shares of entrepreneurs in each income rank do not significantly differ between those with and without entrepreneurial parents.

Figure 3: Initial equity of new incorporated businesses by individual and parental income and parental entrepreneurship

Notes: The figure shows the average initial equity invested in the new incorporated business in logs in the year of establishment by the owners' individual (upper panel) and parental income ranks (lower panel) and among those with (red symbols) and without (hollow symbols) entrepreneurial parents with 95% confidence intervals. Individual income ranks are calculated as an average over the years $t-5$ and $t-1$ including all individuals in our baseline sample. Parental income is calculated as average annual household market income when the parents were 45–50 years old. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. The figure shows equity conditional on the industry (NACE, 2-digit) of the firm, but the results using raw data are very similar to those presented in the figure. The figure shows that initial equity increases linearly with individual income, but there is no clear association between firms' initial equity and parental income or parental entrepreneurship.

Figure 4: Average income trajectories of incorporated entrepreneurs and wage earners
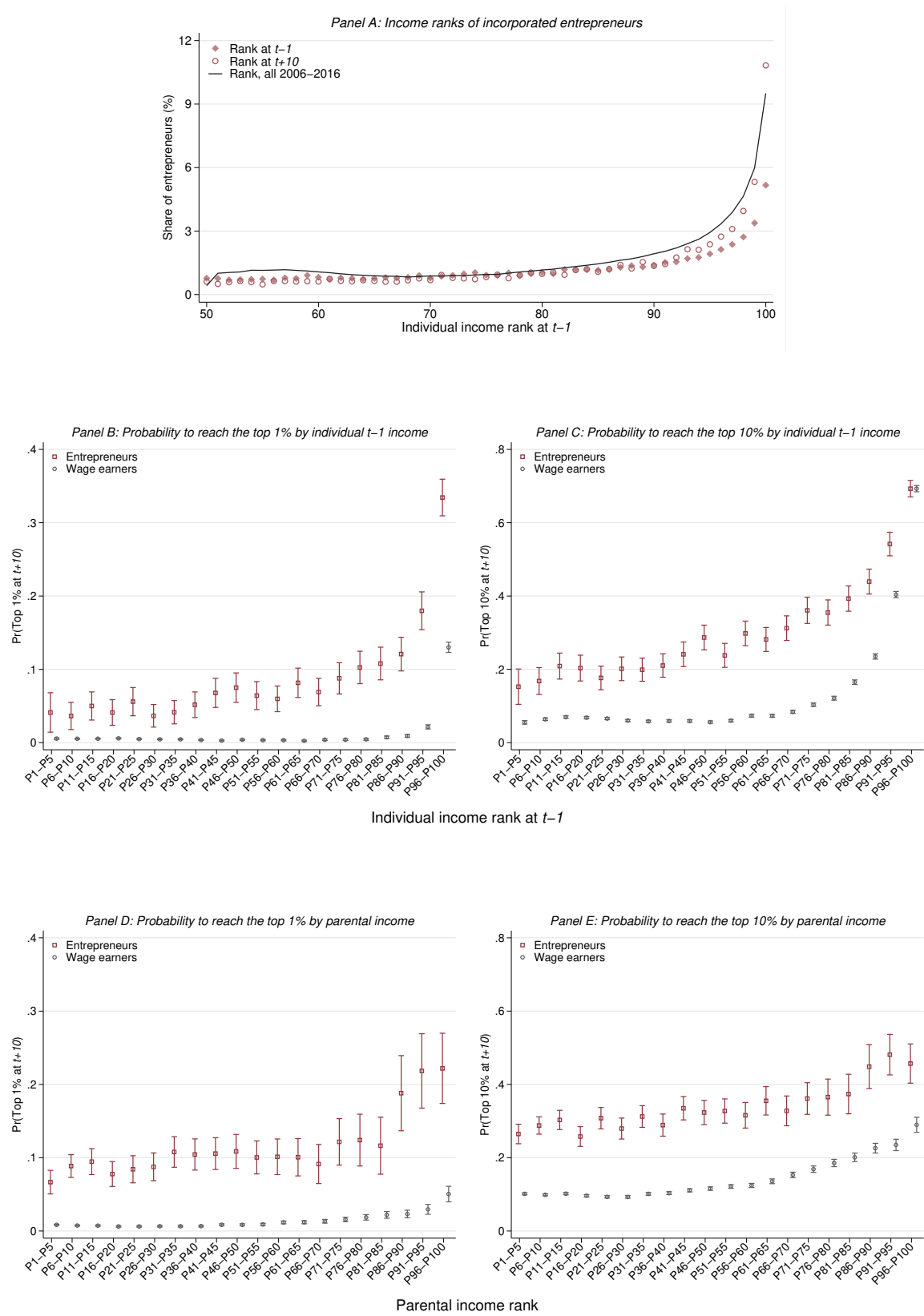

Notes: The figure presents the log disposable income trajectories of new incorporated entrepreneurs (IE, red symbols) and wage earners (WE, gray symbols) before and after the business was established ($t = 0$), relative to one year before the firm was started ($t - 1$), denoted by zero in the figure, estimated using equation (1). For wage earners, pseudo-start years at $t = 0$ are randomly drawn from a uniform distribution. In Panel A, estimates include as controls all interactions of age, sex and education (primary education, secondary degree or tertiary degree) and the interactions using age squared and age cubed, and individual and parental income ranks. Individual income ranks are measured as an average over the years $t - 5$ and $t - 1$ from the full distribution including both wage earners and business owners in our baseline sample. Parental income ranks are calculated using the average of annual household income when the parents were 45–50 years old. Panel B shows the difference in trajectories between IE and WE using OLS with and without controls, and using alternative estimators: CS (hollow gray triangles) refers to the estimator proposed by Callaway and Sant'Anna (2021), BJS (gray triangles) to Borusyak et al. (2021), which are both estimated with controls. In Panel C, the two groups are matched using coarsened exact matching (CEM). See details of the matching method in Section 4.2. Finally, in Panel D, we present the trajectories separately for IE who have and do not have entrepreneurial parents. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. We use the same control variables as in Panel A.

Figure 5: Difference in disposable income trajectories between entrepreneurs and wage earners by individual and parental income
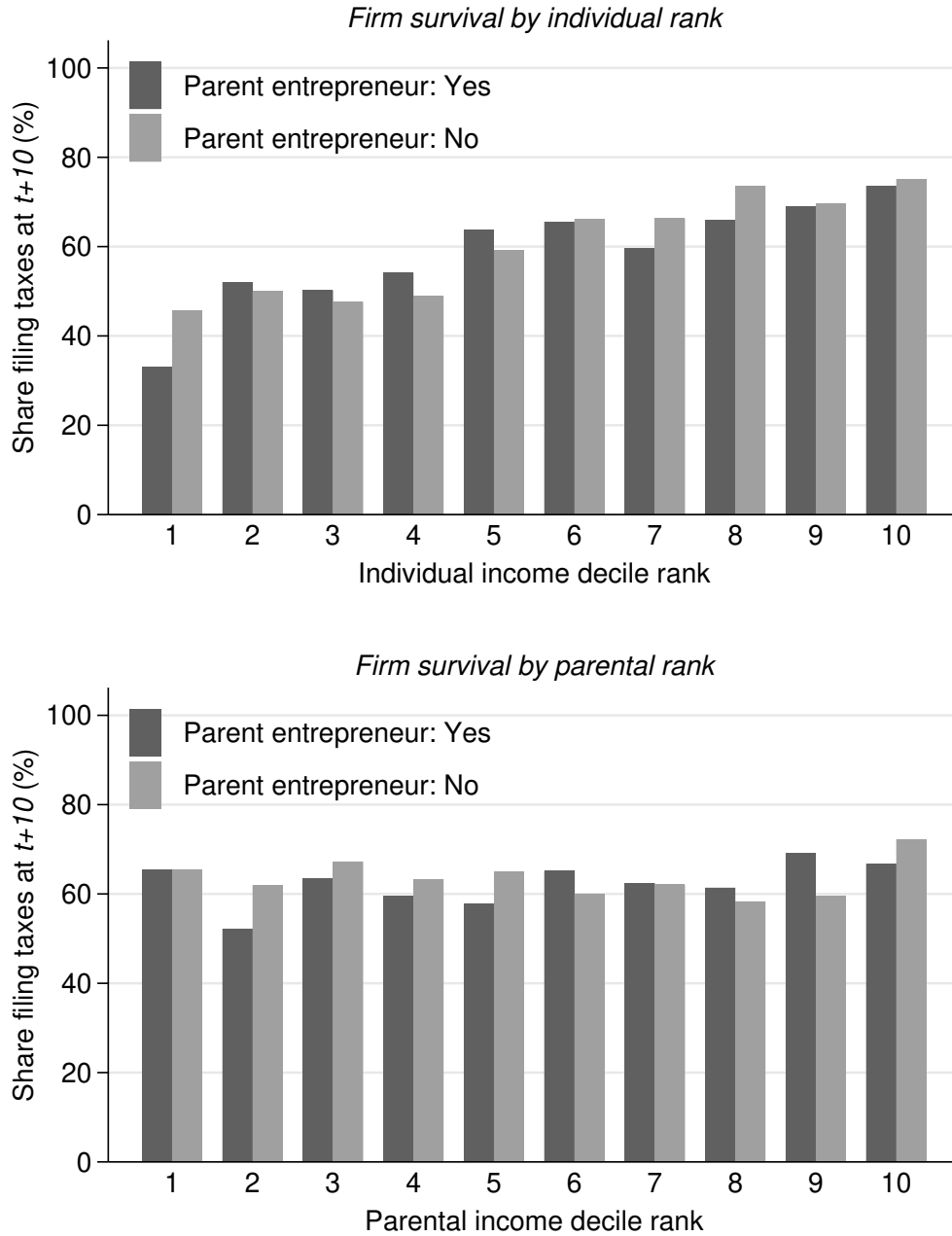

Years since transition into entrepreneurship or pseudo–start

Notes: The figure presents the difference in log disposable income trajectories between incorporated entrepreneurs (IE) and wage earners (WE) before and after the business was established ($t = 0$), relative to one year before starting the first business $t - 1$ (denoted by zero in the figure) with 95% confidence intervals, estimated using equation (1). The figure presents the graphs for individual income trajectories in each quintile of the individual income rank (Individual P1–P20...P81–100). In each graph, the income development is further split into five parental income rank quintiles (Parent P1–P20...P81–100), including top parental quintile (black diamonds), bottom quintile (hollow squares) and the middle three quintiles (gray crosses). For wage earners, pseudo-start years are randomly drawn from a uniform distribution. Individual rank is defined as an average over the years $t - 5$ and $t - 1$ and parental income is observed when the parents are 45–50 years old. Control variables include all interactions of age, sex and education (primary education, secondary degree or tertiary degree) and the interactions using age squared and age cubed.

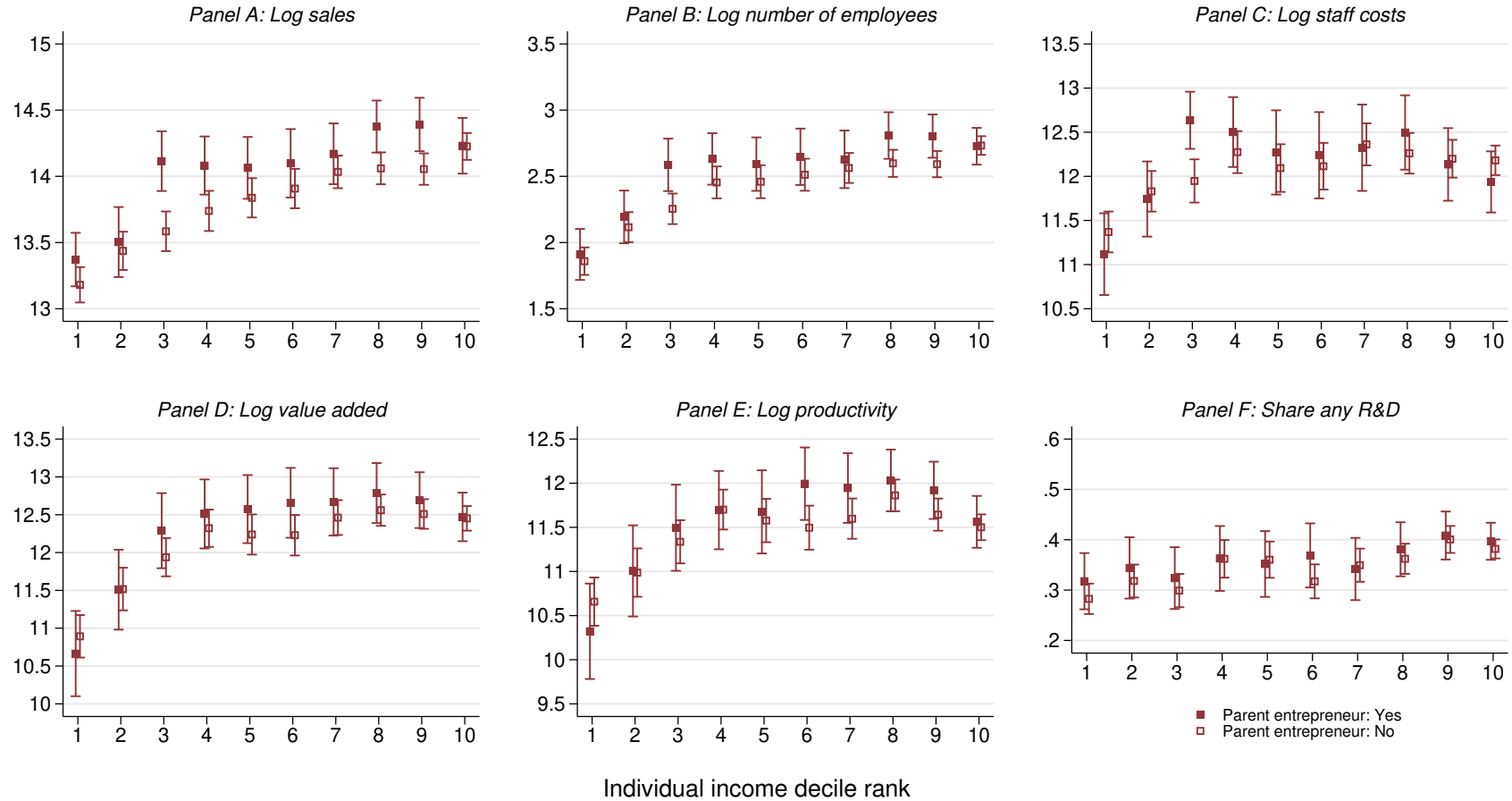Figure 6: Entrepreneurship and income mobility

Notes for Figure 6: Panel A of the figure presents the percentage shares of new incorporated business owners by their individual income ranks one year before (diamonds) and 10 years after (hollow circles) establishing the business. The shares are plotted for those entrepreneurs that we observe in the data in both of these years. Individual income ranks are calculated from the distribution of disposable income in $t-1$ including all individuals in our baseline event study sample. The ranks of all incorporated entrepreneurs (solid line) refer to the entire pool of them in 2006–2016 (not just new entrepreneurs), and ranks are calculated among the full population of Finnish individuals over 16 years of age. The estimates at rank 50 represent the average among the bottom 50% of the distribution. The figure shows that entrepreneurs increase their share at the top after ten years since establishing their first business, and that this share after ten years resembles that of the cross-sectional longer-run overall share of entrepreneurs at the top. Panels B and C plot the probabilities of locating in the top 1% and top 10% of the income distribution 10 years after the business was established ($t+10$) for individuals coming from different percentiles of the distribution one year before the new firm was established ($t-1$) for incorporated entrepreneurs (squares) and wage earners (circles) with 95% confidence intervals. The estimates are conditional on all interactions of age, sex and education (primary education, secondary degree or tertiary degree) and the interactions using age squared and age cubed, and parental income ranks and parental entrepreneurship. Panels D and E present similar analysis as in panels B and C but using parental ranks. The estimates are conditional on the same variables, with the exception that instead of parental rank, we control for $t-1$ income in Panels D and E. The figure shows that entrepreneurs across the individual and parental income distributions are much more likely to reach the top of the personal income distribution ten years after establishing their first business compared to wage earners, with the exception of those already at the top 1% of individual distribution where there is no difference in the likelihood between the groups. Results using raw data are very similar as the ones with controls included in the figure.

Figure 7: 10-year survival rates of new incorporated businesses by individual and parental income ranks and parental entrepreneurship
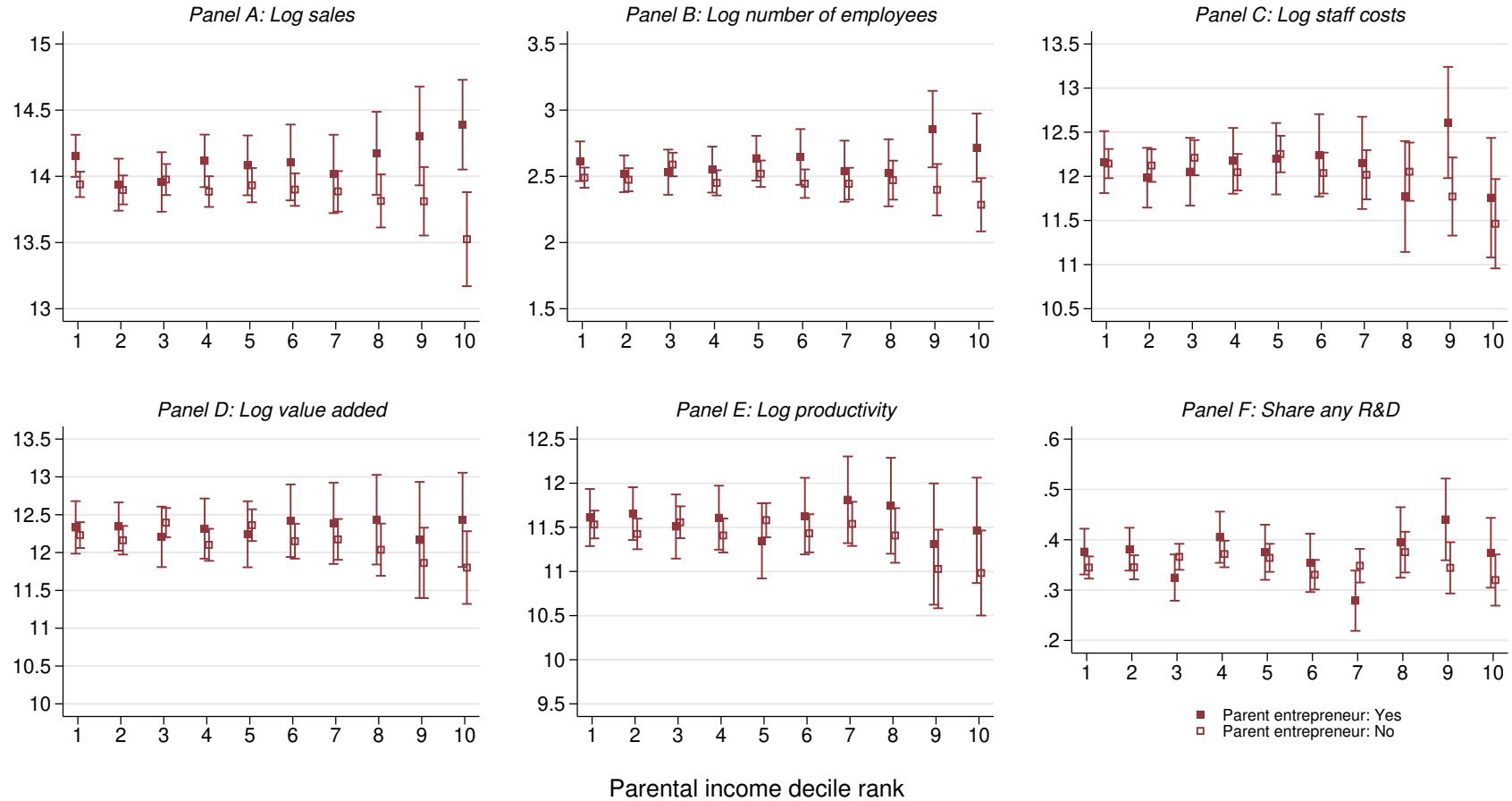

Notes: The figure presents the share of new incorporated businesses that are observed in our administrative tax record data ten years after they were established by individual and parental income decile ranks and by parental entrepreneurship. Individual income ranks are calculated as an average over the years $t-5$ and $t-1$ including all individuals in our baseline sample. Parental income is calculated as average annual household market income when the parents were 45–50 years old. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. The figure shows that the survival rates are higher among those new business owners who come from the top of the individual income distribution. There is no significant difference in survival rates by parental income or parental entrepreneurship. The dynamics of survival over the first ten years are shown in Figures A10 and A11 in Appendix A.

Figure 8: Firm-level outcomes by individual income ranks and parental entrepreneurship

Notes: The figure presents mean firm-level outcomes measured cumulatively over the first ten years of business operations with 95% confidence intervals by individual income ranks and by those with (filled symbols) and without entrepreneurial parents (hollow symbols). We restrict this analysis to firms that could have been followed for the full ten years (established before 2010), but do not condition on firm survival. Estimates include as controls the initial equity of the new firm and industry fixed effects (NACE, 2-digit level). The income ranks are measured as an average over the years $t-5$ and $t-1$ from the full distribution of new business owners and wage earners. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. In Panels A-E, the outcomes are in log scale, and Panel F presents the probability for positive R&D investments during the first ten years. In years t and $t+10$, we observe 20,748 and 12,449 firms, respectively. The detailed description of the variables is presented in Online Appendix D.

Figure 9: Firm-level outcomes by parental income ranks and parental entrepreneurship

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Panel A: Log sales *Panel B: Log number of employees* *Panel C: Log staff costs*

Panel D: Log value added *Panel E: Log productivity* *Panel F: Share any R&D*

Parental income decile rank

■ Parent entrepreneur: Yes
□ Parent entrepreneur: No

Notes: The figure presents mean firm-level outcomes measured cumulatively over the first ten years of business operations with 95% confidence intervals by individual income ranks and by those with (filled symbols) and without entrepreneurial parents (hollow symbols). We restrict this analysis to firms that could have been followed for the full ten years (established before 2010), but do not condition on firm survival. Estimates include as controls the initial equity of the new firm and industry fixed effects (NACE, 2-digit level). The parental income ranks are calculated using the average of annual household income when the parents were 45–50 years old. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. In Panels A-E, the outcomes are in log scale, and Panel F presents the probability for positive R&D investments during the first ten years. In years t and $t+10$, we observe 20,748 and 12,449 firms, respectively. The detailed description of the variables is presented in Online Appendix D.

Online Appendix

A   Additional Tables and Figures

Table A1: Two most frequent industries of new incorporated businesses by individual and parental income

Income rank		Most frequent	Second most frequent
Individual	Parental		
P1-P20	P1-P20	Constr. of buildings (NACE 41), 13.6%	Retail trade (NACE 47), 11.0%
P1-P20	P21-P40	Retail trade (NACE 47), 14.5%	Constr. of buildings (NACE 41), 10.6%
P1-P20	P41-P60	Constr. of buildings (NACE 41), 12.6%	Retail trade (NACE 47), 9.1%
P1-P20	P61-P80	Retail trade (NACE 47), 9.9%	Computer progr. (NACE 62), 9.1%
P1-P20	P81-P100	Retail trade (NACE 47), 10.1%	Computer progr. (NACE 62), 7.5%
P21-P40	P1-P20	Constr. of buildings (NACE 41), 13.1%	Retail trade (NACE 47), 11.6%
P21-P40	P21-P40	Constr. of buildings (NACE 41), 13.1%	Retail trade (NACE 47), 11.4%
P21-P40	P41-P60	Constr. of buildings (NACE 41), 13.3%	Retail trade (NACE 47), 9.5%
P21-P40	P61-P80	Constr. of buildings (NACE 41), 10.1%	Specialized constr. (NACE 43), 9.4%
P21-P40	P81-P100	Retail trade (NACE 47), 14.9%	Computer progr. (NACE 62), 8.1%
P41-P60	P1-P20	Constr. of buildings (NACE 41), 13.9%	Specialized constr. (NACE 43), 12.0%
P41-P60	P21-P40	Constr. of buildings (NACE 41), 13.8%	Specialized constr. (NACE 43), 13.1%
P41-P60	P41-P60	Specialized constr. (NACE 43), 13.4%	Constr. of buildings (NACE 41), 10.3%
P41-P60	P61-P80	Constr. of buildings (NACE 41), 11.0%	Specialized constr. (NACE 43), 9.6%
P41-P60	P81-P100	Specialized constr. (NACE 43), 9.5%	Retail trade (NACE 47), 9.3%
P61-P80	P1-P20	Specialized constr. (NACE 43), 14.1%	Constr. of buildings (NACE 41), 9.1%
P61-P80	P21-P40	Specialized constr. (NACE 43), 14.3%	Constr. of buildings (NACE 41), 9.3%
P61-P80	P41-P60	Specialized constr. (NACE 43), 13.4%	Constr. of buildings (NACE 41), 7.7%
P61-P80	P61-P80	Specialized constr. (NACE 43), 10.2%	Retail trade (NACE 47), 7.1%
P61-P80	P81-P100	Management consult. (NACE 70), 11.6%	Computer progr. (NACE 62), 9.6%
P81-P100	P1-P20	Specialized constr. (NACE 43), 8.5%	Management consult. (NACE 70), 7.2%
P81-P100	P21-P40	Management consult. (NACE 70), 8.8%	Computer progr. (NACE 62), 8.5%
P81-P100	P41-P60	Management consult. (NACE 70), 10.8%	Computer progr. (NACE 62), 10.3%
P81-P100	P61-P80	Computer progr. (NACE 62), 13.0%	Management consult. (NACE 70), 12.2%
P81-P100	P81-P100	Management consult. (NACE 70), 13.6%	Computer progr. (NACE 62), 11.9%

Notes: Table presents two most frequent industries (NACE) of the newly established incorporated business by individual and parental income rank quintiles. Individual rank is defined as an average over the years $t-5$ and $t-1$ before the transition into entrepreneurship, and parental income is observed when the parents are 45–50 years old. Individuals are grouped into five individual and five parental income quintiles, dividing the data into 25 bins altogether.

Table A2: Probability of starting an incorporated business:
Comparing the relative importance of various predictors using dominance analysis

Total R^2 of the model = 0.2051			
Predictor	Dominance statistic (partial R^2)	Standardized dominance statistic (share of total R^2)	Ranking
Individual rank at $t-1$	0.0131	0.0641	3
Parental rank	0.0022	0.0110	7
Parental entrepreneurship	0.0007	0.0035	11
Unincorporated at $t-1$	0.1272	0.6204	1
Industry at $t-1$	0.0385	0.1878	2
Level of highest degree	0.0007	0.0034	12
Field of highest degree	0.0015	0.0073	9
Age and age^2 at $t-1$	0.0006	0.0028	13
Gender	0.0034	0.0164	6
Capital region at $t-1$	0.0001	0.0003	15
Married at $t-1$	0.0010	0.0050	10
Unemployed at $t-1$	0.0017	0.0084	8
Student at $t-1$	0.0004	0.0019	14
Interactions			
Mincerian (M)	0.0099	0.0483	4
Individual rank (IR) $\times$ M & Parental rank (PR) $\times$ M & Parental entrep. (PE) $\times$ M & IR $\times$ PR $\times$ PE	0.0040	0.0195	5

Notes: Table presents the estimates of the proportion of the variance of the probability of starting an incorporated business that is explained by each predictor, estimated following the methods by Azen and Budescu (2003). The estimates are based on a sample of those individuals who establish an incorporated business and those who never engage in any business activities (wage earners). Dependent variable receives a value of 1 if an individual becomes an incorporated entrepreneur and 0 if they never engage in any business activities during our observation period. For entrepreneurs, $t-1$ refers to the year preceding the transition into incorporated entrepreneurship, and for wage earners it refers to the year preceding the randomly allocated pseudo-start year. Individual and parental ranks enter the model as rank fixed effects. Parental entrepreneurship, status as unincorporated entrepreneur (self-employed), gender, whether lived in the capital city region and marital, unemployment and student status are dummy variables. Industry at $t-1$ corresponds to individuals industry as a salaried worker and enters the model as industry fixed effects (NACE, two-digit). The level and field of the highest degree enter the model as fixed effects (ISCED). Mincerian interactions include all interactions between age, age squared, gender and the level of highest degree. The results are based on 32,767 regressions including each predictor individually, all of them together, and every combination between them, which are used to compare the contribution of each predictor to the total R^2 of the full model. The ranking variable ranks the relevance of each predictor by their share of the total R^2.

Table A3: Firm-level outcomes: Comparing the relative importance of various predictors using dominance analysis

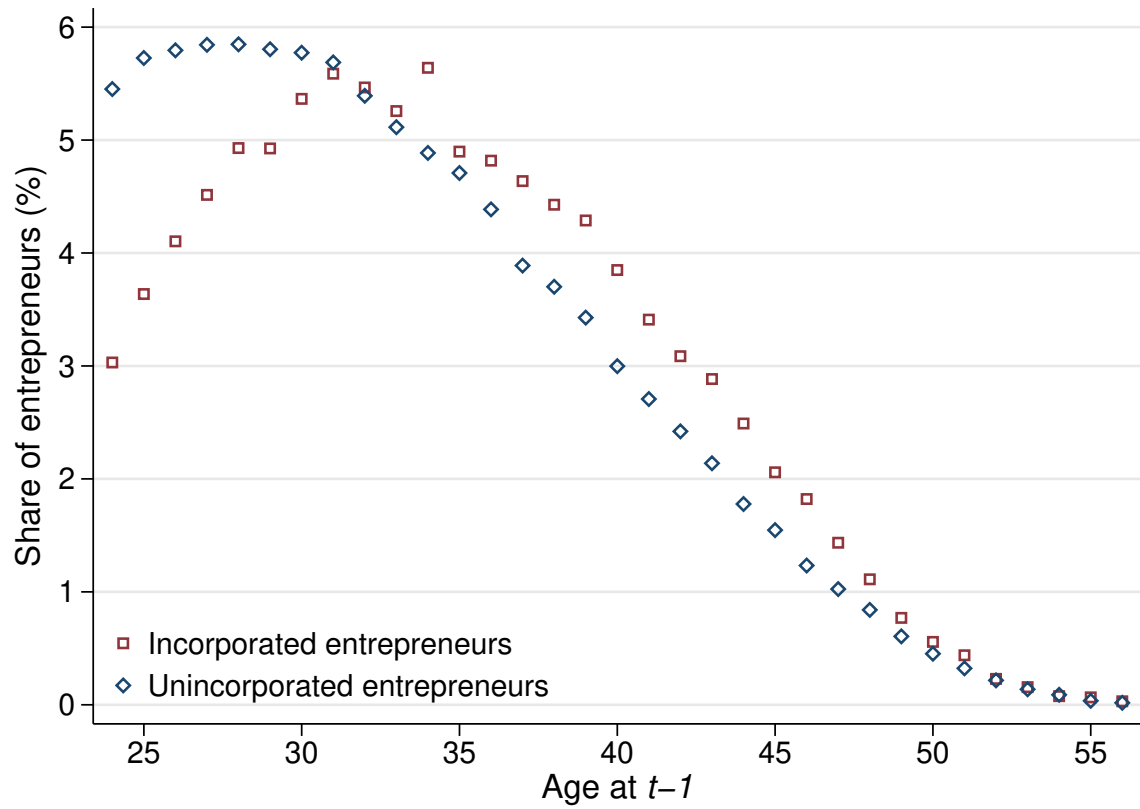| Predictor | Number of employees Total R^2 of the model = 0.2420 | | | Value added Total R^2 of the model = 0.2076 | | |
	Dominance statistic (partial R^2)	Standardized dominance statistic (share of total R^2)	Ranking	Dominance statistic (partial R^2)	Standardized dominance statistic (share of total R^2)	Ranking
Individual rank at $t-1$	0.0198	0.0820	3	0.0202	0.0972	3
Parental rank	0.0095	0.0393	5	0.0101	0.0485	5
Parental entrepreneurship	0.0004	0.0018	15	0.0001	0.0006	16
Unincorporated at $t-1$	0.0012	0.0051	11	0.0033	0.0160	7
Industry at $t-1$	0.1139	0.4705	1	0.0887	0.4273	1
Level of highest degree	0.0040	0.0165	7	0.0014	0.0069	10
Field of highest degree	0.0040	0.0167	6	0.0031	0.0150	8
Age and age^2	0.0015	0.0061	9	0.0009	0.0042	11
Gender	0.0011	0.0047	14	0.0028	0.0137	9
Capital region at $t-1$	0.0012	0.0051	12	0.0004	0.0021	13
Married at $t-1$	0.0014	0.0059	10	0.0003	0.0014	15
Unemployed at $t-1$	0.0004	0.0015	16	0.0004	0.0018	14
Student at $t-1$	0.0011	0.0047	13	0.0009	0.0042	12
Interactions						
Mincerian (M)	0.0178	0.0736	4	0.0127	0.0611	4
Individual rank (IR) × M & Parental rank (PR) × M & Parental entrep. (PE) × M & IR × PR × PE	0.0037	0.0153	8	0.0042	0.0202	6
Firm-specific information						
Industry, initial equity & industry × equity	0.0608	0.2512	2	0.0581	0.2798	2

Notes: Table presents the estimates of the proportion of the variance of the number of employees and value added that is explained by each predictor, estimated following the methods by Azen and Budescu (2003). Firm-level outcomes are measured cumulatively over the first ten years of the business. There are 25,364 unique firms in total, and we can follow 12,449 of them until ten years after establishment. Number of employees refers to full-time equivalent employees and value added to sales minus variable costs. Firm-specific predictors include industry fixed effects (NACE, two-digit level), initial equity invested in the firm, and their interactions. For further details on other predictors, see the notes of Table A2. The results are based on 65,535 regressions, including each predictor individually, all of them together, and every combination between them, which are used to compare the contribution each predictor makes to the total R^2 of the full model. The ranking variable ranks the relevance of each predictor by their share of the total R^2.

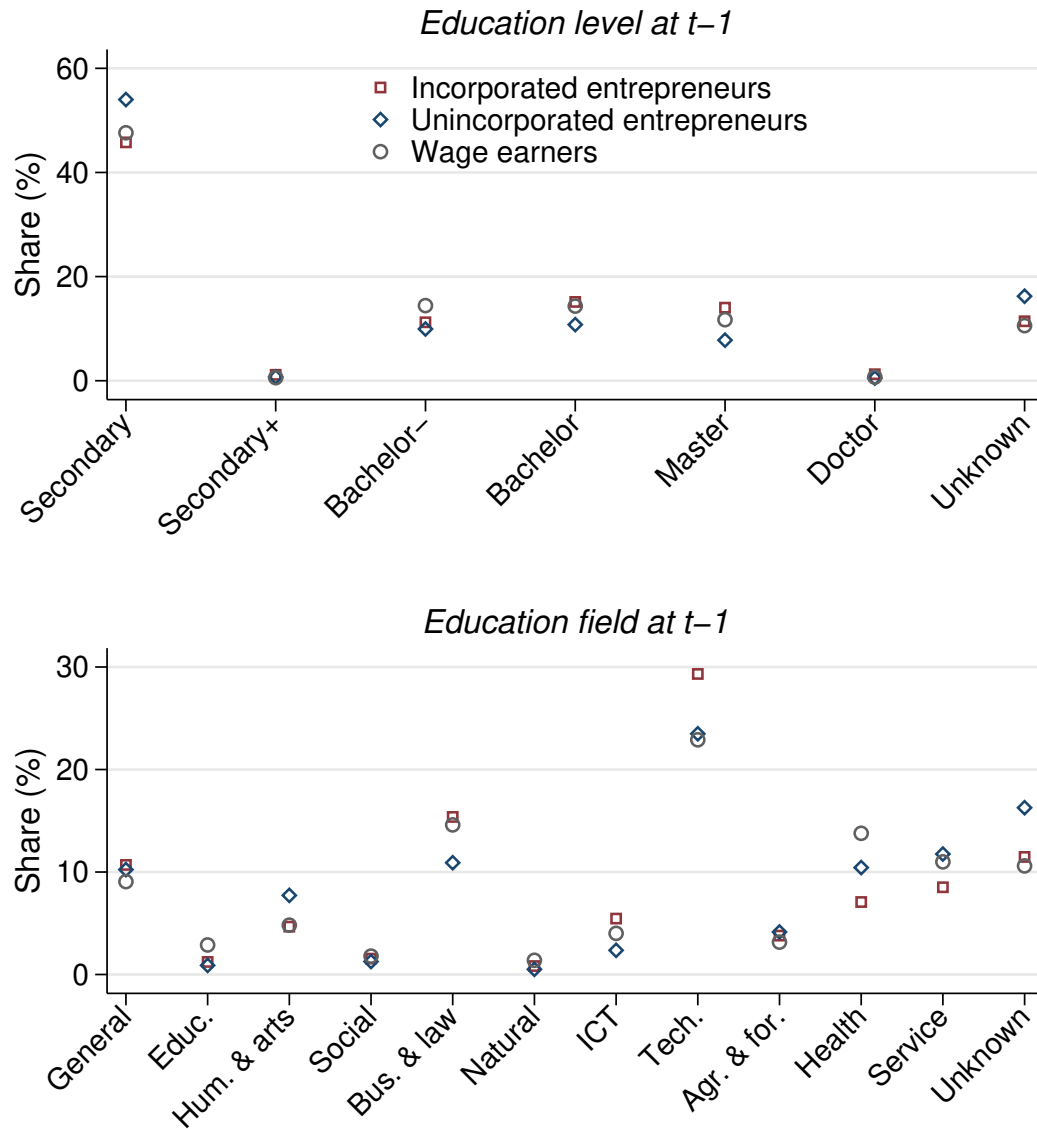Figure A1: New entrepreneurs over the sample years

Notes: Figure presents the shares of new owners of incorporated (red squares) and unincorporated firms (blue diamonds) and the shares of wage earners (gray circles) included in our baseline sample by year. The discontinuous jump in the number of new incorporated entrepreneurs stems from the change in the data source for defining new business owners in 2006 (see Section 3.2 for more details). The jump in the number of new entrepreneurs does not significantly affect our results, as discussed in more detail in Online Appendix B.

Figure A2: Share of new entrepreneurs by age

Notes: Figure presents the percentage shares of new incorporated (red squares) and unincorporated (blue diamonds) business owners by their age one year before establishing the business ($t-1$). The average age of new incorporated and unincorporated business owners in our baseline sample is 35 and 33 years, respectively.

Figure A3: Share of new entrepreneurs by education

Notes: Figure presents the percentage shares of new incorporated (red squares) and unincorporated (blue diamonds) business owners by their education one year before establishing the business ($t-1$). The share of wage earners (grey dots) indicates the share of pseudo-starters. Education level and field correspond to ISCED 2011 classification (number in parenthesis). Secondary stands for lower secondary education (2), Secondary+ for upper secondary education (3) or post-secondary non-tertiary education (4), Bachelor- for short-cycle tertiary education (5), Bachelor for bachelor's degree or equivalent level (6), Master for master's degree or equivalent level (7), Doctor for doctoral degree or equivalent level (8), and Unknown for those that are not elsewhere classified (9). For the education fields, General stands for generic programmes and qualifications (00), Educ. for education (01), Hum. & arts for humanities and arts (02), Social for social sciences, journalism and information (03), Bus. & law for business, administration and law (04), Natural for natural sciences, mathematics and statistics (05), ICT for information and communication technologies (06), Tech. for engineering, manufacturing and construction (07), Agr. & for. for agriculture, forestry, fisheries and veterinary (08), Health for health and welfare (09), Service for services (10), and Unknown for unknown categories (99). The figure shows that there are no notable differences in education levels between the groups. The shares in different fields are also similar, but new incorporated entrepreneurs are more likely to have engineering, manufacturing or construction (Tech.) as their field of education compared to the other groups.

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Figure A4: Share of highly-educated individuals by individual income ranks
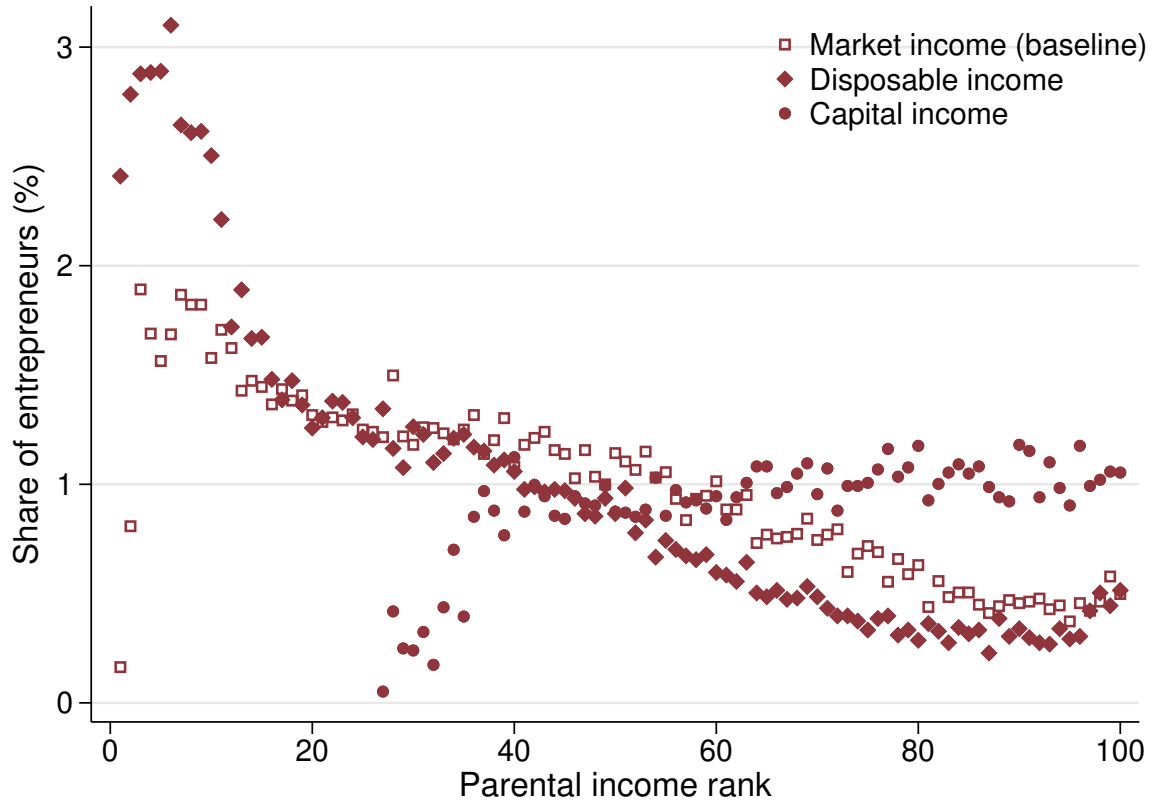

Notes: Figure presents the percentage shares of incorporated (red squares) and unincorporated (blue diamonds) entrepreneurs who have at least a bachelor's degree by their individual income ranks one year before establishing the business $(t-1)$, and for wage earners (gray circles) one year before the randomly allocated pseudo-start years. The figure shows a similarly increasing pattern of education by individual income rank in all of the groups.

Figure A5: Industry composition of newly established incorporated businesses

Notes: The figure shows the industry shares among the newly established incorporated businesses in our baseline sample using the TOL 2008 classification by Statistics Finland, which is based on the EU's classification of economic activities (NACE).

Figure A6: Share of new entrepreneurs by parental income ranks using different income concepts
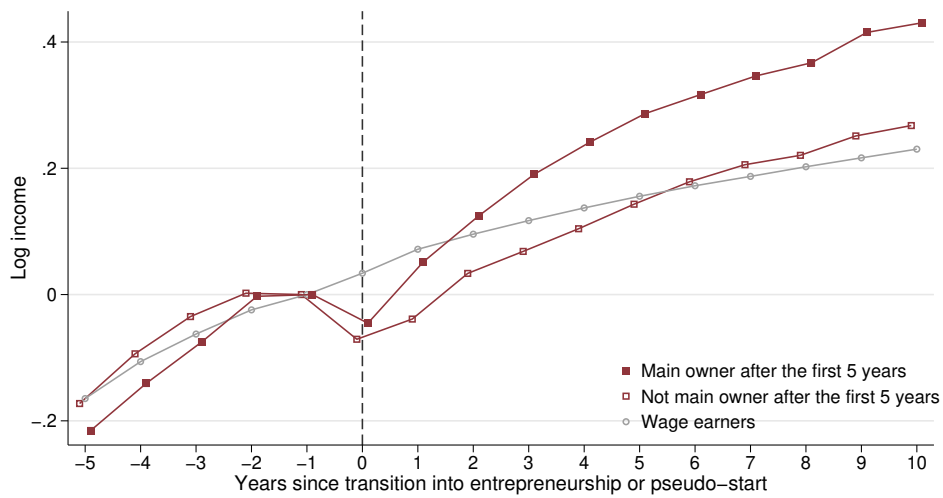

Notes: Figure presents the percentage shares of new incorporated business owners by their parental income ranks using three different income concepts. As our baseline measure, parental income is calculated as average annual household market income when the parents were 45–50 years old (squares). For a subset of parents who are 45–50 years old after 1995, we can define parental ranks using disposable income (diamonds) and capital income (circles). The figures are similar for market income and disposable income, except that for disposable income there is a small increase in the share of new entrepreneurs at the very top. For capital income, the share of new entrepreneurs remains flat from the 40th rank percentile onward. Approximately 25% of the parents do not have positive capital income in the data.

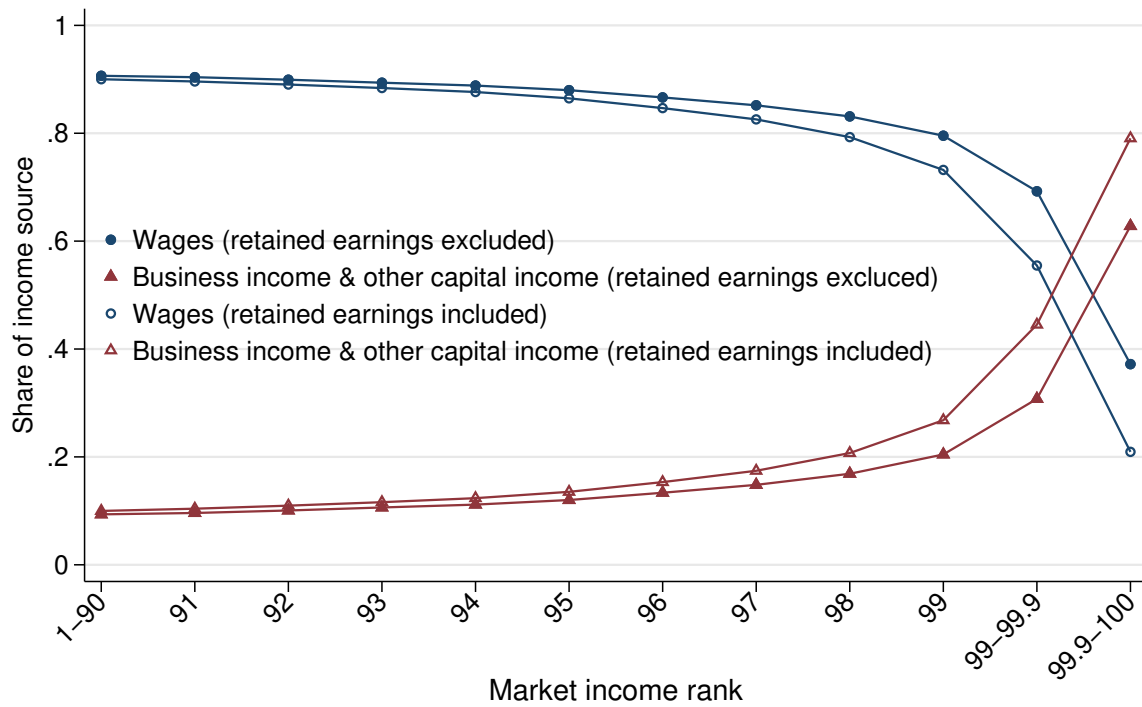Figure A7: Share of new entrepreneurs by parental income: New firms vs. existing firms

Notes: Figure presents the percentage shares of incorporated (upper graph) and unincorporated (bottom graph) business owners by their parental income ranks using four different definitions of entrepreneurship. The hollow square markers correspond to the lower panel of Figure 1 in the main text and show the shares of new business owners using data for 1998–2014. The circle and diamond markers present the shares for all existing entrepreneurs using two cross-sections of data (2006 and 2014). The red square markers show the figures for new entrepreneurs who join existing firms using data for 1998–2014. Parental income is calculated as average annual household market income when the parents were 45–50 years old. The figure shows that for existing firms there is a positive link between parental income and entrepreneurship at the top of the distribution as in the previous literature, but this association does not hold for new incorporated firms and new business creation presented and discussed in more detail in the main text.

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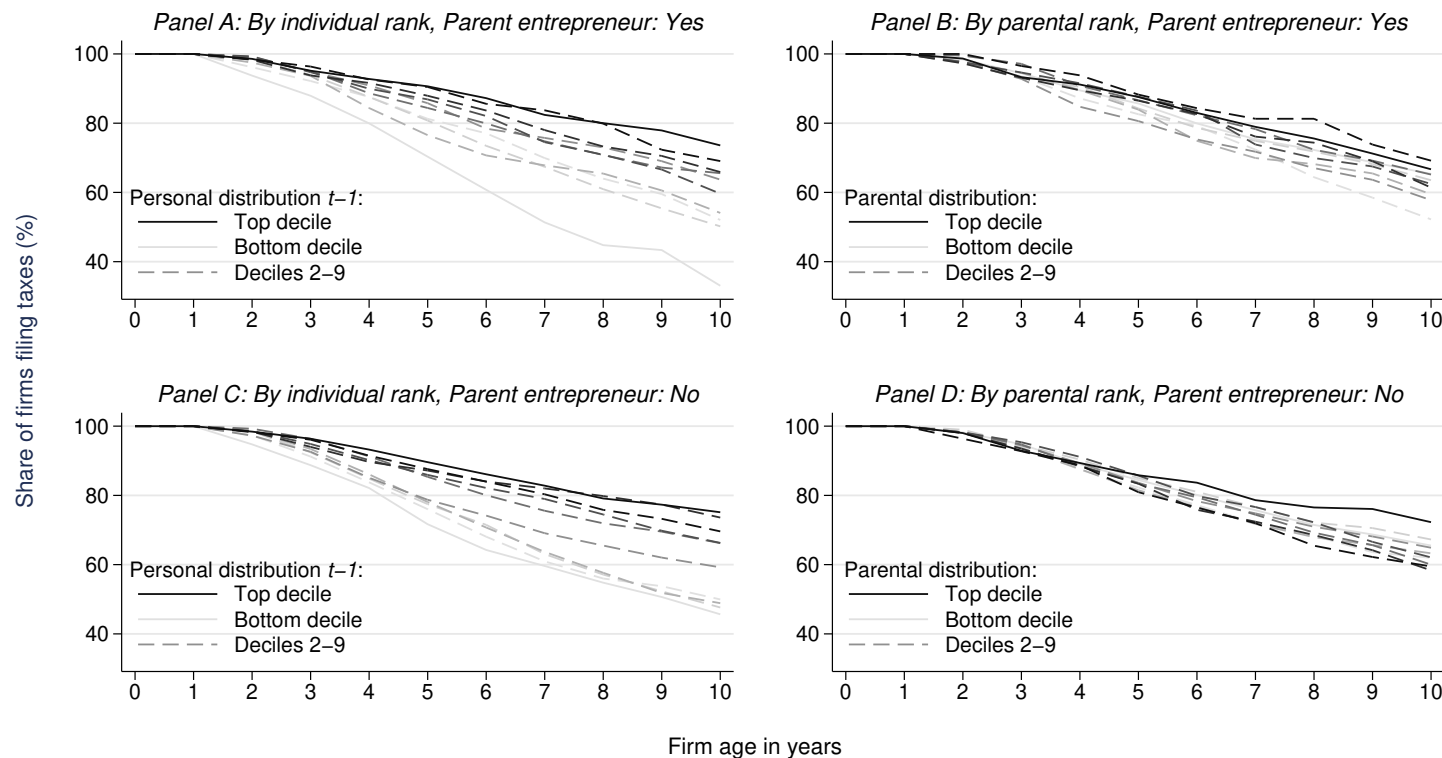Figure A8: Income trajectories by firm survival five years after establishment

Notes: The figure presents log disposable income trajectories for incorporated business owners separately for entrepreneurs who are still the main owners of their newly established business five years afters the business was established (hollow red squares), and those who are not (filled red squares). The trajectories are portrayed before and after the business was established ($t = 0$), relative to the year $t - 1$ (denoted by zero in the figure). For wage earners (gray circles), pseudo-start years are randomly drawn from a uniform distribution. Control variables include all interactions of age, sex and education (primary education, secondary degree or tertiary degree) and the interactions using age squared and age cubed. The figure suggests that the incomes of those entrepreneurs whose firms survive past the first five years increase rapidly over the ten years since the business was established, whereas the incomes of those whose firms did not survive are on a similar trajectory with wage earners after ten years the new firm was established.

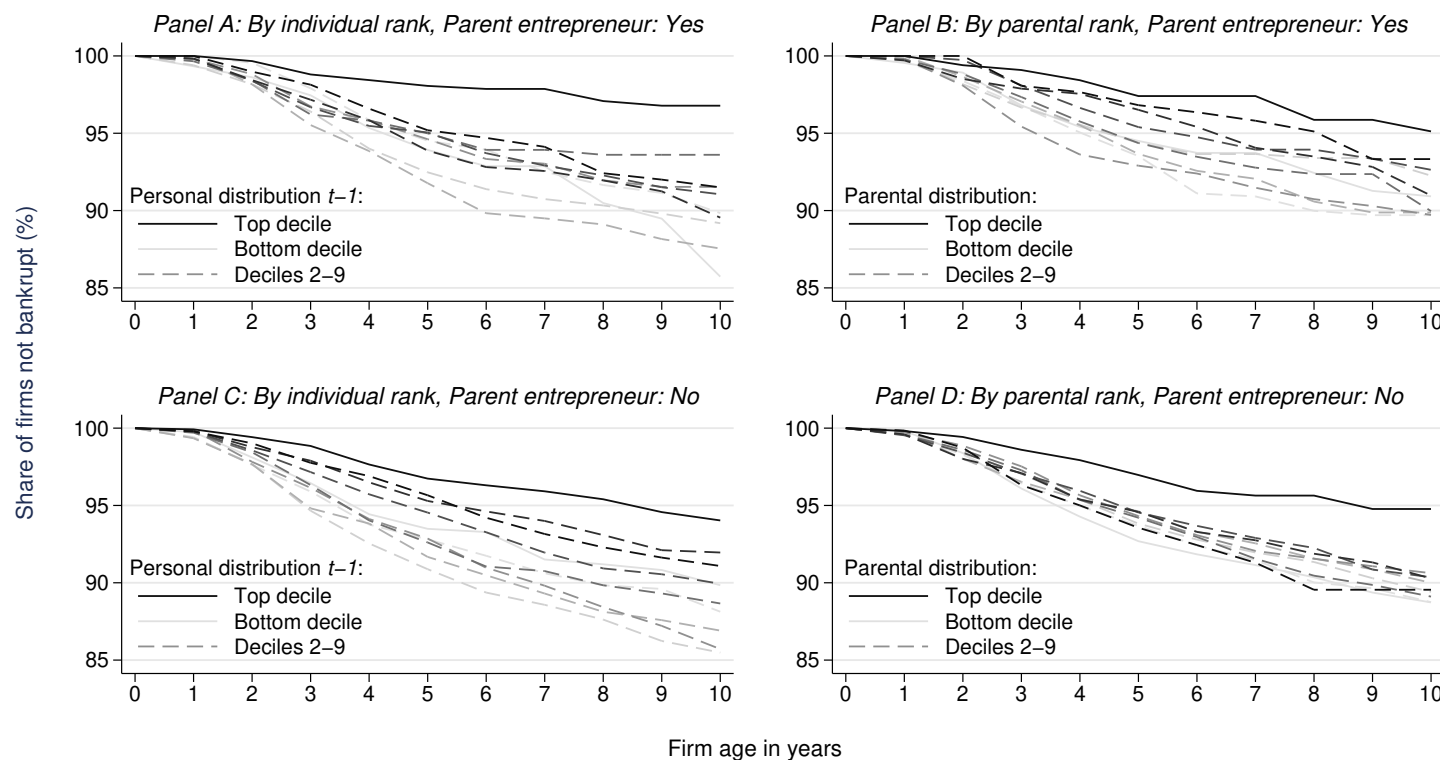Figure A9: Composition of market income sources by income percentiles

Notes: The figure plots the income composition between wages and business income + other capital income in the top 10% of the market income distribution for the full population of Finnish individuals over 16 years of age in 2006–2016. In addition, the figure includes the income shares when including in business income the annual retained earnings of the firms divided among each firm owner based on their ownership share of the firm (see Online Appendix B for more details). The detailed description of the variables is presented in Online Appendix D. The figure shows that the share of business income and other capital income increases sharply at the very top of the distribution in Finland, very similarly as in the US, as presented by Smith et al. (2019). Moreover, the inclusion of retained earnings further increases the relevance of business incomes at the very top of the distribution.

Figure A10: Survival rates of new incorporated businesses by individual and parental income ranks and parental entrepreneurship: full dynamics
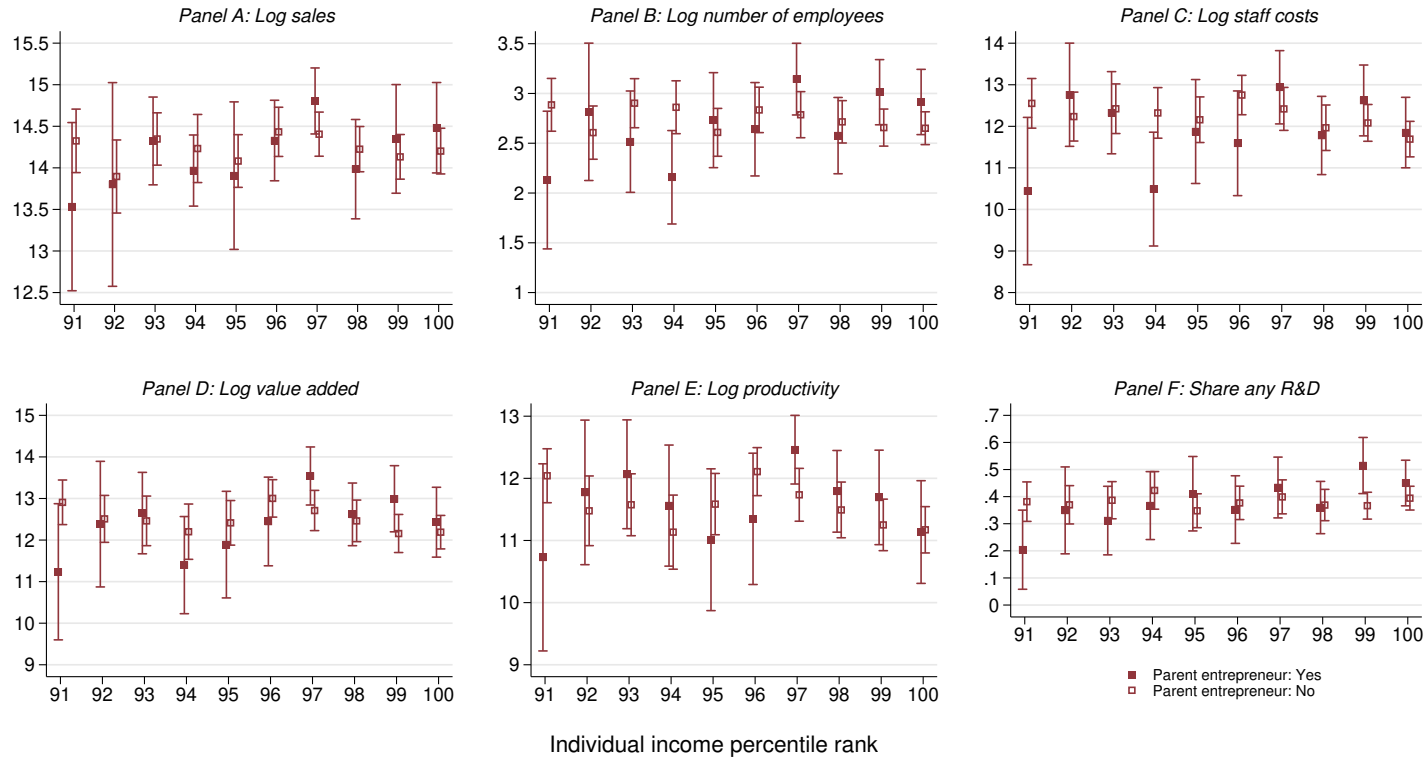

Notes: The figure presents the survival rates of new incorporated business by firm age (1–10 years) and by individual and parental income decile ranks and by parental entrepreneurship. Firm survival is measured by whether the firm is observed in our administrative tax record data. Panels A and B present the survival rates by individual and parental income and among those with entrepreneurial parents. Panels C and D show similar graphs among those without entrepreneurial parents. Individual income ranks are calculated as an average over the years $t-5$ and $t-1$ including all individuals in our baseline sample. Parental income is calculated as average annual household market income when the parents were 45–50 years old. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. The top income rank deciles are marked with a solid black line, and the bottom decile with a solid grey line. Deciles 2–9 are marked with dashed lines. The figure shows that the survival rates are higher among those new business owners who come from the top of the individual income distribution, and slightly larger for those with higher parental income. However, there is no significant difference in survival rates by parental entrepreneurship.

Figure A11: Survival rates measured by bankruptcies of new incorporated businesses by individual and parental income ranks and parental entrepreneurship
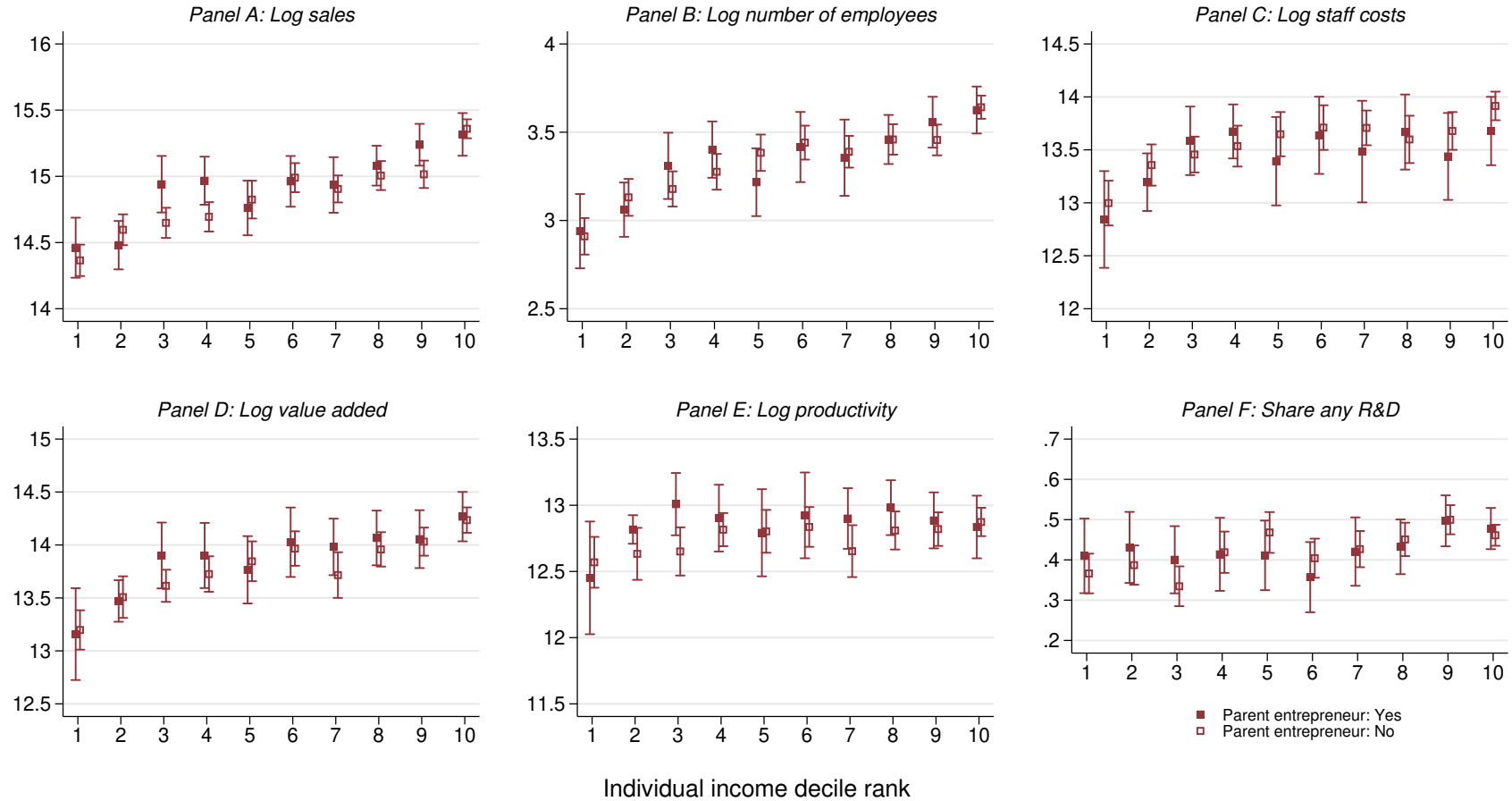
Notes: The figure presents the survival rates of new incorporated business by firm age (1–10 years) and by individual and parental income decile ranks and by parental entrepreneurship. Firm survival is measured by whether the firm is not declared bankrupt by the court, instead of all types of firm exits that are included in Figure A10 above and in Figure 7 in the main text. Panels A and B present the survival rates by individual and parental income and among those with entrepreneurial parents. Panels C and D show similar graphs among those without entrepreneurial parents. Individual income ranks are calculated as an average over the years $t-5$ and $t-1$ including all individuals in our baseline sample. Parental income is calculated as average annual household market income when the parents were 45–50 years old. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. The top income rank deciles are marked with a solid black line, and the bottom decile with a solid grey line. Deciles 2–9 are marked with dashed lines. The figure shows that the survival rates are higher among those new business owners who come from the top of the individual income distribution, and slightly larger for those with higher parental income. However, there is no significant difference in survival rates by parental entrepreneurship. These findings are similar as in the main text, but the survival rates measured using only bankruptcies are overall larger, as can be expected.

Figure A12: Firm-level outcomes by individual income ranks and parental entrepreneurship within the top decile of individual income
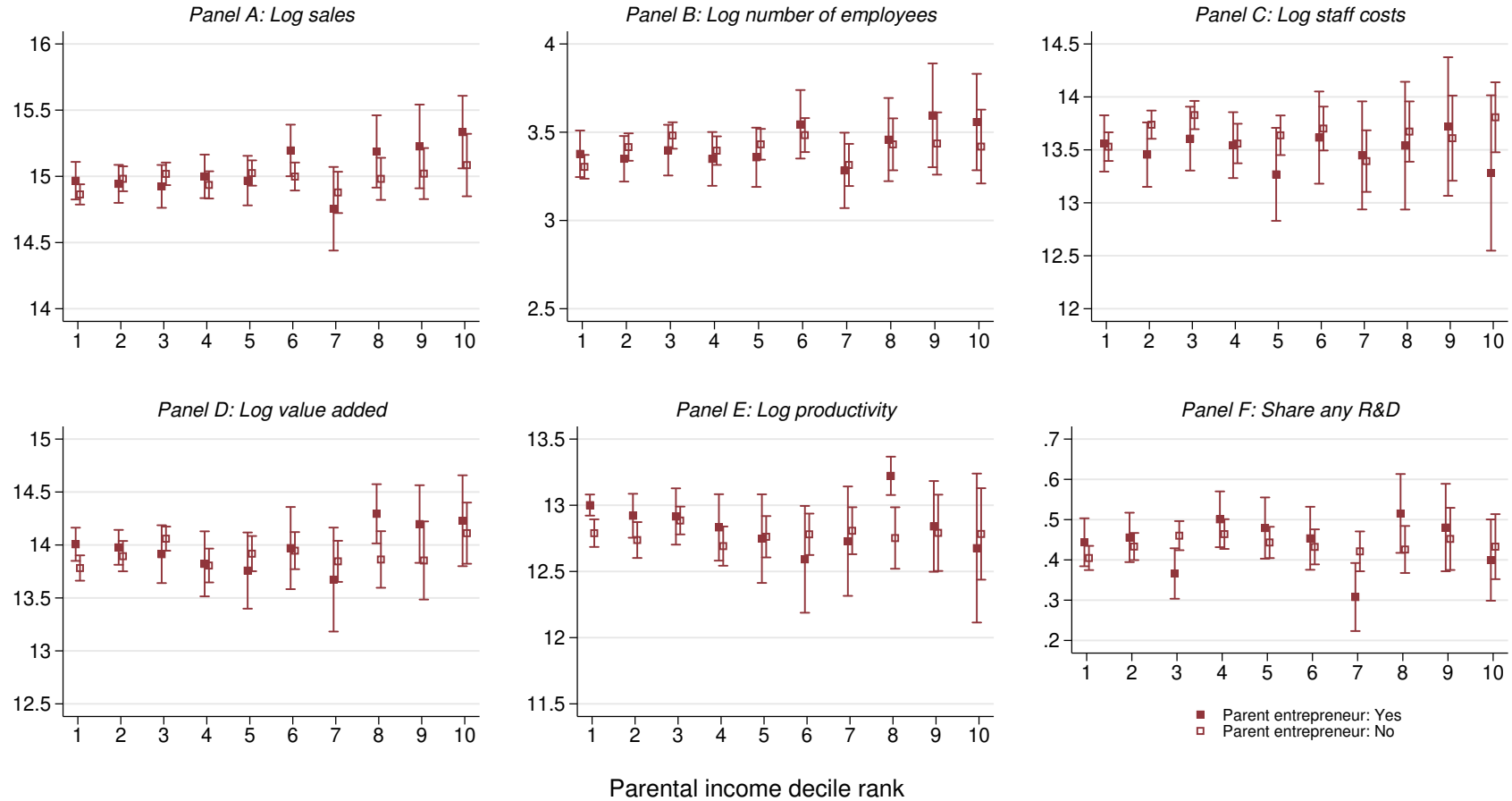

Notes: The figure presents mean firm-level outcomes measured cumulatively over the first ten years of business operations with 95% confidence intervals by individual income ranks within the top decile and by those with (filled symbols) and without entrepreneurial parents (hollow symbols). We restrict this analysis to firms that could have been followed for the full ten years (established before 2010), but do not condition on firm survival. Estimates include as controls the initial equity of the new firm and industry fixed effects (NACE, 2-digit level). The income ranks are measured as an average over the years $t-5$ and $t-1$ from the full distribution of new business owners and wage earners. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. In Panels A-E, the outcomes are in log scale, and Panel F presents the probability for positive R&D investments during the first ten years. In years t and $t+10$, we observe 20,748 and 12,449 firms, respectively. The detailed description of the variables is presented in Online Appendix D.

Figure A13: Firm-level outcomes by individual income ranks and parental entrepreneurship: conditional on survival until $t + 10$

Notes: The figure presents mean firm-level outcomes measured cumulatively over the first ten years of business operations with 95% confidence intervals by individual income ranks and by those with (filled symbols) and without entrepreneurial parents (hollow symbols). We restrict this analysis to firms that survive the first 10 years. Estimates include as controls the initial equity of the new firm and industry fixed effects (NACE, 2-digit level). The income ranks are measured as an average over the years $t - 5$ and $t - 1$ from the full distribution of new business owners and wage earners. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. In Panels A-E, the outcomes are in log scale, and Panel F presents the probability for positive R&D investments during the first ten years. In years t and $t + 10$, we observe 20,748 and 12,449 firms, respectively. The detailed description of the variables is presented in Online Appendix D.

Figure A14: Firm-level outcomes by parental income ranks and parental entrepreneurship: conditional on survival until $t + 10$

Panel A: Log sales

Panel B: Log number of employees

Panel C: Log staff costs

Panel D: Log value added

Panel E: Log productivity

Panel F: Share any R&D

Parent entrepreneur: Yes
Parent entrepreneur: No

Parental income decile rank

Notes: The figure presents mean firm-level outcomes measured cumulatively over the first ten years of business operations with 95% confidence intervals by individual income ranks and by those with (filled symbols) and without entrepreneurial parents (hollow symbols). We restrict this analysis to firms that survive the first 10 years. Estimates include as controls the initial equity of the new firm and industry fixed effects (NACE, 2-digit level). The parental income ranks are calculated using the average of annual household income when the parents were 45–50 years old. Parents are classified as entrepreneurs if they are labeled as a business owner for at least 5 years according to the socio-economic status defined by Statistics Finland. In Panels A-E, the outcomes are in log scale, and Panel F presents the probability for positive R&D investments during the first ten years. In years t and $t + 10$, we observe 20,748 and 12,449 firms, respectively. The detailed description of the variables is presented in Online Appendix D.

B   Robustness Checks and Sensitivity Analysis for Estimated Income Trajectories

B.1   Market Income and Retained Earnings

Focusing on market income instead of disposable income (our baseline measure) does not significantly affect the qualitative aspects of our analysis. Figure B1 below paints a very similar picture as Figure 4 did for disposable income in the main text. Market income includes the following income sources: wages, entrepreneurial income and capital income, which is the sum of dividends, interest income, private pensions, rental income on properties, taxable capital gains and other capital income.

In addition to market income, Figure B1 includes trajectories for market income plus the earnings retained in the firm. Defining an exact boundary between the firm and the owner's incomes can be very challenging (see e.g. Kopczuk and Zwick 2020). In addition to income withdrawn from the firm as wages, dividends and capital gains, the owners of privately held corporations can retain earnings in their firm. These earnings do not show up as income for the owners in the administrative data in the year that they are accrued.[23]

To study retained earnings, we follow a similar type of approach as in Alstadsæter et al. (2023) and allocate them to each owner of an incorporated firm based on their ownership share of the firm, and include this income on top of the market income observed in the administrative data.[24]

Figure B1 shows the income development for IEs and WEs when accounting for earnings retained in the firm. Including retained earnings appears to increase the income levels of IEs by an almost constant annual share of 15%, starting right from the first year after the business was established.
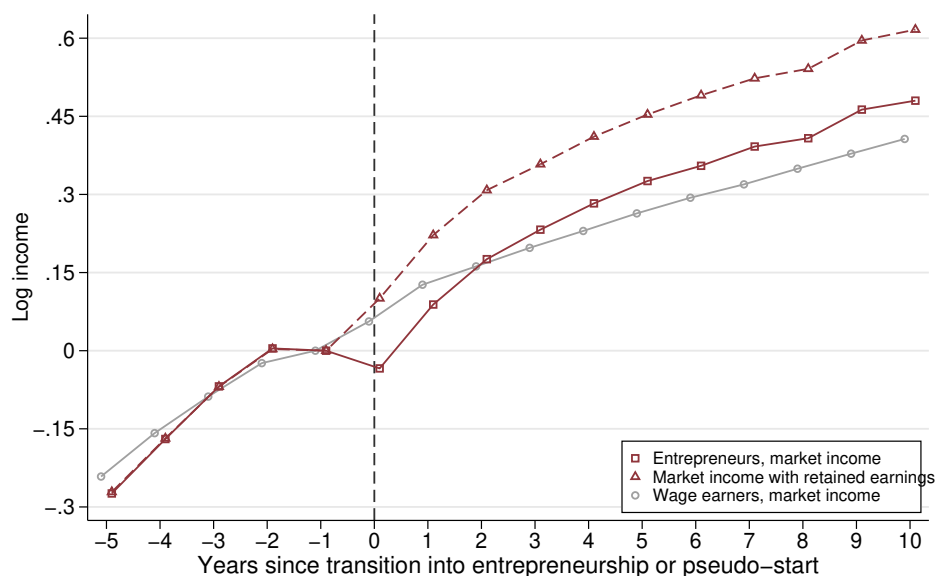
Furthermore, Figures B2 and B3 presents the differences in income trajectories between incorporated entrepreneurs (IE) and wage earners (WE) using market income and market income plus retained earnings as the income measures. Overall, the findings in these figures is similar to those in Figure 5 in the main text. The differences in income trajectories develop rather similarly across the individual and parental income distributions. Also, adding retained earnings on top of market income observed in the administrative

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[23]For example, income retained in the firm might show up in the reported individual income of the owner only after a long time period in a very lumpy fashion, making it difficult to derive a consistent income trajectory for entrepreneurs. Second, some of the income retained in the firm can be used for the owners' private consumption without ever showing up in the individual-level administrative data.

[24]Similarly as in the Norwegian institutional setting studied by Alstadsæter et al. (2023), the Finnish dividend tax system incentivizes owners to accumulate earnings in their firms. This is due to the fact that firm-level net assets (assets - debts) affect the owner-level dividend income tax rates such that a larger net assets position reduces the dividend tax rate of the owner, as described in more detail in Online Appendix C. Therefore, it is particularly important to take retained earnings into account as a potential income source for incorporated business owners in the Finnish context.
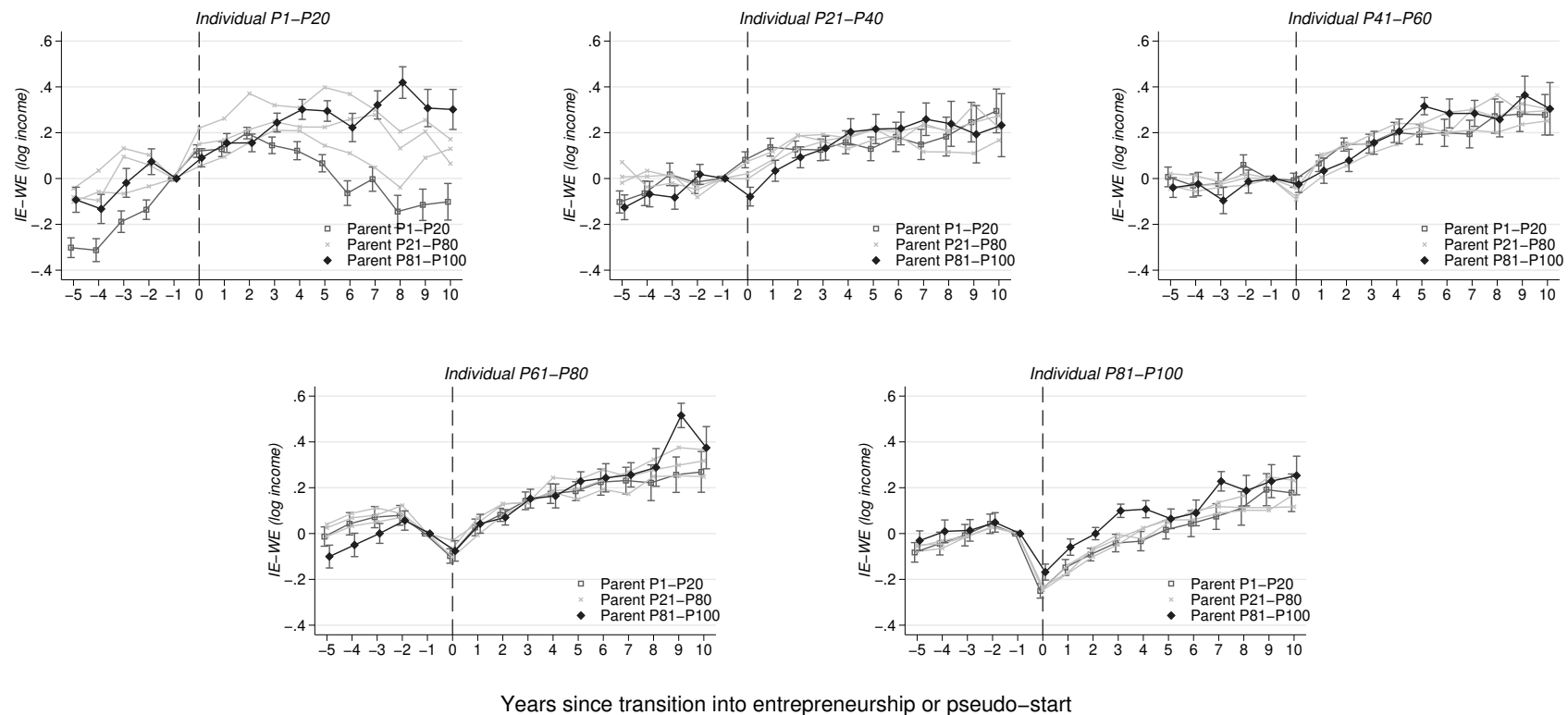
data increase the difference between the income trajectories of IE and WE quite evenly across both the individual and parental income distributions. One notable difference when using market income instead of disposable income is that the incomes of those with high parental income seem to grow faster among those who originally come from the bottom individual market income quintile.

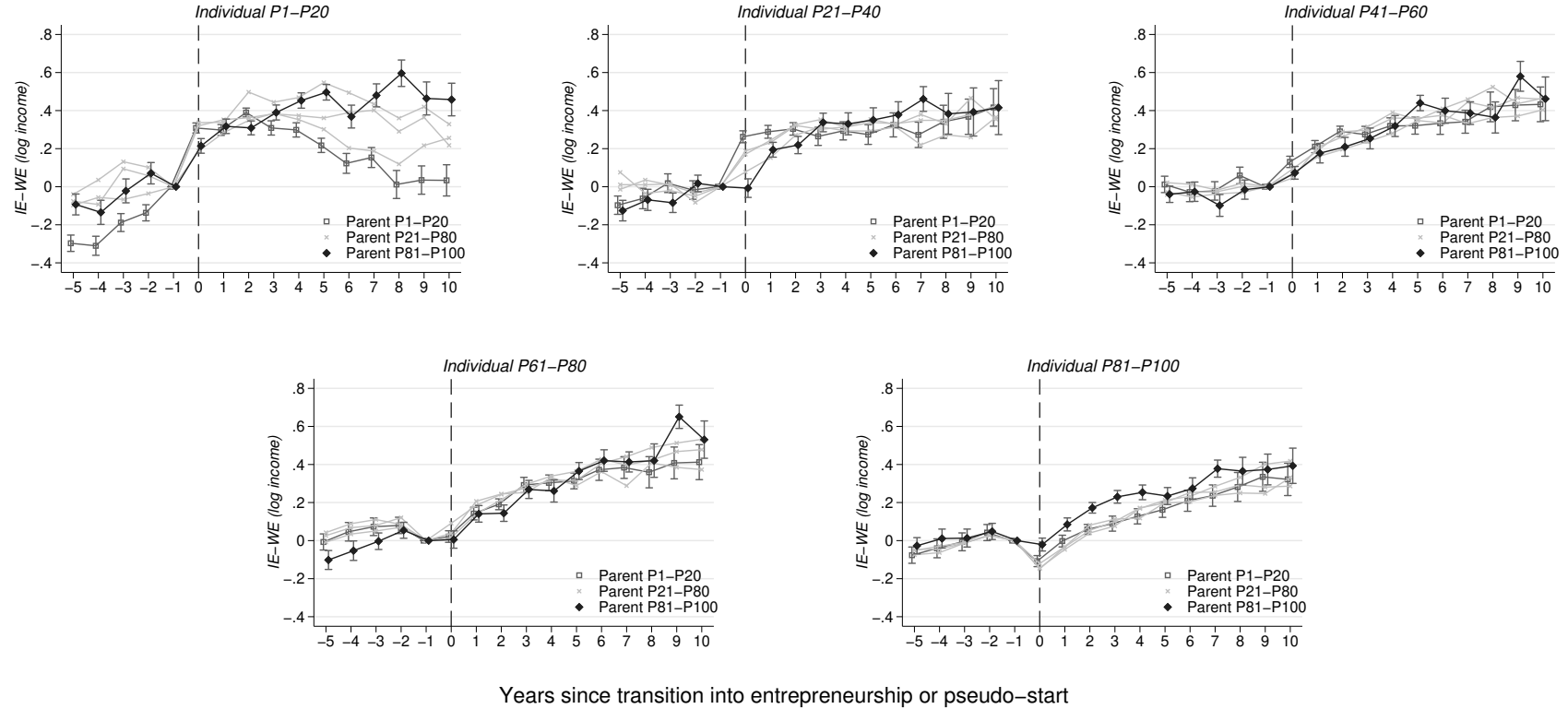Figure B1: Average market income trajectories when accounting for retained earnings

Notes: Figure presents the log market income trajectories (red squares) and market income + retained earnings trajectories (red triangles) for incorporated entrepreneurs, and market income trajectories for wage earners (gray circles) before and after the business was established ($t = 0$), relative to the year $t - 1$ (denoted by zero in the figure) estimated using equation (1). Retained earnings include the share of annual retained earnings of the firm allocated for each owner using their ownership share of the firm. For wage earners, pseudo-starts are randomly drawn from a uniform distribution. The control variables include all interactions of age, sex and education (primary education, secondary degree or tertiary degree) and the interactions using age squared and age cubed, and individual and parental income ranks.

Figure B2: Differences in income trajectories between entrepreneurs and wage earners by individual and parental income: Market income

Years since transition into entrepreneurship or pseudo−start

Notes: The figure presents the difference in log market income trajectories between incorporated entrepreneurs (IE) and wage earners (WE) before and after the business was established ($t = 0$), relative to one year before starting the first business $t-1$ (denoted by zero in the figure) with 95% confidence intervals, estimated using equation (1). The figure presents the graphs for individual income trajectories in each quintile of the individual income rank (Individual P1–P20...P81–100). In each graph, the income development is further split into five parental income rank quintiles (Parent P1–P20...P81–100), including top parental quintile (black diamonds), bottom quintile (hollow squares) and the middle three quintiles (gray crosses). For wage earners, pseudo-start years are randomly drawn from a uniform distribution. Individual rank is defined as an average over the years $t-5$ and $t-1$ and parental income is observed when the parents are 45–50 years old.

Figure B3: Differences in income trajectories between entrepreneurs and wage earners by individual and parental income: Market income with retained earnings

Years since transition into entrepreneurship or pseudo–start

Notes: The figure presents the difference in log market income + retained earnings trajectories between incorporated entrepreneurs (IE) and wage earners (WE) before and after the business was established ($t = 0$), relative to one year before starting the first business $t - 1$ (denoted by zero in the figure) with 95% confidence intervals, estimated using equation (1). The figure presents the graphs for individual income trajectories in each quintile of the individual income rank (Individual P1–P20...P81–100). In each graph, the income development is further split into five parental income rank quintiles (Parent P1–P20...P81–100), including top parental quintile (black diamonds), bottom quintile (hollow squares) and the middle three quintiles (gray crosses). For wage earners, pseudo-start years are randomly drawn from a uniform distribution. Individual rank is defined as an average over the years $t - 5$ and $t - 1$ and parental income is observed when the parents are 45–50 years old.

B.2 Other Robustness Checks and Heterogeneity

Table B1 below summarizes the average increase in disposable income among incorporated entrepreneurs from one year before becoming an entrepreneur to 10 years after using different subsamples of entrepreneurs and different estimation samples.

First, we find that the gains from entrepreneurship are somewhat larger among those who were wage earners right before establishing their first incorporated business than among those who were unincorporated entrepreneurs. Second, the table further confirms the result that parental entrepreneurship is not driving the differences in gains between entrepreneurs and wage earners. Third, the table shows that those who remained entrepreneurs for at least five years gained on average roughly 40% more than those who did not, compared to wage earners.

The bottom three elements in Table B1 illustrate the robustness of the results in terms of the estimation sample. As discussed in Section 3, we rely on data from the Finnish Tax Administration to define the owners of incorporated firms using information on dividend income received from their firm for the years 1998–2005 (Tax Administration data). For the years 2006–2014 we use data from Statistics Finland including all owners of incorporated firms (Statistics Finland data).

First, Table B1 shows that the observed gains are larger for the firms that started in 1998–2005 compared to 2006–2014. This could imply that the differences in the estimation sample of business owners over time is driving this difference. However, the first time period also coincides with rapid aggregate economic growth in the Finnish economy. In 1998–2005, the annual average GDP growth was 3.6%, while in 2006–2014 it was only 0.6%. To distinguish between the differences in the overall economic development and the estimation sample, we estimate the income gains using the definition based on the Tax Administration data for the years 2006–2014 in the bottom row of Table B1. Reassuringly, these results are nearly identical to those derived using the full owner sample from the Statistics Finland data within the same time period, illustrating that the differences in income gains over time are not driven by differences in the estimation samples.

Figure B4 shows the disposable income trajectories separately for our baseline sample (Panel A) and for the sample including individuals who we observe each year from $t - 1$ to $t + 10$ (Panel B), and from $t - 5$ to $t + 10$ (Panel C). The figure shows that the gains from entrepreneurship are higher in the balanced panels compared to our baseline non-balanced sample. First, keeping only individuals who are in our sample throughout the 10 first years over-weights younger individuals, who tend to have steeper income trajectories than older individuals. Second, the balanced panel has a higher share of individuals starting their businesses during the economic upswing of the early and mid-2000s, which is associated with larger increases in income.

Finally, we illustrate how the gains from entrepreneurship differ between the industries
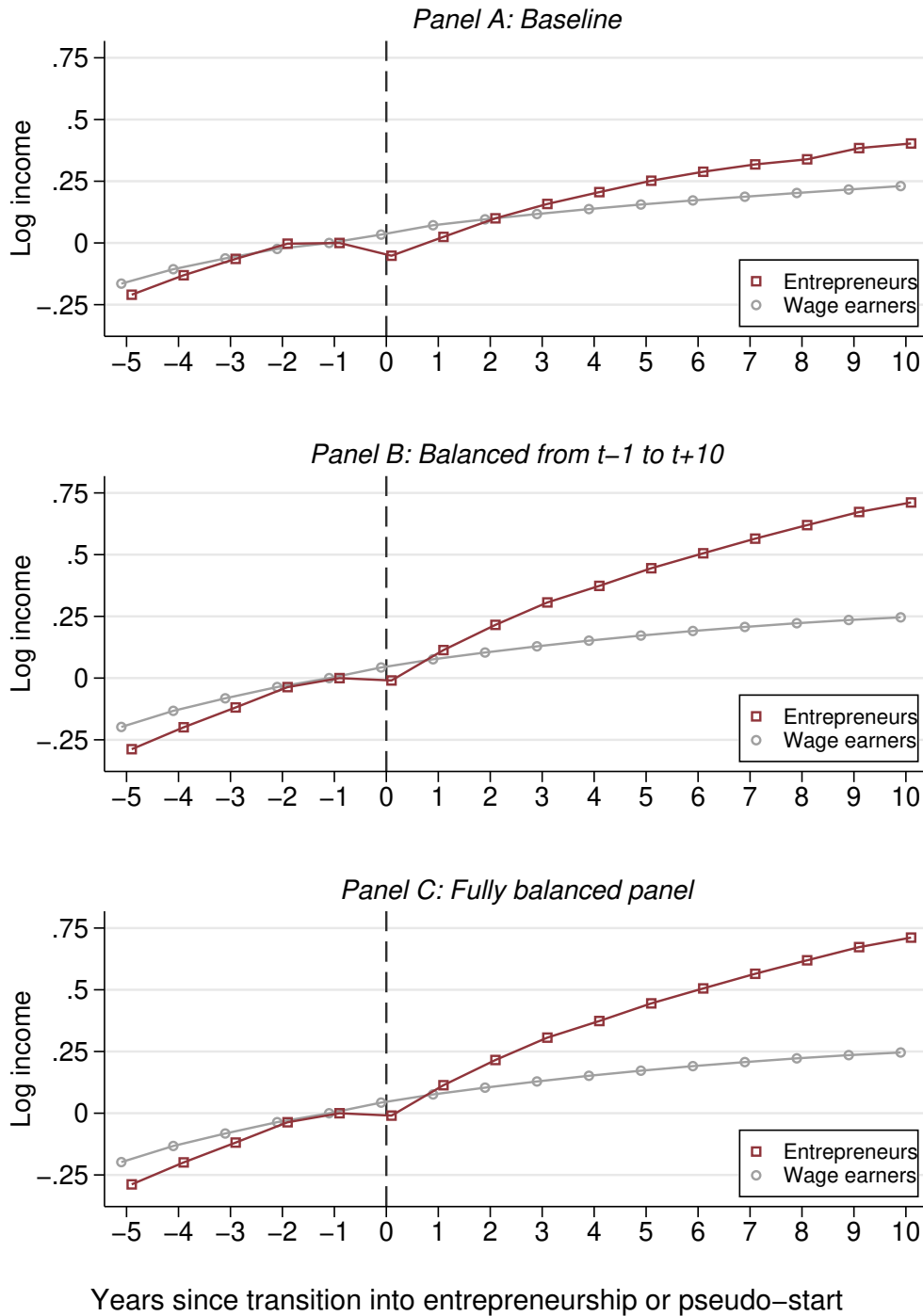
of newly established firms in Figure B5. There is significant overall variation in average gains over different industries, but we do not observe any consistent differences between the more traditional industries such as manufacturing or transportation, and industries characterized by highly specialized human capital skills, such as consultancy or health services.

Table B1: Sensitivity of the gains from entrepreneurship to the estimation sample

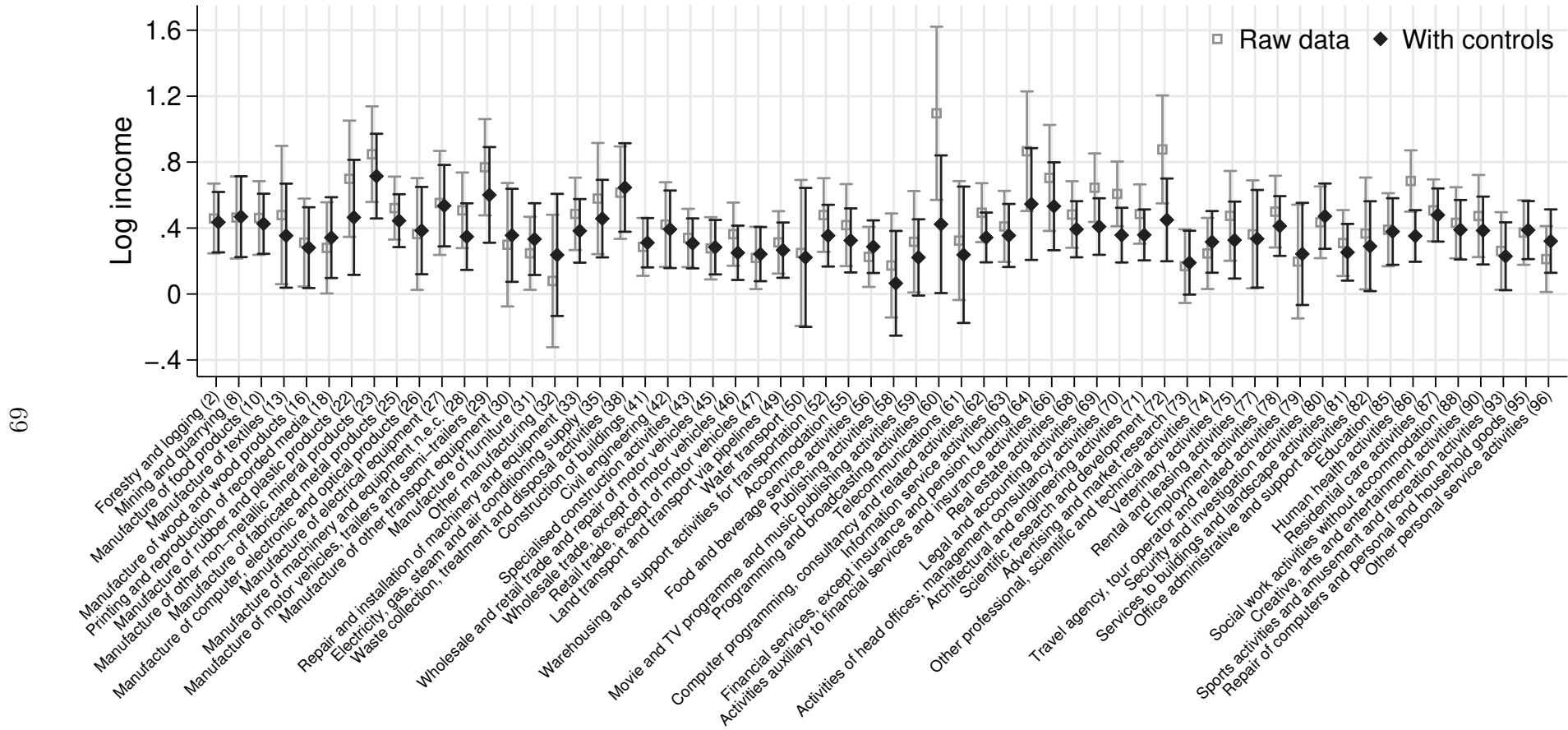| Sample | Observations | Mean disposable income (standard error) | | Change |
		t–1	t+10	
Baseline sample	13,467	28,390 (293)	42,461 (674)	14,071
Switchers (UIE-IE) dropped	11,538	27,933 (339)	43,384 (789)	15,451
Parent entrepreneur: yes	3,232	28,000 (835)	42,453 (1,670)	14,453
Parent entrepreneur: no	10,235	28,925 (520)	42,473 (1,310)	13,548
Main owner after 5 years: yes	8,873	28,248 (334)	44,585 (915)	16,337
Main owner after 5 years: no	4,594	28,667 (567)	38,279 (871)	9,612
Firm starts 1998-2005 (Tax Admin. data)	4,932	29,204 (592)	47,591 (969)	18,387
Firm starts 2006-2014 (Statistics Finland data)	8,535	27,911 (307)	39,444 (905)	11,533
Firm starts 2006-2014 (Tax Admin. data)	1,654	32,875 (632)	45,517 (1,131)	12,642

Notes: Table presents the average increase in disposable income among new incorporated entrepreneurs from one year before to 10 years after they established their first business using different subsamples of our data. First, we exclude those who had an unincorporated business before becoming incorporated. Second, we show the gains separately for those with and without entrepreneurial parents. Third, we separate entrepreneurs by whether they still are or are not the main owners of the business five years afters the business was established. Finally, we show how the gains differ by years and by how we identify incorporated entrepreneurs from the data. Importantly, the last two rows in the table highlight that when using the same time period (2006–2014), our findings on the gains from entrepreneurship do not differ depending on whether we define the ownership status based on Tax Administration data or the Statistics Finland firm ownership database.

Figure B4: Disposable income trajectories using a balanced panel of individuals

Panel A: Baseline

Panel B: Balanced from t–1 to t+10

Panel C: Fully balanced panel

Years since transition into entrepreneurship or pseudo–start

Notes: The figure presents the log disposable income trajectories of incorporated business owners (squares) and wage earners (circles) relative to the year $t-1$ (denoted by zero in the figure) using three samples, estimated using equation (1). Panel A shows our baseline unbalanced panel results. Panel B includes the panel data results for individuals we observed from $t-1$ to $t+10$. Panel C shows the panel data results for individuals observe from $t-5$ to $t+10$. The control variables include all interactions of age, sex and education (primary education, secondary degree or tertiary degree) and the interactions using age squared and age cubed, and individual and parental income ranks. Overall, the figure shows that the gains from entrepreneurship are larger when using balanced panel data instead of unbalanced panel as in our baseline analysis.

Figure B5: Gains in disposable income by industry of the newly established firm

Notes: The figure shows the individual-level gains in log disposable income by the industries of newly established incorporated firms. The gains are measured as the difference in annual income 10 years after and one year before the firms are established. The gains are presented relative to the industry with the lowest gains (manufacturing of chemicals and chemical products) with 95% confidence intervals. Raw data (squares) corresponds to a model without controls. In the model with controls (diamonds), we account for all interactions of age, sex and education (primary education, secondary degree or tertiary degree), these interactions using age squared and age cubed, and individual $(t-1)$ and parental income ranks. We use the TOL 2008 classification of Statistics Finland, which is based on the EU's classification of economic activities (NACE), to classify the industries.

C   Taxation of incorporated and unincorporated firms

Sole proprietors and partnerships are pass-through entities, meaning that their profits are taxed only at the owner level as personal income. In contrast, privately held corporations are separately tax-liable, meaning that their profits are taxed at the firm level at the corporate tax rate. Owners of privately held corporations pay an additional tax on income withdrawn from the firm.

Finland applies a dual income tax system where earned income (wages, pension income etc.) and capital income (interest income, rental income, dividends, capital gains etc.) are taxed with separate tax schedules. The earned income tax rate schedule is more progressive, with a higher top tax rate of approximately 55%, whereas the tax rate for capital income is 30% for income below 30,000 euros and 34% for income above that threshold (in 2023).

Within the dual income tax system, the declared profits of unincorporated firms are divided into earned income and capital income components based on the net assets of the firm (assets minus liabilities), such that the amount corresponding to 20% of the net assets is taxed as capital income and any remaining profit as owners' earned income.[25]

The tax schedule for incorporated firms is more complex. Privately held corporations pay a 20% tax on profits, and the owners pay earned income tax on any wage income withdrawn from the firm (wages are deductible from firm profits). In addition, corporations can distribute dividends to their owners, which are in general taxed as the owners' personal capital income. However, the dividend income tax schedule for privately held corporations is more complicated, including one further tax rate kink determined by firm-level net assets (8% of net assets) and another kink based on the euro amount of the dividends withdrawn from the firm (150,000 euros). The tax rate increases for dividend income above these thresholds, so as to suppress the incentives to minimize personal income taxes by shifting income from the earned income tax base to the more leniently taxed capital income tax base.

In more detail, the tax rate for dividend income that falls below the amount corresponding to 8% of a firm's net assets is taxed at a flat effective tax rate of 26%, including both owner-level dividend taxes and corporate taxes. This dividend income is 75% tax-free, and 25% is taxed as personal capital income. Combined with the corporate tax of 20%, this yields an effective tax rate of 26% (0.20+(0.80*0.25*0.30)=0.26). The rate increases to 26.8% if the annual personal capital income of the owner exceeds 30,000 euros. The tax rate increases to 40.4% (43.1% if capital income above 30,000 euros) for dividends below the net assets threshold that exceed 150,000 euros. Dividend income that exceeds the 8% net assets threshold is partly tax-free (15%) and partly taxed as

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[25]The owners can also choose a smaller capital income component of either 10% or 0%. These choices can be preferable for unincorporated firms with small profits in which case the earned income tax rate of the owner(s) can be below the personal capital income tax rate (30% or 34%).

earned income (85%) according to the progressive wage tax schedule excluding social security contributions. The exact tax rates and thresholds have varied over time in the time period we study, but the baseline system has remained the same.[26]

D   Definitions

In this section, we present the definitions of the samples and the key variables we use in our analysis.

Estimation Sample: We restrict our baseline sample to individuals who are 25–64 years old when establishing their business and to individuals with positive annual wage income and/or entrepreneurial income. We also restrict our main sample to those individuals for whom we observe child-parent links. This last restriction eliminates all individuals born before 1953. We analyze firm starts and pseudo-starts (see wage earners below) that took place in 1998–2014.

Incorporated entrepreneurs, IE: Main owners of newly established privately held corporations. An individual is classified as a new incorporated entrepreneur in the year when his/her firm shows positive sales in the tax record data from the Finnish Tax Administration, and if the individual had no prior ownership in other privately held corporations. Data on full ownership information from Statistics Finland starts from 2006 (Finnish Longitudinal Owner-Employer-Employee Data FLOWN). For the period 1997–2005, we rely on data from the Finnish Tax Administration that cover owners who received dividend income from their firm.

Unincorporated entrepreneurs, UIE: Sole proprietors or main owners of newly established partnerships. An individual is classified as an new unincorporated entrepreneur in the year when the firm shows positive sales and the owner obtains more than 50% of his/her market income as business income, and if the individual had not been a sole proprietor before and had no prior ownership in other partnerships. The ownership data start from the year 1997 and are from the Finnish Tax Administration.

Wage earners, WE: We label as wage earners individuals who are 25–64 years old and have positive annual wage income and who have no ownership of any firm (incorporated or unincorporated) over the whole time period we observe in the data. To these individuals we assign a pseudo-start year ($t = 0$) that is drawn randomly from a uniform distribution. These wage earners do not actually start a business that year, but this approach enables

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[26]See Harju et al. (2022) for details on the recent reforms and Harju and Matikka (2016) for more details on the dividend taxation of privately held corporations.

us to benchmark the income development of new business owners against the income growth of wage earners over time.

Disposable income: Sum of earned income, entrepreneurial income, capital income and transfers and benefits received after taxes and other levies.

Market income: Sum of earned income, entrepreneurial income and capital income before taxes and other levies.

Retained earnings: We follow a similar approach as in Alstadsæter et al. (2023) and allocate earnings retained in the firm instead of distributed as dividends to each owner of an incorporated firm based on their ownership share of the firm. We include this income on top of the market income observed in the administrative data to study the significance of retained earnings in income development over time.

Income rank: Individual's position in the income distribution in a given year for a given income concept. Depending on the scope of the analysis, we use either percentile (1–100), decile (1–10) or quintile (1–5) ranks.

Parental income: Average annual household market income of parents when they were 45–50 years old. Parental income rank refers to household's position in the parental household distribution. We cover parents who are 45–50 years old after 1987. As a sensitivity check, for a subset of parents who are 45–50 years old after 1995, we can define parental ranks using disposable income and capital income.

Parental entrepreneurship status: Parents are classified as entrepreneurs if at least one of the parents is labeled as a business owner for at least 5 years according to the socioeconomic status defined by Statistics Finland. This approach enables us to use a similar definition for parental entrepreneurship over time using our full data starting from 1987.

Education: The educational level and field of the highest qualification/degree. Education classifications correspond to the ISCED 2011 classification.

Firm entry: First year of a business is defined as the first year the firm is both registered at the Finnish Patent and Registration Office and presents positive sales in the tax return data.

Firm ownership: For the owners of privately held corporations, we use two separate data sets to define firm ownership: 1) the main owner information from the Tax Administration for those owners who received dividend income from their firm, available for

1997–2016, and 2) the full ownership database from Statistics Finland, which is based on information from the Finnish Patent and Registration Office, available for 2006–2019. We use a data set including all sole proprietors and partnership owners from the Tax Administration available for 1997–2016.

Main Ownership Status: We define the main owner of an incorporated business as the owner who owns the largest share of the firm.

Bankruptcy: A firm is defined as bankrupt if bankruptcy is declared by the district court, following the bankruptcy regulations in Finland.

Initial equity: Invested equity of the firm in the first year after it was registered at the Finnish Patent and Registration Office.

Sales: Annual sales income from products and services after taxes.

Number of employees: Full-time equivalent employees in the firm during a year.

Staff costs: The annual sum of wages, salaries and personnel expenses determined on the basis of wages or salaries, such as pension contributions and social security contributions, but excluding income taxes.

Value added: Annual value of sales minus variable costs. Variable costs include intermediate inputs used in production, such as materials and services.

Productivity: Value added divided by the number of employees.

R&D investments: Annual investments in research and development. In our analysis, we use an indicator variable of whether or not a firm has positive R&D investments.

E Overview of data used in previous related studies

Previous studies on the link between entrepreneurship and personal income have relied on surveys using either cross-sectional data or panels with relatively few individuals followed over time. Hamilton (2000), who documents that self-employment is associated with lower initial earnings and lower earnings growth compared to paid employment, relies on a sample from the Survey of Income and Program Participation that covers 8,771 males observed in 1983–1986 in the US. Both incorporated and unincorporated business owners are labeled as self-employed if they report self-employment as the main "non-casual" labor market activity for at least three months in a given 12-month spell. Moskowitz and Vissing-Jørgensen (2002) show that, in the US, ownership in privately held businesses is highly concentrated, yet the returns to this poorly diversified investment are at par with stock market returns. Their main source of data is the 1989, 1992, 1995 and 1998 Survey of Consumer Finances, which covers roughly 4,000 households per survey year.

Levine and Rubinstein (2017) make a seminal contribution by disaggregating the self-employed into incorporated and unincorporated. Their first data source is the Current Population Survey, which they use as cross-sections and as a two-year panel. In the pooled cross-sections, there are approximately 40,000 incorporated and 75,000 unincorporated business owners. Their second source is the National Longitudinal Survey NLSY79, which enables the authors to follow roughly 2,000 incorporated and 9,000 unincorporated business owners over 1982–2012.

We depart from these previous studies by having highly detailed administrative population-wide panel data on individuals and firms, including the exact establishment dates and ownership structures of new businesses. These data allow us to follow the same individuals over time before and after they become business owners for the first time in this literature. Moreover, we have access to detailed information about entrepreneurs, their parents and their newly established businesses. The study closest to ours is that by Berglann et al. (2011), who follow a sample of 12,000 new entrepreneurs – both incorporated and unincorporated, who start their business between October 2000 and October 2001 in Norway – five years before and five years after they become entrepreneurs.

Halvarsson et al. (2018) and Lindquist and Vladasel (2022) have similar Swedish administrative data but a different scope. Halvarsson et al. (2018) examine how self-employment shapes the income distribution using two cross-sections of data (2005 and 2013). Lindquist and Vladasel (2022) construct lifetime earnings for entrepreneurial sons and their fathers to document that, driven by selection into entrepreneurship, incorporated entrepreneurs are more upwardly mobile than wage earners.

Labore eli Työn ja talouden tutkimus
LABORE (ent. Palkansaajien tutkimuslaitos) on vuonna 1971 perustettu itsenäinen tutkimuslaitos, jossa keskitytään yhteiskunnallisesti merkittävään ja tieteen kansainväliset laatukriteerit täyttävään soveltavaan taloustieteelliseen tutkimukseen. Tutkimuksen painopistealueisiin kuuluvat työn taloustiede, julkistaloustiede sekä makrotaloustiede ja toimialan taloustiede. Lisäksi teemme suhdanne-ennusteita ja toimialakatsauksia sekä julkaisemme Talous & Yhteiskunta -lehteä ja podcasteja.

Vahvuuksiamme ovat tutkijoiden korkea tieteellinen osaaminen sekä tiivis yhteistyö kotimaisten ja ulkomaisten yliopistojen ja tutkimuslaitosten kanssa. Tutkijoillamme on tärkeä asiantuntijarooli eri yhteyksissä ja he osallistuvat aktiivisesti yhteiskunnalliseen keskusteluun.