The Talent Gap in Family Firms*

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Abstract

We investigate whether family firms attract talented employees using comprehensive Danish administrative data including IQ scores from mandatory military draft sessions and high school grades. We document a substantial talent gap: family firm employees have lower IQ scores and lower academic achievement. This gap is most pronounced among senior managers and high-skill workers. Using event studies around CEO successions and instrumental variables, we establish that family control causally lowers average employee talent in the firm by reducing its ability to attract high-ability workers. A survey experiment further shows that high-achieving students report significantly lower interest in working for family firms, particularly when family control is salient. We identify two mechanisms driving this gap. First, nepotism reduces the available promotion opportunities for non-family members, causing high-ability individuals to avoid family firms. Second, family firms pay lower wages for equivalent talent, with compensation penalties particularly severe for high-ability workers. Our findings demonstrate that family governance imposes significant costs on firms' ability to compete for human capital.

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I Introduction

A large literature finds significant differences in firm performance, productivity, and growth between family and non-family firms.[1] Much of this work has focused on the CEO as an explanation for these differences, showing, for instance, the costs of nepotistic CEO appointments. Yet firm performance also depends on the talent of the broader workforce, not just its leadership, a dimension that has received far less attention.

Anecdotally, family firms face competing forces in their ability to attract talent. On the one hand, family involvement in hiring, promotion, and succession may lead to nepotism and limit career advancement for non-family employees, potentially discouraging high-ability individuals. Family firms may also offer lower monetary compensation, particularly at senior levels. On the other hand, family control is often associated with long-term orientation, employment stability, and greater autonomy, which could appeal to skilled workers seeking non-pecuniary benefits. Whether, on balance, family firms succeed or fail in attracting talent is therefore an open empirical question.

In this paper, we provide large-scale evidence on employee talent in family firms using comprehensive Danish administrative data that allow us to directly observe workers' cognitive ability and educational outcomes. Our core measure of talent is IQ, drawn from mandatory military draft examinations covering the universe of Danish men. We complement this with administrative records on high school completion and grades. While we present evidence using both measures, we use IQ as our primary measure of ability since high school performance is likely to be affected by other factors, such as socio-economic status, which in turn can affect labor market outcomes.

We link these individual-level data to the universe of Danish firms and workers through matched employer–employee registers. We also use register-based family relations to map connections among executives and classify firms as family or non-family.

[1] See, e.g., Anderson and Reeb (2003), Villalonga and Amit (2006), Perez-Gonzales (2006), Bennedsen et al. (2007), and Sraer and Thesmar (2007).

Overall, our analysis covers the universe of Danish firms and their employees, providing an unprecedented view of talent allocation across family and non-family enterprises.

Our central finding is a substantial and economically meaningful talent gap. Employees in family firms have significantly lower cognitive ability and lower educational attainment than employees in otherwise comparable non-family firms. On average, workers in family firms score approximately 2.15 points lower on IQ tests (about five percent of the population mean) and are 17 percentage points less likely to have completed high school. These differences persist after controlling for a rich set of worker and firm characteristics. The talent gap is not uniform: it is largest at the top of the hierarchy and in high-skill occupations, suggesting that family firms may distort talent allocation precisely where it matters the most for firm performance.

To address potential concerns that unobserved firm characteristics might drive both family control and the talent composition of employees, we exploit within-firm variation around CEO successions using event study methodology. While ideally we would have considered transitions from family to non-family firm status (and vice versa), there are very few such transitions in the data. Instead, we focus on less drastic changes in control, specifically, CEO transitions. We classify a succession as a family transition if the outgoing and incoming CEOs are related by blood or marriage, and as a non-family transition otherwise. Non-family successions thus represent a shift toward a control structure with reduced family involvement. We find that family successions lead to a decline in average employee talent relative to unrelated successions. To further strengthen identification, we implement an instrumental variables strategy based on the gender composition of the departing CEO's children. The IV estimates indicate that family control causally affects the composition of firms' workforce, leading to lower average employee talent, with effects substantially larger than those observed in simple cross-sectional comparisons.

To further rule out explanations based on unobserved firm characteristics or endogenous selection on firm fundamentals, we complement the administrative evidence with a survey experiment that provides clean exogenous variation in family firm status. In

this setting, prospective employees evaluate synthetic job postings in which firm status (family owned, family owned and controlled, or non-family) is randomly assigned, holding constant wages, firm size, age, and non-wage amenities. Because ownership is experimentally varied, any differences in job attractiveness can be attributed directly to family involvement rather than correlated firm attributes. The survey results mirror the patterns observed in the administrative data: high-achieving respondents are significantly less likely to apply to firms with active family control than to otherwise identical non-family firms. This aversion is absent among their lower-achieving counterparts. This experimental evidence reinforces the causal interpretation of our main results by showing that talented workers actively avoid family owned and controlled firms, even when compensation and job characteristics are held fixed.

We then investigate the mechanisms underlying this talent gap. We identify two primary mechanisms. First, nepotism in family firms could restrict promotion opportunities for non-family employees. This would disproportionately discourage high-ability individuals from joining these firms, as they are precisely those most likely to be promoted and therefore most affected by nepotistic practices. We study this possibility. Using machine learning techniques to predict organizational rank based on observable qualifications, we show that family members hold positions above what they would attain in non-family firms (indicating the presence of nepotism). While prior literature has documented nepotism at the CEO level, our findings indicate that it extends throughout the organization. In turn, non-family employees are systematically relegated to lower positions than their qualifications would predict, suggesting a channel through which talented workers may be deterred from joining family firms. In a separate empirical test, we also find that, consistent with the mechanism, high-IQ individuals are significantly less likely to work in family firms with stronger dynastic intent.

Second, we examine compensation differences. While prior literature documents that family firms pay lower wages on average, given our finding that family firms employ less talented workers, this pattern could simply reflect differences in employee composition. To disentangle firm compensation policies from workforce composition, we use the ad-

ditive two-way firm-worker effects methodology introduced by Abowd et al. (1999) to decompose wages into firm and worker fixed effects. This methodology has the advantage of controlling for all time-invariant employee characteristics (including IQ), thereby isolating the firm effect on compensation. Using this approach, we confirm that family firms pay less than non-family firms.

This methodology also provides a robustness test for the results presented in this paper. Because it does not require a direct measure of IQ (which is absorbed into the worker fixed effect), we can extend the analysis to the full population of workers, including women, who are excluded from the baseline sample since IQ data are available only for men. The worker fixed effect can be interpreted as a measure of the market's assessment of the value of the employee. By examining these fixed effects directly, we confirm that family firms attract lower-talent individuals, consistent with the talent gap documented throughout the paper.

Our findings contribute to several strands of the literature. First, we provide the first large-scale evidence on talent allocation across family and non-family firms using objective measures of cognitive ability. While prior research has examined differences in managerial quality primarily at the CEO level (Bennedsen et al. (2007)), we show that talent differences extend throughout the entire organization.

Second, a large literature documents how family and non-family firms differ in their corporate policies (see Anderson and Reeb (2003); Burkart et al. (2003); Bertrand and Schoar (2006); Bennedsen et al. (2007)). We advance this literature by identifying specific mechanisms—nepotism and compensation practices—through which family governance affects firms' human capital. These results have important implications for family business management and policy, as they suggest that family governance may impose significant costs on firms' ability to compete for talented employees. Understanding these trade-offs is crucial for family firms seeking to balance the preservation of family control with effective talent management.

Our paper also relates to a smaller literature examining the trade-off between wages

and job security in family firms (Ellul et al. (2018); Sraer and Thesmar (2007); Bach and Serrano-Velarde (2015)). While these studies show that family firms provide greater job security but pay lower wages, we extend this work by demonstrating that family firms pay less for a given level of talent, rather than merely employing lower-paid workers on average.

Third, our results inform the broader literature on talent allocation and labor mobility. A large body of work studies how talent is allocated across sectors and firms (Murphy et al. (1991)) and the factors shaping high-ability individuals' employment choices. We contribute to this literature by identifying ownership structure as an important, yet understudied, determinant of talent allocation. By documenting systematic differences in both the incentives family firms offer to attract talent (compensation) and the constraints they impose on career advancement (nepotism), we provide new insights into how firm governance affects the distribution of human capital across organizations.

The remainder of the paper proceeds as follows. Section II describes the data sources and presents summary statistics. Section III documents the talent gap across the firm hierarchy and occupational skill levels. Section IV establishes that family control drives the talent gap using multivariate regressions, event studies, instrumental variables, and a survey experiment. Section V investigates the mechanisms driving the talent gap, focusing on nepotism and compensation practices. Section VI concludes.

II Data and Summary Statistics

This section describes the data sources that underpin our empirical analysis and explains how we construct the estimation samples. We draw on several linked administrative registers maintained by Statistics Denmark. Our starting point is a matched employer–employee dataset that covers the universe of Danish employers; we merge IQ test scores from the compulsory military draft and upper-secondary grades from educational registers. To identify family firms, we use board-member and CEO records and establish family links among executives using family-tree data, augmenting the combined

dataset with additional worker and firm characteristics from other registers.

II.1 Matched employer-employee dataset

We use the matched employer-employee datasets from Statistics Denmark (IDA). Since 2008, the IDA register reports all jobs held by an individual during a calendar year. We keep only the main job when multiple positions are held concurrently. For each employee, IDA records annual earnings, the employer's tax identifier, and the worker's position in the corporate hierarchy, allowing us to distinguish managers, white-collar, and blue-collar workers. We merge IDA with demographic registers to obtain each worker's gender and date of birth, and with firm registers to classify the employer's industry and location.

II.2 IQ data

IQ information is obtained from the compulsory military draft sessions of 18-year-old men in Denmark. In addition to undergoing a physical examination, individuals complete an intelligence test consisting of 70 multiple-choice questions.[2] Prior to 2007, the military reported only coarse performance categories, typically three to four bins indicating thresholds for eligibility for military service. Unfortunately, the underlying raw scores from this earlier period are no longer available. Beginning in 2007, however, we observe the full distribution of raw test scores for the entire population of Danish men subject to the draft. We use these raw scores as our primary measure of individual talent.

A natural concern is the potential for manipulation by individuals seeking to avoid military service. In practice, this concern is limited. The test no longer plays a decisive role in enlistment decisions: currently, 99% of those entering military service are volunteers, substantially reducing incentives to deliberately underperform. Moreover, there

[2]The test was developed five decades ago by the military psychologist Børge Prinz.

may be a perceived cost to scoring very low, as some individuals might worry that results could be used in the future, despite Danish privacy laws explicitly prohibiting such use. Finally, the military excludes from the dataset any tests exhibiting anomalous answer patterns.

We validate our measure of talent in Internet Appendix Figure 1. We sort individuals into IQ vintiles and plot the average hierarchy position within the firm and the average wage, both measured at age 40. The hierarchy position ranges from 1 (bottom) to 5 (top). Both figures show a clear positive association between IQ and career outcomes: higher-IQ individuals attain higher positions within firms and earn higher wages.

A limitation of this measure is that it is available only for men who turned 18 in 2007 or later. To address this constraint, we construct an alternative measure of talent, described below.

II.3 High school grade data

As a complementary measure of talent, we use average high school grades. These data are drawn from administrative registers maintained by Statistics Denmark. Specifically, we rely on the annual UDG datasets, which contain comprehensive information on degrees obtained by the entire Danish population, including completion dates, grades, and related educational characteristics.

In Denmark, education is compulsory through the 9th grade (ISCED level). After completing compulsory schooling, students may enroll in vocational education, attend a general academic high school, or exit the formal education system. For those who continue, we observe final-year grades for both vocational and general high school programs across all courses.

While 9th-grade results are available for the full population, these records exist only from 2008 onward. In contrast, the high school grade data extend back to the 1970s. To maximize coverage across cohorts, we also construct an indicator equal to one if an

individual obtained any educational qualification beyond the 9th grade, allowing us to include the entire population in the analysis.

II.4 Family firm data

We classify a firm as a family firm if at least three individuals among its board members and CEOs (hereafter, "executives") are related by blood or marriage. Information on board membership and CEOs is obtained from Erhvervs- og Selskabsstyrelsen, the register maintained by the Danish Commerce and Companies Agency. This dataset provides the Danish personal identification number (CPR) of each executive, along with the exact dates during which they hold their positions.

To establish family relationships among executives, we use the annual BEF files from Statistics Denmark. These files record, for each Danish resident, the CPR numbers of both parents as well as that of the spouse or registered partner. Using these identifiers, we construct an extensive network of kinship links, including siblings, siblings-in-law, aunts and uncles, and grandparents.[3]

II.5 Firm financial information

Firm-level financial data are obtained from the Statistical Business Register (SBR) maintained by Statistics Denmark. The SBR contains comprehensive accounting information from firms' financial statements, including revenue, net income, total assets, and other key balance sheet and income statement items.

II.6 Sample selection

A large literature examines how to define a family firm. Some studies rely on ownership-based criteria, while others adopt control-based definitions. We follow a

[3]For example, we classify individuals as siblings if they share at least one parent, and as siblings-in-law if they are the siblings of a spouse or registered partner.

control-based approach and classify a firm as a family firm if at least three executives are related by blood or marriage. We prefer this definition because board membership data in Denmark are substantially more reliable and comprehensive than ownership records.

Under this definition, our main sample includes firms with between three and twenty executives. Firms with more than twenty executives are excluded for computational reasons, although this restriction has negligible quantitative impact given their small number. We also exclude firms with two or fewer executives, as such firms would be mechanically classified as non-family firms. This restriction ensures a more balanced comparison between family and non-family firms. Moreover, requiring at least three executives excludes very small firms and shell corporations with limited or no substantive economic activity, which are often established for tax purposes.

Our baseline analysis focuses on employees with valid IQ scores, yielding 46,219 firm-year observations and 2,500,935 employee-year observations. Since IQ data are available only for men and only for cohorts reaching age 18 in 2007 or later, we complement this analysis with specifications using high school grades as an alternative measure of talent. This expanded sample includes 67,750 firm-year observations and 14,802,027 employee-year observations.

II.7 Summary Statistics

Tables 1 Panel A report firm-year summary statistics for the main sample. Columns (1) and (2) present statistics for the full sample of firms, columns (3) and (4) for family firms, columns (5) and (6) for non-family firms, and column (7) reports t-tests for differences in means across the two groups.

Approximately 20% of firms in our sample are classified as family firms. The average firm has total assets of $12.51 million and sales of $10.45 million. Family firms are substantially smaller: average assets (sales) equal $4.49 ($4.73) million, compared to $14.59 ($11.91) million for non-family firms. Other size measures, such as the number of employees, yield similar conclusions. Overall, Table 1 Panel A indicates that our sample

primarily consists of small and medium-sized firms. Given that this organizational form is the most prevalent worldwide, we believe our findings are likely to extend beyond the Danish context.

Appendix Table A1 presents firm-level statistics for the broader sample. The patterns are similar: family firms are smaller in terms of assets, sales, and employment, and they represent approximately 20% of all firms.

Tables 1 Panel B report employee-level summary statistics. Columns (1) and (2) show results for all employees, columns (3) and (4) for employees in family firms, columns (5) and (6) for employees in non-family firms, and column (7) presents t-tests for differences in means.

Employees in family firms are, on average, 25.79 years old, compared to 26.02 years in non-family firms, a small difference. The relatively low average age in the main sample reflects the availability of IQ data only for men who were 18 years old in 2007 or later.

Employees in family firms score lower on the IQ test (41.62) than those in non-family firms (43.77). Educational attainment exhibits a similar pattern: 26% of employees in family firms have completed high school, compared to 43% in non-family firms. Among high school graduates, the average percentile grade is 41.86 in family firms and 45.52 in non-family firms. While these are univariate comparisons, we demonstrate below that the gaps in IQ scores and educational attainment persist after controlling for a rich set of individual and firm characteristics.

Compensation also differs across firm types. Average annual wages equal \$36.54k in family firms and \$38.88k in non-family firms, implying a gap of \$2.34k. Lower wages in family firms are consistent with prior evidence (Sraer and Thesmar, 2007). As with talent measures, we show below that the wage differential remains statistically and economically significant after accounting for additional controls.

Appendix Table A1 reports employee-level statistics for the broader sample. The results reveal similarly small age differences but persistent gaps in high school completion

and grades, with employees in family firms lagging behind on both dimensions.

III The talent gap by hierarchy and occupation

The previous section shows that employees in family firms have lower IQ scores than employees in non-family firms. In Tables 2 and 3, we examine whether these differences persist across the firm hierarchy and across occupational skill levels.

Understanding the distribution of talent across the hierarchy is important because employees at different organizational levels exert different degrees of influence over firm decisions. A talent gap concentrated at the top of the hierarchy would be consistent with differences in the quality of strategic decision-making between family and non-family firms. In contrast, a gap confined to lower-level employees would have more limited implications for firm outcomes.

Table 2 classifies employees by hierarchical position using the IDA database, distinguishing between top management, middle management, and non-managerial employees. Three key insights emerge from this analysis. First, average talent increases monotonically with hierarchical rank: for the sample as a whole, average IQ at the bottom of the hierarchy is 41.93, rising to 45.87 in the middle and to 48.95 at the top. The relationship between IQ and hierarchical level provides reassurance that IQ is a meaningful proxy for talent and that firms tend to promote higher-ability individuals to senior positions.

Second, at every level of the hierarchy, employees in family firms have lower IQ scores than their counterparts in non-family firms. Among top managers, average IQ is 47.10 in family firms and 49.05 in non-family firms. For the middle of the hierarchy, employees in family firms score 44.36, compared to 45.98 in non-family firms. Finally, at the bottom of the hierarchy, family firm employees' average IQ is 40.82, compared to 42.12 for non-family firm employees.

Third, the talent gap is largest at the top of the organization and narrows toward the bottom. The gap is 1.96 points at the top of the hierarchy and 1.30 at the bottom.

This pattern suggests that differences in talent are most pronounced among key decision-makers, where they are likely to have the greatest impact on firm outcomes.

Appendix Table A2 reports analogous results using a broader sample and alternative measures of talent based on high school grades and high school completion. Both measures increase with hierarchical rank, and employees in family firms score lower than employees in non-family firms at every level. As in the baseline results, the gap is largest at the top of the hierarchy.

Hierarchy, however, is not the only dimension along which talent may matter. In some occupations, employee human capital is a first-order input to production even when workers do not occupy senior positions in the organizational hierarchy (e.g., software engineers or lawyers). In these cases, the talent gap may have significant implications for firm performance, even if it is not concentrated at the top of the hierarchy. To study the differences in talent across occupations between family and non-family firms, we classify occupations based on the average high school grade of workers in the population, distinguishing between high-, medium-, and low-skill occupations.

Table 3 reports results. By construction, average IQ is highest in high-skill occupations and declines monotonically with skill level. Within each skill category, employees in family firms have lower IQ scores than employees in non-family firms, with the largest differences observed in high-skill occupations. Appendix Table A3 shows that these patterns are robust to using alternative talent measures and the broader sample.

Overall, these results show that lower employee talent in family firms is a pervasive feature of the workforce and not confined to a particular segment of the organization. The gap is present across hierarchical levels and occupational skill groups, and is largest in positions and occupations where talent is likely to be most consequential for firm outcomes. At the same time, these patterns are descriptive. They do not, by themselves, establish whether the observed differences reflect causal effects of family ownership and control, or instead arise from other firm characteristics correlated with family firm status. The next section addresses this question.

IV Is the talent gap attributable to family firm status?

We assess whether the documented talent gap reflects family firm status itself by implementing a series of complementary empirical tests that progressively address concerns about unobserved heterogeneity. We begin by estimating the effect of family firm status on the average IQ of the firm using a panel regression at the firm-year level, with year and industry fixed effects and size controls. These specifications extend the univariate comparisons presented earlier by conditioning on a rich set of observable firm characteristics. The results show that family firms have significantly lower average employee IQ, even after controlling for these observables. Yet, while informative, these regressions remain subject to concerns about omitted variables.

To further address these concerns, we next exploit within-firm variation using an event-study framework. Rather than comparing transitions from family to non-family status or vice versa, which are rare in the data, we focus on changes in the degree of family involvement within the same firm. Specifically, we consider CEO successions from a family member to a non-family member as a reduction in family involvement and examine the associated changes in average employee IQ. By focusing on within-firm changes, this design controls for time-invariant firm characteristics, though it speaks to variation in the intensity of family involvement rather than discrete changes in family firm status. We further address the possibility that leadership transitions within family firms are themselves endogenous to the pool of talent the firm can attract. We implement an instrumental variables strategy that isolates plausibly exogenous variation in family succession. This approach further disentangles the effects of family involvement from endogenous selection into family leadership.

Finally, we present evidence from a survey experiment in which the family status of a hypothetical firm is randomly assigned in job descriptions shown to prospective employees. In this setting, family firm status is exogenous by construction, varying the discrete classification of the firm as family or non-family rather than the degree of

family involvement. The results show that high-achieving prospective employees exhibit a preference for non-family firms, providing direct evidence that family firm status itself affects worker sorting, independent of firm fundamentals or within-firm changes in family involvement.

Taken together, these tests provide complementary evidence on the role of family firm status in shaping employee selection. The combined results suggest that the talent gap between family and non-family firms reflects family firm status itself, rather than unobserved firm characteristics.

IV.1 Employee and firm characteristics and selection into family firms

Tables 2 and 3 present only univariate comparisons, leaving open the possibility that confounding factors account for part or all of the observed gap. For example, Table 1 shows that family and non-family firms differ in size. Moreover, family firms tend to concentrate in certain industries (Villalonga and Amit, 2010), which may have a lower demand for talented employees. To address these concerns, we next examine the relationship between talent and family firm employment while conditioning on a rich set of firm-level characteristics.

Table 4 estimates a panel regression at firm-year level. Mirroring the previous results without controls, column (1) shows that family firms have lower IQ employees. Columns (2)-(3) show that the magnitude and significance of the coefficient on family firm status remains relatively constant as we add year fixed effects and add size controls. In column (4), we add industry fixed effects, and the magnitude of the coefficient on family firm status is cut in half. However, it still remains statistically significant. The fact that the introduction of industry fixed effects reduces the coefficient on family firm status suggests that family firms are more likely found in industries with lower need for talented employees.

To further explore the role of firm size in a less parametric way, columns (5)-(7) show

regression estimates for samples split by terciles of size. The results show that the family firm gap is present across all size categories.

While these specifications condition on a rich set of observable firm characteristics, they may not fully account for all sources of unobserved heterogeneity correlated with family firm status. In particular, persistent firm characteristics that are difficult to observe, such as location or long-run organizational features, may jointly shape family control and the composition of the workforce.

IV.2 Within-Firm Changes in Family Control

To address concerns about unobserved firm characteristics, one natural approach is to exploit within-firm variation in employee talent around transitions between family and non-family firms. The key advantage of such a design is that it differences out time-invariant firm characteristics that may be correlated with both family control and employee talent.

In practice, however, transitions from family to non-family firms (or vice versa) are extremely rare in the data. We therefore focus on more frequent and incremental changes in family control within firms, specifically CEO successions. We distinguish between successions that preserve family involvement and successions that reduce it. This approach captures variation in the degree of family control within firms.

IV.2.1 Event Study Evidence

We examine how employee talent evolves around CEO successions using an event-study framework. We classify a succession as a *family succession* if the incoming and outgoing CEOs are related, and as a *non-family succession* if they are not.[4] A non-family succession therefore represents a reduction in the degree of family involvement in

[4]In the data, most outgoing CEOs are members of the controlling family, hence when the incoming CEO is not related to the outgoing CEO, it represents a reduction in family involvement.

firm control. We compare changes in employee talent before and after the succession in firms that experience a family succession to those in firms that experience a non-family succession.

To implement this design, we estimate the following equation:

$$\Delta\text{employee talent}_{jt} = \alpha_t + \gamma_k + X'_{jt}\beta + \delta\,(\text{Family succession}) + \varepsilon_{jt}, \tag{1}$$

where the dependent variable is the difference in average employee IQ between the five years after and the five years before the succession. We include succession-year fixed effects, industry fixed effects, and controls for firm size (assets).

Table 5 reports the results. We consider two versions of the dependent variable: average talent among new hires and average talent among all employees. Focusing on new hires captures active managerial hiring decisions, while the measure based on all employees reflects the net effect of hiring, separations, and retirements. Column (1) shows that the average IQ of new hires declines by approximately one point in the five years following a family succession relative to a non-family succession, corresponding to a 2.3% decrease relative to the population mean of 43. Column (2) shows a 0.5-point decline in the average IQ of all employees.

In Appendix Table A4, we replicate the analysis using high school grades as an alternative measure of talent. The estimates again indicate declines in employee talent: 2.7% for new hires and 0.4% for all employees, although these effects are not statistically significant. Overall, the event-study evidence is consistent with the earlier findings that increased family involvement is associated with a deterioration in employee talent.

While the event-study design addresses concerns related to time-invariant unobserved heterogeneity, it does not fully resolve potential endogeneity of the succession decision itself. In particular, families may choose a non-family successor in response to changes in the firm's ability to attract talent, which could bias the estimates.

IV.2.2 Instrumental Variables Evidence

To address the potential endogeneity of CEO succession choices, we implement an instrumental variables (IV) strategy that exploits plausibly exogenous variation in family succession. Following Bennedsen et al. (2007), we use the gender of the departing CEO's firstborn child and the number of sons of the departing CEO as instruments for a family succession. These variables strongly predict the likelihood of a family succession but are unlikely to be directly related to employee talent, satisfying the exclusion restriction.

We estimate the model using two-stage least squares. Panel B of Table 6 shows that both instruments are strong predictors of family succession. Panel A reports the second-stage results. Columns (1) and (2) show that, for new hires, family successions are associated with a decline of 4–5 IQ points, corresponding to a 9–11% reduction relative to the mean. When considering all employees, the estimated decline is approximately five IQ points (11%). Three of the four coefficients are statistically significant.

The IV estimates are larger in magnitude than those obtained from the event-study analysis. One possible explanation is selection: firms anticipating difficulties in attracting talent may be more likely to appoint a non-family CEO, which would attenuate the event-study estimates. In this case, the event-study results may understate the true effect of family control on the talent composition of firms' workforce. Appendix Table A5 reports analogous IV results using high school grades as an alternative measure of talent, yielding qualitatively similar, though noisier, estimates.

Taken together, the event-study and IV evidence suggests that increases in family control adversely affect the talent composition of firms. Combined with the earlier multivariate results, these findings support the interpretation that family control plays a causal role in shaping the talent composition of firms.

IV.3 Survey Experiment on Student Job-Seeker Preferences for Family-Firm Status

The analyses above exploit variation in the degree of family involvement within firms, but do not provide exogenous variation in family firm status. To address this limitation, we complement the administrative evidence with a survey experiment in which family firm status is randomized by design. We conducted a survey experiment with undergraduate students at the University of Copenhagen, who evaluated a series of hypothetical firms and reported how likely they would be to apply for a position at each firm. Each respondent was shown multiple firm profiles. The profiles randomized a wide range of firm characteristics, including firm size, firm age, wages, and non-wage job attributes. Crucially for our purposes, the survey also randomized the ownership description of the firm. Below, we provide details.

IV.3.1 Experimental Design

We implemented a survey-based field experiment to quantify job-seeker preferences for different firm ownership structures. To isolate preferences, our survey randomly varied the firm's ownership status, compensation and non-monetary benefits. Job-seekers were told that their ratings would be used by a matching algorithm, following the non-deceptive incentivized rating framework of Kessler et al. (2019). This design encourages truthful revelation: participants maximize the quality of matched job recommendations by rating highly only those postings whose ownership attributes they truly value. To design the specific job postings, we follow the example of Colonnelli et al. (2023).

IV.3.2 Recruitment of Participants

We recruited undergraduate and master's students in finance, accounting and economics at the University of Copenhagen. Potential participants were contacted via their university email; the recruitment message is reproduced in Appendix Figure 2.

IV.3.3 Survey Structure and Rating Protocol

The survey began with an introduction describing its purpose, the incentives for participation and a consent form (Figure 3). The respondents were then instructed to evaluate job postings on a 1 5 Likert scale. We emphasized that all job and firm characteristics would be considered when matching them with real positions. To tailor postings to participants' interests, we first asked for their preferred industry. Each respondent then rated 15 synthetic job postings. After rating the postings, participants answered open-ended questions about their impressions of working at small companies, family firms and fast-growing firms. Finally, the survey collected demographic and socioeconomic data, including gender identity, zip code, prior GPA and expected time to graduation.

IV.3.4 Construction of Synthetic Job Postings

To construct realistic postings, we manually reviewed 200 job ads from Job Index (https://www.jobindex.dk/) and identified three core categories: firm history, job characteristics and compensation. Our synthetic postings always listed four company descriptors at the top: an introductory sentence, the firm's age, its size and its family-firm status. These elements were randomized. The firm's size (small, medium or large) was drawn with equal probability; once assigned, a precise size was sampled uniformly within that category. Ownership structure was conveyed by combining an introductory sentence with a family-ownership intensity level (1–3) and a founding year. Both variables were drawn from discrete distributions (Appendix Table A19), and the resulting values were inserted into pre-defined sentence templates. In the baseline condition, no ownership information was provided. In a second condition, the firm was described as family owned. In a third condition, the firm was described as family owned and actively controlled by the family. To avoid repeat exposure to the same family name and control for idiosyncratic associations, each respondent saw a unique set of templates, and question fixed effects were included in the analysis.

Within the participant's chosen industry, each posting specified a job title drawn from three possibilities (Appendix Table A15). Four sentences describing job responsibilities and four describing required qualifications were sampled at random from job-specific lists (Appendix Tables A16 and A17). Compensation was randomized independently: the monthly wage was uniformly drawn between 390,000 and 590,000 Danish kroner in 10,000-kroner increments. Each of three non-wage amenities—additional holiday leave, a gym membership and a meal allowance—was included with a probability of $\frac{1}{3}$. Examples of the resulting postings appear in Appendix Figure 4, and further details on the distributions are provided in Appendix C.

IV.3.5 Outcome Measures

Our primary outcome, Interest, captures respondents' willingness to receive an offer for a job posting. For each posting, participants answered: "How interested would you be in receiving an offer for this job position?" on a 5-point scale from "Minimally interested" to "Dream job." The question was preceded by the instruction: "Imagine the employer guarantees you a job offer. Base your answer only on the quality of the position." Two supplementary questions enriched the analysis. First, perceived hiring probability was elicited by asking: "How likely do you think it is that the company would offer you this position?" Second, to gauge anticipated job tenure and distinguish between attraction and expected match quality, respondents were asked: "If hired, how long do you anticipate you would stay in this position?" Together, these measures allow us to disentangle the appeal of a job from beliefs about hiring chances and expected tenure.

IV.3.6 Survey Results

The results are reported in Table 7. The regressions include an indicator variable for family-owned firms and another indicator variable for family-owned and controlled firms, with non-family firms serving as the omitted category. The coefficients therefore

capture differences in respondents' reported willingness to receive an offer relative to an otherwise identical non-family firm. All specifications control for the randomized job attributes, include question fixed effects to account for systematic differences across firm profiles, and include individual fixed effects to absorb persistent heterogeneity in respondents' preferences. Standard errors are clustered at the respondent level.

Columns (1)–(3) report results for the full sample and separately for high- and low-achieving students, where achievement is measured by whether GPA is above or below the sample median. In the full sample, there is no statistically significant preference for family firms: the coefficients on both family-owned and family-controlled firms are not statistically significant. However, substantial heterogeneity emerges when the sample is split by academic achievement. High-achieving students report a significantly lower willingness to receive an offer from family firms, with the negative effect being largest and most precisely estimated for family-controlled firms. In contrast, low-achieving students exhibit a higher willingness to receive an offer from family-owned firms.

These patterns suggest that family firms may face a lower-quality pool of applicants, particularly when family control is salient, potentially contributing to the talent gap documented in the administrative data.

However, stated interest in receiving an offer may reflect not only preferences over working environments but also beliefs about the probability of actually receiving an offer. To assess this possibility, columns (4)–(6) restrict the sample to respondents who report a high probability of receiving an offer and re-estimate the same specifications. The results are very similar to those in the unrestricted sample, indicating that the baseline patterns are not driven by differences in perceived hiring probabilities.

Overall, the experimental evidence indicates that family control causally affects the attractiveness of firms to prospective employees, with particularly strong negative effects among high-achieving students. These findings complement the administrative results by showing that differences in applicant composition can arise even when firm characteristics are held constant, and they point to family control as a key mechanism shaping the supply

of talent to family firms.

V Identifying drivers of the talent gap

Why do family firms hire less talented employees? In this section, we test two hypotheses that may explain the documented talent gap. One is based on nepotism (the practice of hiring and promoting family members within the firm), and the other is based on the compensation that family firms offer their more talented employees.

V.1 Nepotism

Controlling families frequently promote their own members to leadership positions, even when more qualified candidates are available (Perez-Gonzales, 2006; Bennedsen et al., 2007). Such nepotism limits promotion opportunities for non-family employees. Thus, nepotism can reduce the attractiveness of working for a family firm, especially for highly talented individuals, as they are the most likely to be promoted.

This mechanism generates two testable implications: first, that family members are promoted beyond what their qualifications would predict, and second, that non-family employees are held back below what their qualifications would predict. To test both implications, we compare the actual positions in the organizational hierarchy of employees in family firms to the counterfactual positions they would hold if they worked instead in the non-family firm sector. To construct these counterfactual positions, we train a random forest model using only data for employees in non-family firms. The dependent variable is the employee's hierarchical position, which takes one of five ordered values (e.g., top management, middle management, etc.), coded so that higher numbers correspond to more senior roles. The independent variables include a range of individual and firm characteristics. The estimated model is then used to predict the position each employee in a family firm would be expected to attain in a non-family firm, conditional on their observed characteristics.

The results are presented in Table 8. The first row examines employees in family firms who are related by blood or marriage to members of the controlling family. Their average actual position is 3.2, compared to a predicted position of 2.7 if employed in a non-family firm, a difference that is highly significant at the 1% level. The effect is slightly more pronounced when restricting to nuclear relatives (parents, children, and siblings), as shown in the second row. These findings are consistent with nepotism: relatives of the controlling family hold higher positions than they would in non-family firms. While prior studies have documented nepotism at the CEO level, this evidence suggests that it extends throughout the organizational hierarchy.

The third row of Table 8 examines non-family employees in family firms. For these employees, the pattern is reversed: their average actual position is 2.1, compared to a predicted position of 2.6 in the non-family sector. In other words, while relatives occupy positions that exceed their counterfactual benchmarks, unrelated employees fall short of theirs. This asymmetry is consistent with nepotistic promotion practices that advantage family members and systematically disadvantage non-family employees, effectively holding them back within the organizational hierarchy.

These patterns may help explain why family firms struggle to attract and retain highly talented employees. If career advancement is perceived to depend not only on merit but also on family ties, high-ability individuals, who have the highest probability of advancement and promotion, may be less willing to join such firms in the first place.

The preceding analysis relies on a comparison between family firms (where nepotism is present) and non-family firms (where nepotism is absent). To provide additional evidence on this channel, we next focus on the *degree* of nepotism within family firms. We construct measures of the degree of nepotism similar in spirit to the dynastic intent measure proposed by Bach (2016). These measures capture the extent to which family firms have dynastic intent through the employment of family members within the firm. In one version of the measure, we code family firms as having dynastic intent when a relative of the controlling family, aside from the executive team, is working as an employee of the

firm. In the second version, we code family firms as having dynastic intent when a relative of the controlling family, aside from the executive team and younger than 35 years old, is working as an employee of the firm. The age restriction in our second measure serves as a proxy for next-generation preparation and better identifies firms with dynastic intent, as younger family members working for the firm more clearly signal the controlling family's long-term dynastic ambitions than employment of older family members.

Equipped with these measures, we test whether high-IQ individuals are less likely to work in family firms with dynastic intent. Specifically, in Table 9 Panel A, we estimate the probability of working in a family firm with dynastic intent as a function of the employee's IQ and a number of other employee and firm characteristics. We find that higher IQ decreases the probability of working for a family firm with dynastic intent, suggesting that talented individuals may avoid these firms as nepotism hampers their career progression. In Table 9 Panel B, we repeat the analysis focusing specifically on incoming employees and find that talented new hires are also less likely to join family firms with a high degree of nepotism. In Appendix Table A6, we repeat the analysis in the broader sample with high school grades and find similar results.

V.2 Wages

One possible explanation for the talent gap documented above is that family firms pay lower wages to their employees. Indeed, prior work provides evidence that family firms offer lower compensation than non-family firms (Bach and Serrano-Velarde, 2015; Ellul et al., 2018). However, given our finding that family firms hire lower-ability employees, the wage differences documented in previous studies could simply reflect compositional effects. That is, family firms may pay the same wages as non-family firms for employees of equivalent talent, but appear to pay less on average because they employ lower-ability workers.

Since compensation depends on many employee characteristics beyond IQ, simple regressions may not fully account for compositional differences between family and non-

family firms. To address this, we use the additive two-way firm-worker-effects methodology introduced by Abowd et al. (1999) (hereafter AKM) to decompose wages into firm and worker fixed effects.

We estimate the following log-linear equation:

$$\text{Log(Wage)}_{it} = \alpha_i + \psi_{j(i,t)} + \varepsilon_{ijt}, \tag{2}$$

where the dependent variable is the logarithm of the wage of worker i at time t. The regression includes employee fixed effects, α_i, that capture the contribution to wages of unobservable time-invariant employee characteristics. The regression also includes firm fixed effects, $\psi_{j(i,t)}$, that account for the presence of firm-specific pay policies.

The employee fixed effect recovers the part of the compensation that can be attributed to all observable and unobservable time-invariant employee characteristics, including ability, IQ, psychological attributes, and preferences. The employee fixed effect can thus be thought of as a measure of permanent human capital or talent.

Firm fixed effects reflect the additional compensation a firm pays to all its employees, flexibly controlling for its employee pool. Firms could differ in pay due to factors such as profitability, compensation philosophy, rent-sharing arrangements, or other firm-specific characteristics that affect wage-setting policies.

We estimate equation 2 on the full sample of firms and employees, including both men and women. Because this specification does not require a direct measure of IQ (which is absorbed into the worker fixed effect), it allows us to extend the analysis beyond the baseline sample of male workers. We present the results in Table 10. Columns (1)–(3) present average firm fixed effects for family and non-family firms, as well as the difference between these averages. They show that family firms pay less than non-family firms, even after controlling for differences in employee composition.

Columns (4)–(6) serve as a robustness test for the talent gap documented throughout the paper. These columns rely on an alternative, market-based measure of talent (the worker fixed effect) and are estimated on the full sample of men and women. Column (6)

shows that the average worker fixed effect is significantly lower in family firms than in non-family firms, confirming that family firms employ lower-talent individuals, consistent with our earlier findings.

In sum, the AKM decomposition reveals that family firms both pay lower wages and employ lower-talent workers than non-family firms. The wage discount persists even after fully controlling for workforce composition, suggesting that lower compensation may itself contribute to the talent gap by making family firms less attractive to high-ability workers.

VI Conclusion

Using IQ data from Danish military draft sessions, we document a large and statistically significant talent gap in family firms. Employees in family firms have lower cognitive ability and educational achievement than their counterparts in non-family firms. This gap is most pronounced at the top of the firm hierarchy, where cognitive ability is potentially most valuable for strategic decision-making and firm performance.

We investigate two mechanisms that may explain this talent allocation pattern. First, we provide evidence that nepotism in family firms limits advancement opportunities for non-family employees. Family members hold positions above what their qualifications would predict, while non-family employees are systematically placed below what their qualifications would predict. Anticipating these limited advancement opportunities, high-ability individuals may be less willing to join family firms. Second, family firms pay lower wages for equivalent talent levels, creating a compensation disadvantage when competing for high-ability workers.

Our findings have implications for both family business strategy and broader economic efficiency. First, nepotism can be costly beyond the direct effect of promoting unqualified family members. Indeed, the perception of a lack of meritocracy within the firm may discourage talented individuals from joining in the first place. For family busi-

nesses, this presents a fundamental trade-off between preserving family management and optimizing talent acquisition. Second, in terms of broader economic efficiency, our results indicate that the prevalence of family firms in an economy may significantly influence the allocation of human capital across firms.

These patterns raise several questions for future research. First, estimating the productivity costs of the talent gap would provide crucial insights into the economic magnitude of these effects. Second, understanding whether and how family firms might mitigate these disadvantages while preserving family involvement represents an important practical question.

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VII Tables

Table 1: Summary Statistics

This table reports summary statistics for firm-year level variables for all firms in the sample, as well as separately for family and non-family firms. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. For each firm, we average variables across years. The table reports the number of observations, unconditional means, and standard errors (in parentheses). For the conversion from DKK to USD, we use the year-end spot exchange rate. Firm-year level variables are winsorized at the 1% level.

Panel A : Firm Level

	All		Family Firms		Non-Family Firms		Difference
	Observations	Mean	Observations	Mean	Observations	Mean	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total assets (mil. $)	42,477	12.51	8,764	4.49	33,713	14.59	-10.10***
		(174.59)		(26.49)		(195.45)	(2.09)
Sales (mil. $)	46,216	10.45	9,403	4.73	36,813	11.91	-7.17***
		(80.88)		(15.12)		(90.24)	(0.93)
Number of employees	46,219	35.84	9,403	18.97	36,816	40.15	-21.18***
		(244.29)		(39.15)		(272.83)	(2.82)
Number board members + CEOs	46,219	4.93	9,403	4.00	36,816	5.17	-1.17***
		(2.43)		(1.22)		(2.60)	(0.03)

Table 1: Summary Statistics, continued

This table reports summary statistics for employee-year level variables for all employees in the sample, as well as separately for family and non-family firms. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. For each employee, we average variables across years. The table reports the number of observations, unconditional means, standard errors (in parentheses), and p-values for mean differences between family and non-family firms.

Panel B : Employee-Level

	All		Family Firms		Non-Family Firms		Difference
	Observations	Mean	Observations	Mean	Observations	Mean	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	2,500,935	25.99	315,228	25.79	2,185,707	26.02	-0.23***
		(7.09)		(6.96)		(7.11)	(0.01)
Male	2,500,935	0.99	315,228	0.99	2,185,707	0.99	0.00***
		(0.11)		(0.10)		(0.11)	(0.00)
IQ	2,500,935	43.50	315,228	41.62	2,185,707	43.77	-2.15***
		(8.98)		(8.75)		(8.98)	(0.02)
High school grade (percentile)	1,025,706	45.23	81,829	41.86	943,877	45.52	-3.66***
		(28.34)		(28.02)		(28.34)	(0.10)
High school graduate	2,500,935	0.41	315,228	0.26	2,185,707	0.43	-0.17***
		(0.49)		(0.44)		(0.50)	(0.00)
Wage (USD thousands)	2,500,935	38.58	315,228	36.54	2,185,707	38.88	-2.34***
		(35.80)		(30.20)		(36.53)	(0.07)

Table 2: Employee IQ, by hierarchy level

This table reports IQ scores for all employees in the sample, as well as separately for employees in family and non-family firms. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. For each employee, we average IQ across years [specify here: e.g., "to obtain a single measure per individual"]. Employees are grouped into three hierarchy levels: Row 1 corresponds to the top hierarchy ("upper management"), Row 2 to the middle hierarchy ("middle management"), and Row 3 to the lower hierarchy. The table reports the number of observations, unconditional means, standard errors (in parentheses), and p-values for mean differences between family and non-family firms.

	All		Family Firms		Non-Family Firms		Difference
	Observations	Mean	Observations	Mean	Observations	Mean	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Top Hierarchy	318,466	48.95	17,005	47.10	301,461	49.05	-1.96***
		(7.61)		(8.07)		(7.56)	(0.06)
Middle Hierarchy	305,455	45.87	21,400	44.36	284,055	45.98	-1.62***
		(7.71)		(7.55)		(7.71)	(0.05)
Bottom Hierarchy	1579744	41.93	232,629	40.82	1347115	42.12	-1.30***
		(8.85)		(8.62)		(8.87)	(0.02)

Table 3: Employee IQ, by occupational skill level

This table reports IQ scores for all employees in the sample, as well as separately for employees in family and non-family firms. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. For each employee, we average IQ across years [specify here: e.g., "to obtain a single measure per individual"]. Occupations are grouped into three skill levels using the entire population: Row 1 corresponds to high-skill occupations, Row 2 to medium-skill occupations, and Row 3 to low-skill occupations. The table reports the number of observations, unconditional means, standard errors (in parentheses), and p-values for mean differences between family and non-family firms.

	All		Family Firms		Non-Family Firms		Difference
	Observations	Mean	Observations	Mean	Observations	Mean	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
High Skill	310,053	47.52	21,969	45.12	288,084	47.71	-2.59***
		(8.29)		(8.73)		(8)	(0.06)
Medium Skill	604,396	42.78	58,533	41.47	545,863	42.92	-1.44***
		(8.96)		(8.98)		(9)	(0.04)
Low Skill	451,798	41.07	83,537	40.04	368,261	41.30	-1.27***
		(8.65)		(8.54)		(9)	(0.03)

Table 4: Average employee IQ as a function of family-firm stuatus

This table reports the relationship between IQ and family firm status. The outcome is the average IQ of employees in the firm and the regressor is the family status of the firm. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. Firm size is measured by total assets. Standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Family Firm	-2.250***	-2.249***	-2.131***	-1.053***	-0.895***	-0.934***	-1.224***
	(0.064)	(0.064)	(0.066)	(0.062)	(0.13)	(0.091)	(0.087)
Observations	271274	271274	251556	251555	57684	88987	104883
R^2	0.021	0.022	0.021	0.154	0.156	0.156	0.154
Year FE	No	Yes	Yes	Yes	Yes	Yes	Yes
Size Control	No	No	Yes	Yes	Yes	Yes	Yes
Industry FE	No	No	No	Yes	Yes	Yes	Yes
Sample	All	All	All	All	Tercile 1	Tercile 2	Tercile 3

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Event Study

This table reports the relationship between the type of succession—classified as family or non-family—and the change in employee IQ. Family successions are CEO transitions in which the incoming and outgoing CEOs are related by blood or marriage; all other successions are classified as non-family. The outcome variable is the change in average IQ, measured as the difference between the five years before and the five years after succession. Column (1) reports results for new hires, while Column (2) reports results for all employees. Firm controls include firm asset size. Standard errors are reported in parentheses.

	IQ	
	New Hires	**All Employees**
	(1)	(2)
Family Succession	-1.006***	-0.546***
	(0.33)	(0.20)
Industry control	Yes	Yes
Firm Controls	Yes	Yes
Observations	4,892	5,492

Table 6: IV Estimates

This table reports the relationship between the type of succession—classified as family or non-family—and the change in employee IQ, instrumenting for family succession. Family successions are CEO transitions in which the incoming and outgoing CEOs are related by blood or marriage; all other successions are classified as non-family. The outcome variable is the change in average IQ, measured as the difference between the five years after and the five years before succession. Panel A presents the second-stage results, and Panel B presents the first-stage results. Columns (1) and (2) in both panels use the change in average IQ of new hires, while Columns (3) and (4) use the change in average IQ of all employees. *First born male* is an indicator for whether the CEO's first-born child is male, and *# of sons* is the number of sons of the CEO. Firm controls include firm asset size. Standard errors are reported in parentheses.

Panel (A) Second Stage

	New Hires		**All Employees**	
	(1)	(2)	(3)	(4)
Family Succession	-4.608	-5.091*	-5.642*	-5.744***
	(4.316)	(2.693)	(3.366)	(2.049)
Observations	4,892	4,892	5,492	5,492
Industry FE	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes
Instrument Used:	Gender of First Born	# of Sons	Gender of First Born	# of Sons

Panel (B) First Stage

	New Hires		**All Employees**	
	(1)	(2)	(3)	(4)
Firstborn male	0.045***		0.041***	
	(0.009)		(0.005)	
# of sons		0.042***		0.040***
		(0.009)		(0.005)
F-Stat	141.16	138.07	345.49	343.47
Observations	4,892	4,892	5,492	5,492
Industry FE	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes

Table 7: Student Preferences for Family Firms

This table reports the relationship between students' job ratings and family firm status. Columns 4 to 6 report the job preferences of students who rated their likelihood of receiving an offer from the firm greater than 3 out of 5. We include question-level and individual fixed effects in all estimates. The controls are wage, size and non-wage amenities. Standard errors are reported in parentheses. ***, **, and * correspond to statistical significance at 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Family-owned Firm	0.0419	-0.0677	0.167**	0.0536	-0.0189	0.136
	(0.0496)	(0.0652)	(0.0762)	(0.0700)	(0.0879)	(0.117)
Family-controlled Firm	-0.0626	-0.187***	0.0839	-0.103	-0.192**	-0.00148
	(0.0496)	(0.0647)	(0.0777)	(0.0709)	(0.0896)	(0.117)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Talent	All	High Talent	Low Talent	All	High Talent	Low Talent
Perceived Likelihood of Receiving an Offer	Any	Any	Any	High	High	High
Observations	3420	1952	1468	1384	846	538
Adjusted R^2	0.242	0.247	0.237	0.328	0.318	0.338

Table 8: Actual and predicted position on the hierarchy of employees in family firms by their relation to the controlling family

The table reports the actual position of employees in family firms and their predicted positions if they worked for a non-family firm instead. To predict positions in non-family firms, we estimate a random forest model using data solely from employees in non-family firms. The dependent variable in this model is the employee's position within the organizational hierarchy, which is available in the data and takes one of five different values (e.g., top management, middle management, etc.). Higher numbers of this variable indicate higher positions within the firm, with a scale ranging from 1 to 5. The independent variables include a battery of individual and firm characteristics. The table presents actual and estimated positions for employees with different relations to the controlling family.

Relation to the executives of controlling family	Actual position	Predicted position	Difference
Relative	3.1923	2.6532	0.5391***
			(0.0045)
Nuclear relative	3.2227	2.6585	0.5642***
			(0.0046)
Unrelated	2.1376	2.6319	-0.4943***
			(0.0008)

Table 9: Employee Talent and Nepotism

This table estimates the relationship between employee IQ and the probability of working in a family firm with a high degree of nepotism. The analysis is restricted to family firms. Family firms are classified as having a high degree of nepotism using two alternative definitions. We only consider employees of family firms who are unrelated to the controlling family. In columns (1)-(4) the dependent variable takes the value of 1 when there is at least one family member working at the firm, and 0 otherwise. In columns (5)-(8), the dependent variable takes the value of 1 when there is a relative of the controlling family under the age of 35 working at the firm, and 0 otherwise. In Panel B, we repeat the analysis but restrict it only to incoming employees. Standard errors are reported in parentheses. ***, **, and * correspond to statistical significance at 1%, 5%, and 10% levels, respectively.

Panel A Full Sample

	At least one employee from the controlling family				At least one employee 35 or younger from the controlling family			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IQ	-0.000680***	-0.000819***	-0.000924***	-0.000348**	-0.000540***	-0.000761***	-0.000939***	-0.000374**
	(0.00014)	(0.00014)	(0.00014)	(0.00014)	(0.00017)	(0.00017)	(0.00017)	(0.00017)
Observations	292,473	292,473	280,919	280,919	292,473	292,473	280,919	280,919
R^2	0.000	0.004	0.009	0.031	0.000	0.009	0.010	0.022
Individual Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Size Control	No	No	Yes	Yes	No	No	Yes	Yes
Industry FE	No	No	No	Yes	No	No	No	Yes

Table 9: Employee Talent and Nepotism, continued

Panel B New Hires

	At least one employee from the controlling family				At least one employee 35 or younger from the controlling family			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IQ	−0.000601***	−0.000764***	−0.000877***	−0.000236*	−0.000655***	−0.000943***	−0.00121***	−0.000515***
	(0.00012)	(0.00012)	(0.00013)	(0.00012)	(0.00016)	(0.00016)	(0.00016)	(0.00016)
Observations	119,653	119,653	113,807	113,807	119,653	119,653	113,807	113,807
R^2	0.000	0.006	0.012	0.042	0.000	0.008	0.009	0.025
Individual Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Size Control	No	No	Yes	Yes	No	No	Yes	Yes
Industry FE	No	No	No	Yes	No	No	No	Yes

Table 10: AKM Regression Results for Family and Non-Family Firms

The table reports average firm fixed effects and average person fixed effects for family and non-family firms as estimated by equation 2. Columns (1) and (2) report the average estimated firm fixed effects for family and non-family firms respectively, whereas column (3) estimates the difference between the two. Columns (4) and (5) report the estimated average individual fixed effects for employees in family and non-family firms respectively, whereas column (6) shows their difference.

(1)	(2)	(3)	(4)	(5)	(6)
Average Firm Fixed Effect			**Average Individual Fixed Effect**		
Family Firms	**Non-Family Firms**	**Difference**	**Family Firms**	**Non-Family Firms**	**Difference**
-0.211	-0.167	-0.043***	-0.244	0.020	-0.264***
(0.016)	(0.006)	(0.016)	(0.003)	(0.001)	(0.003)

Internet Appendix to

"The Talent Gap in Family Firms"

This appendix presents additional results to accompany the paper "The Talent Gap in Family Firms" The contents are as follows:

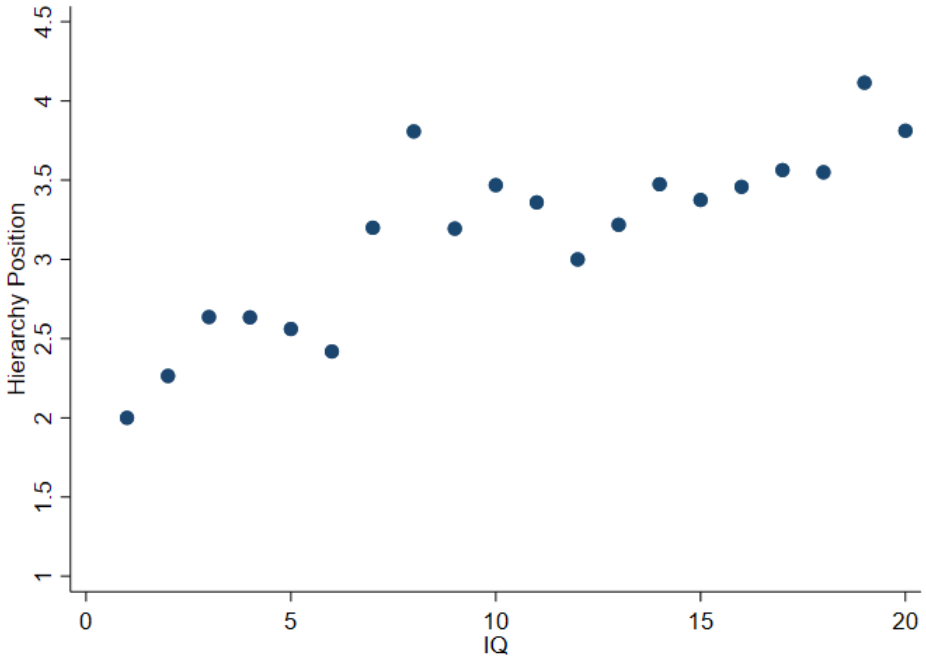
Appendix A provides figures to motivate our analysis.

Appendix B provides additional analyses.

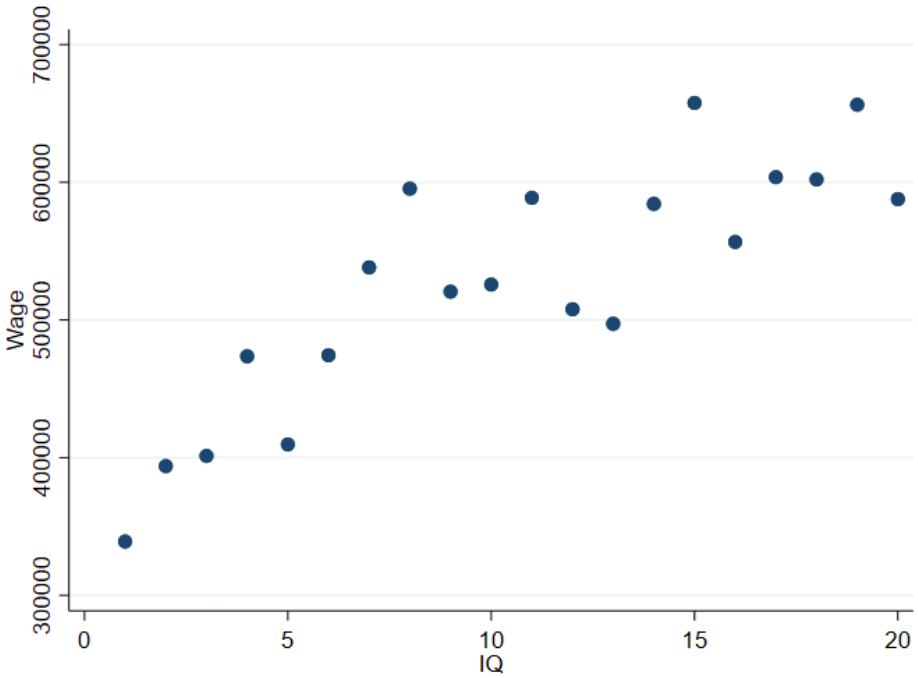
Internet Appendix IA.C describes in more detail the construction and collection of the survey data used to construct our main sample.

A IQ and Career Progression

Figure 1: These figures show the relationship between IQ and career progression, measured by hierarchy position and wage. For each individual, the hierarchy position and wage is measured at the age of 40. The hierarchy position within the firm ranges from 1 (bottom) to 5 (top). We sort individuals into IQ vintiles and plot the corresponding mean hierarchy position and mean wage for each vintile.



(a) Average hierarchy position by vintiles of IQ.



(b) Average wage by vintiles of IQ.

B Tables

Table A1: Summary Statistics

This table reports summary statistics for firm-year level variables for all firms in the *broader* sample (not restricting to employees with a valid IQ measure), as well as separately for family and non-family firms. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. For each firm, we average variables across years. The table reports the number of observations, unconditional means, standard errors (in parentheses). For the conversion from DKK to USD, we use the year-end spot exchange rate. Firm-year level variables are winsorized at the 1% level.

Panel A : Firm Level

	All		Family Firms		Non-Family Firms		t-test
	Observations	Mean	Observations	Mean	Observations	Mean	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Assets (mil. $)	60,106	9.89	12,474	3.78	47,632	11.48	-7.70***
		(153.36)		(21.43)		(171.89)	(1.54)
Sales (mil. $)	67,738	7.26	14,074	3.26	53,664	8.31	-5.04***
		(66.15)		(11.89)		(74.03)	(0.63)
# Employees	67,750	24.43	14,074	12.94	53,676	27.44	-14.50***
		(197.97)		(32.63)		(221.68)	(1.87)
# Managers	67,750	4.71	14,074	3.91	53,676	4.92	-1.00***
		(2.24)		(1.13)		(2.41)	(0.02)

Table A1: Summary Statistics, continued

This table reports summary statistics for employee-year level variables for all employees in the *broader* sample (not restricting to employees with a valid IQ measure), as well as separately for family and non-family firms. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. For each employee, we average variables across years. The table reports the number of observations, unconditional means, standard errors (in parentheses).

Panel B : Employee-Level

	All		Family Firms		Non-Family Firms		t-test
	Observations	Mean	Observations	Mean	Observations	Mean	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	14,802,027	38.97	1,720,186	39.49	13,081,841	38.90	0.59***
		(13.30)		(14.02)		(13.20)	(0.01)
Male	14,802,027	0.65	1,720,186	0.70	13,081,841	0.64	0.06***
		(0.48)		(0.46)		(0.48)	(0.00)
IQ	2,500,935	43.50	315,228	41.62	2,185,707	43.77	-2.15***
		(8.98)		(8.75)		(8.98)	(0.02)
High school grade percentile	3,885,885	47.26	301,889	43.78	3,583,996	47.55	-3.77***
		(28.34)		(28.08)		(28.35)	(0.05)
High school graduate	14,802,856	0.26	1,720,258	0.18	13,082,598	0.27	-0.10***
		(0.44)		(0.38)		(0.45)	(0.00)
Wage (USD thousands)	14,802,856	49.64	1,720,258	43.98	13,082,598	50.38	-6.40***
		(43.24)		(34.85)		(44.18)	(0.04)

Table A2: High school outcomes by hierarchy

	All		Family Firms		Non-Family Firms		Difference
	Observations	Mean	Observations	Mean	Observations	Mean	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: High school grade percentile							
Top hierarchy	952,874	55.89	40,085	48.93	912,789	56.19	-7.26***
		(27.69)		(27.80)		(28.00)	(0.14)
Middle hierarchy	709,391	44.64	37,283	40.79	672,108	44.85	-4.06***
		(27.23)		(26.48)		(27.00)	(0.14)
Bottom hierarchy	1,755,993	43.72	168,309	42.74	1,587,684	43.82	-1.07***
		(28.12)		(28.28)		(28.00)	(0.07)
Panel B: High school graduate							
Top hierarchy	2,234,838	0.43	140,168	0.29	2,094,670	0.44	-0.15***
		(0.49)		(0.45)		(0.00)	(0.00)
Middle hierarchy	2,402,334	0.30	163,395	0.23	2,238,939	0.30	-0.07***
		(0.46)		(0.42)		(0.00)	(0.00)
Bottom hierarchy	8,476,674	0.21	1,126,569	0.15	7,350,105	0.22	-0.07***
		(0.41)		(0.36)		(0.00)	(0.00)

Table A3: Employee high school grades and completion, by occupational skill

This table reports summary statistics for the employee-year level talent variables by occupation skill level for all the employees in the sample and for employees in family and non-family firms, respectively. For each employee we average across years. To group occupations into three level of skill, we rank them by the average grade of the employees in the occupation. Panel A compares employees in high skill occupations, Panel B medium skill, and Panel C low skill occupations. The table reports number of observations, unconditional means, standard errors in parentheses, and p-values of the mean differences between family and non-family firms.

	All		Family Firms		Non-Family Firms		t-test
	Observations	Mean	Observations	Mean	Observations	Mean	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: High school grade percentile							
High Skill	795,934	53.38	48,419	47.94	747,515	53.74	-5.79***
		(27.99)		(28.11)		(28)	(0.13)
Medium Skill	1037440	44.56	85,976	43.33	951,464	44.67	-1.34***
		(27.77)		(27.81)		(28)	(0.10)
Low Skill	185,153	38.23	18,857	36.12	166,296	38.47	-2.35***
		(27.41)		(27.06)		(27)	(0.21)
Panel B: High school graduate							
High Skill	1841267	0.43	152,797	0.32	1688470	0.44	-0.13***
		(0.50)		(0.47)		(0)	(0.00)
Medium Skill	2846182	0.36	290,965	0.30	2555217	0.37	-0.08***
		(0.48)		(0.46)		(0)	(0.00)
Low Skill	2040970	0.09	315,675	0.06	1725295	0.10	-0.04***
		(0.29)		(0.24)		(0)	(0.00)

Table A4: Event Study – High School Grades

This table reports the change in average employee talent after family successions, using high school grade percentile as the measure of talent. Successions are identified by a change in CEO, and family succession is defined as cases where the outgoing and incoming CEO are related by blood or marriage. Firm controls include firm asset size. Standard errors are reported in parentheses.

	High School Grade	
	New Hires	**All Employees**
	(1)	(2)
Family Succession	-1.278	-0.176
	(0.98)	(0.64)
Industry FE	Yes	Yes
Firm Controls	Yes	Yes
Observations	7,685	6,152

Table A5: IV Estimates – High School Grade

This table reports the the change in average employee high school grade percentile after family successions. The outcome variable, change in high school grade, is created by using the difference in average employee high school grade percentile between the five years before the succession and the five years after the succession. The first 2 columns average the high school grade percentile of new hires within 5 years of the succession and the second 2 columns use the average high school grade percentile of all employees at the firm within 5 years of the succession. Successions are identified by a change in CEO and family succession is defined by determining if the old CEO is related to the new CEO by blood or marriage. Panel A presents the results of the second stage, while Panel B presents the first stage results. Firm controls include firm asset size. Standard errors are reported in parentheses.

Panel (A) Second Stage

	New Hires		**All Employees**	
	(1)	(2)	(3)	(4)
Family Succession	-26.981	-4.173	-8.869	3.491
	(20.011)	(9.361)	(13.896)	(5.847)
Observations	5,487	5,487	6,152	6,152
Industry FE	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes
Instrument Used:	Gender of First Born	# of Sons	Gender of First Born	# of Sons

Panel (B) First Stage

	New Hires		**All Employees**	
	(1)	(2)	(3)	(4)
Firstborn male	0.027***		0.030***	
	(0.008)		(0.005)	
# of sons		0.026***		0.033***
		(0.008)		(0.005)
F-Stat	104.34	117.46	629.47	567.44
Observations	5,487	5,487	6,152	6,152
Industry FE	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes

Table A6: Employee Talent and Nepotism

This table estimates the relationship between employee grade percentile (Panels C and D) and an indicator variable for high school graduate (Panels A and B) and the probability of working in a family firm with a high degree of nepotism. The analysis is restricted to family firms. Family firms are classified as having a high degree of nepotism using two alternative definitions. In columns (1)-(4) the dependent variable takes the value of 1 when there is at least one family member working at the firm, and 0 otherwise. In columns (5)-(8), the dependent variable takes the value of 1 when there is a relative of the controlling family under the age of 35 working at the firm, and 0 otherwise. Panels A and C use all employees in the family firms whereas panels B and D focus on new hires only. Standard errors are reported in parentheses. ***, **, and * correspond to statistical significance at 1%, 5%, and 10% levels, respectively.

Panel A All Employee-years & High School Graduate

	At least one employee from the controlling family				At least one employee 35 or younger from the controlling family			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High school graduate	-0.0417***	-0.0364***	-0.0425***	-0.0235***	-0.00844***	-0.0232***	-0.0301***	-0.0183***
	(0.0015)	(0.0017)	(0.0018)	(0.0018)	(0.0017)	(0.0019)	(0.0020)	(0.0020)
Observations	1529652	1529580	1454954	1454953	1529652	1529580	1454954	1454953
R^2	0.002	0.007	0.011	0.027	0.000	0.010	0.011	0.020
Individual Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Size Control	No	No	Yes	Yes	No	No	Yes	Yes
Industry FE	No	No	No	Yes	No	No	No	Yes

Table A6: Employee Talent and Nepotism, continued

Panel B All Employee-years & High School Grade

	At least one employee from the controlling family				At least one employee 35 or younger from the controlling family			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High school grade	-0.000150***	-0.000152***	-0.000154***	-0.000108	-0.000126**	-0.000223***	-0.000348***	-0.000209***
	(0.000047)	(0.000048)	(0.000049)	(0.000049)	(0.000052)	(0.000052)	(0.000054)	(0.000053)
Observations	265508	265505	244023	244022	265508	265505	244023	244022
R^2	0.000	0.008	0.023	0.054	0.000	0.015	0.017	0.037
Individual Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Size Control	No	No	Yes	Yes	No	No	Yes	Yes
Industry FE	No	No	No	Yes	No	No	No	Yes

Table A6: Employee Talent and Nepotism, continued

Panel C New Hires & High School Graduate

	At least one employee from the controlling family				At least one employee 35 or younger from the controlling family			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High school graduate	-0.0258***	-0.0352***	-0.0387***	-0.0215***	-0.00669***	-0.0198***	-0.0294***	-0.0151***
	(0.0014)	(0.0016)	(0.0017)	(0.0017)	(0.0017)	(0.0019)	(0.0020)	(0.0020)
Observations	438426	438362	408414	408413	438426	438362	408414	408413
R^2	0.001	0.009	0.012	0.037	0.000	0.008	0.010	0.021
Individual Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Size Control	No	No	Yes	Yes	No	No	Yes	Yes
Industry FE	No	No	No	Yes	No	No	No	Yes

Table A6: Employee Talent & Nepotism, continued

Panel D New Hires & High School Grade

	At least one employee from the controlling family				At least one employee 35 or younger from the controlling family			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High school grade	-0.000840*	-0.000126***	-0.000124***	-0.0000499	-0.000230	-0.000755	-0.000220***	-0.0000861
	(0.000044)	(0.000044)	(0.000046)	(0.000045)	(0.000052)	(0.000052)	(0.000054)	(0.000054)
Observations	116121	116121	105439	105438	116121	116121	105439	105438
R^2	0.000	0.014	0.025	0.062	0.000	0.012	0.017	0.037
Individual Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Size Control	No	No	Yes	Yes	No	No	Yes	Yes
Industry FE	No	No	No	Yes	No	No	No	Yes

Table A7: Compensation for talent in family and non-family firms

This table reports the relationship between IQ and employee compensation. Individual controls include age fixed effects (5-year periods) and gender. Firm size control is total assets. Standard errors are reported in parentheses. ***, **, and * correspond to statistical significance at 1%, 5%, and 10% levels, respectively.

	Wage (DKK)	Wage (DKK)	Wage (DKK)	Wage (DKK)	Wage (DKK)	Wage (DKK)	Wage (DKK)	Wage (DKK)	Wage (DKK)	Wage (DKK)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
High school graduate = 1	68363.5***	57529.7***	43577.9***	17018.6***	10771.4***					
	(145.8)	(144.9)	(146.7)	(223.6)	(140.2)					
Family Firm = 1	-31330.8***	-25882.6***	-19975.4***	-20372.1***	-15224.1***	-11973.6***	-9895.7***	-6961.5***	-10417.4***	-4538.9***
	(192.7)	(183.2)	(183.2)	(286.9)	(171.1)	(836.0)	(800.0)	(798.3)	(1177.9)	(763.6)
High school graduate = 1 × Family Firm = 1	-10374.1***	-7609.7***	-1512.3***	-1417.5**	-2036.7***					
	(449.0)	(433.2)	(428.4)	(628.6)	(401.8)					
High school grade (percentile)						809.2***	743.1***	664.8***	578.7***	440.2***
						(4.42)	(4.35)	(4.38)	(6.48)	(4.24)
Family Firm = 1 × High school grade (percentile)						-456.6***	-364.3***	-323.0***	-256.4***	-289.9***
						(16.0)	(15.4)	(15.3)	(22.7)	(14.7)
Observations	14802027	13365334	13365334	6084036	13365334	3885875	3391529	3391529	1761647	3391529
R^2	0.228	0.258	0.276	0.380	0.362	0.387	0.425	0.431	0.485	0.477
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Control & Size Control	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Industry FE	No	No	Yes	No	No	No	No	Yes	No	No
Occupation FE	No	No	No	Yes	No	No	No	No	Yes	No
Hierarchy FE	No	No	No	No	Yes	No	No	No	No	Yes

Table A8: Summary Statistics, continued

In this table, we repeat the analysis of Table Panel B but removing relatives of the controlling family in family firms. This table reports summary statistics for employee-year level variables for all employees in the reduced sample, as well as separately for family and non-family firms. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. For each employee, we average variables across years. The table reports the number of observations, unconditional means, standard errors (in parentheses), and p-values for mean differences between non-relative employees of family firms and all employees from non-family firms.

Panel A : Employee-Level

	All		Family Firms		Non-Family Firms		Difference
	Observations	Mean	Observations	Mean	Observations	Mean	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	2,500,935	25.99	315,228	25.79	2,185,707	26.02	-0.23***
		(7.09)		(6.96)		(7.11)	(0.01)
Male	2,500,935	0.99	315,228	0.99	2,185,707	0.99	0.00***
		(0.11)		(0.10)		(0.11)	(0.00)
IQ	2,500,935	43.50	315,228	41.62	2,185,707	43.77	-2.15***
		(8.98)		(8.75)		(8.98)	(0.02)
High school grade (percentile)	1,025,706	45.23	81,829	41.86	943,877	45.52	-3.66***
		(28.34)		(28.02)		(28.34)	(0.10)
High school graduate	2,500,935	0.41	315,228	0.26	2,185,707	0.43	-0.17***
		(0.49)		(0.44)		(0.50)	(0.00)
Wage in USD thousands	2,500,935	38.58	315,228	36.54	2,185,707	38.88	-2.34***
		(35.80)		(30.20)		(36.53)	(0.07)

Table A9: Employee IQ, by hierarchy level

This table repeats the analysis of Table 2, removing the IQ scores for employees of family firms who are related to the controlling family. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. For each employee, we average IQ across years [specify here: e.g., "to obtain a single measure per individual"]. Employees are grouped into three hierarchy levels: Row 1 corresponds to the top hierarchy ("upper management"), Row 2 to the middle hierarchy ("middle management"), and Row 3 to the lower hierarchy. The table reports the number of observations, unconditional means, standard errors (in parentheses), and p-values for mean differences between family and non-family firms.

	All		Family Firms		Non-Family Firms		Difference
	Observations	Mean	Observations	Mean	Observations	Mean	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Top Hierarchy	315,106	48.99	13,645	47.53	301,461	49.05	-1.53***
		(7.59)		(8.04)		(7.56)	(0.07)
Middle Hierarchy	303,824	45.87	19,769	44.36	284,055	45.98	-1.62***
		(7.71)		(7.55)		(7.71)	(0.06)
Bottom Hierarchy	1,569,958	41.93	222,843	40.77	1,347,115	42.12	-1.35***
		(8.85)		(8.64)		(8.87)	(0.02)

Table A10: Employee IQ, by occupational skill level

This table repeats the analysis of Table 3 while removing all employees of family firms who are related to the controlling family. The table reports IQ scores for all employees in the reduced sample, as well as separately for employees in family and non-family firms. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. For each employee, we average IQ across years [specify here: e.g., "to obtain a single measure per individual"]. Occupations are grouped into three skill levels using the entire population: Row 1 corresponds to high-skill occupations, Row 2 to medium-skill occupations, and Row 3 to low-skill occupations. The table reports the number of observations, unconditional means, standard errors (in parentheses), and p-values for mean differences between family and non-family firms.

	All		Family Firms		Non-Family Firms		Difference
	Observations	Mean	Observations	Mean	Observations	Mean	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
High Skill	306,831	47.55	18,747	45.20	288,084	47.71	-2.51***
		(8.29)		(8.84)		(8.00)	(0.06)
Medium Skill	581,133	42.78	52,965	41.37	528,168	42.90	-1.52***
		(8.96)		(8.98)		(9)	(0.04)
Low Skill	468,110	41.17	82,154	40.04	385,956	41.41	-1.37***
		(8.67)		(8.59)		(9.00)	(0.03)

Table A11: Effect of IQ on the Probability of Employment in a Family Firm

This table reports the relationship between IQ and the probability of being employed by a family firm. Family firms are those in which at least three board members or CEOs are related by blood or marriage; non-family firms are all others. Individual controls include age fixed effects in 5-year intervals. Firm size is measured by total assets. Standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
IQ	-0.00293***	-0.00290***	-0.00265***	-0.00265***
	(0.000046)	(0.000047)	(0.000049)	(0.000049)
Observations	2,478,180	2,478,810	2,281,358	2,281,358
R^2	0.007	0.008	0.016	0.016
Individual Controls	No	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes
Size Control	No	No	Yes	Yes
Industry FE	No	No	No	Yes

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A12: Firm fixed effects for family and non-family firms

The table reports average firm fixed effects and average person fixed effects for family and non-family firms as estimated by equation 2 while removing employees who are relatives of the controlling family within family firms. Columns (1) and (2) report the average estimated firm fixed effects for family and non-family firms respectively, whereas column (3) estimates the difference between the two. Columns (4) and (5) report the estimated average individual fixed effects for employees in family and non-family firms respectively, whereas column (6) shows their difference. Panel A uses all the sample, while Panel B estimates equation 2 using only highly talented employees.

Panel A

(1)	(2)	(3)	(4)	(5)	(6)
Average Firm Fixed Effect			**Average Individual Fixed Effect**		
Family Firms	**Non-Family Firms**	**Difference**	**Family Firms**	**Non-Family Firms**	**Difference**
-0.181	-0.163	-0.019	-0.321	0.023	-0.344***
(0.017)	(0.006)	(0.018)	(0.003)	(0.001)	(0.003)

Panel B

(1)	(2)	(3)	(4)	(5)	(6)
Average Firm Fixed Effect			**Average Individual Fixed Effect**		
Family Firms	**Non-Family Firms**	**Difference**	**Family Firms**	**Non-Family Firms**	**Difference**
-0.167	-0.138	-0.029	-0.469	0.029	0.499***
(0.032)	(0.009)	(0.032)	(0.004)	(0.001)	(0.005)

C Survey Details

C.1 Survey Flow

Consent Letter

Q1: Do you accept the terms?

I accept; I do not accept

Industry Selection

Q2: Which industry would you be interested in seeing positions for?

Accounting; Finance; Business Administration

Job Postings 1-15

Impressions

Q4: What do you think about working for a small company? Please list any associations you have about culture, leadership, and stability.

Open-ended

Q5: What do you think about working for a family firm? Please list any associations you have about culture, leadership, and stability.

Open-ended

Q6: What do you think about working for a fast-growing firm company? Please list any associations you have about culture, leadership, and stability.

Open-ended

Demographics

Q7: What gender do you identify as?

Man; Woman; Non-binary; Other; Prefer not to say

Q8: What zipcode do you live in?

Open-ended

Q9: What was your grade point average in the education (e.g. high school) that gave you access to your current study?

Open-ended

Q10: How many years do you expect to have left before you finish your studies? (Please write the number of years until you finish your master's degree; if you are sure to leave the study after the first part, then write how many years until then).

Open-ended

Conclusion

Q11: We thank you for your time spent on this survey. Your response has been recorded.

C.2 Job Rating Template

Company History

Introductory Statement

Family Firm Statement

About the Job

As a *Job Title*, you will be responsible for *Job Responsibilities*

About the Job *Job Descriptions*

Applicant Requirements

Benefits

Benefits

Wage

Wage Distribution

C.3 Job Rating Components

Table A13: Introductory Sentences

The distribution of the bracketed placeholders [*size*] appears in Table A19.

Text
We are a company with [*size*] employees, based in Greater Copenhagen, working purposefully to create value for our customers.
With us, you have the opportunity to join a dedicated team of [*size*] employees in the heart of Copenhagen.
Become part of a dynamic organization with [*size*] staff members, where we develop innovative solutions together in Copenhagen.
We offer an inspiring work environment in Copenhagen with [*size*] dedicated employees. Since [*founding year*], we have focused on professional development and collaboration.
As an employee with us, you join a strong community of [*size*] colleagues in Greater Copenhagen. We have been on the market since [*founding year*]. Our company in Copenhagen consists of [*size*] committed employees who create results together. We were founded in [*founding year*].
You will have the opportunity to work in a professional team of [*size*] people in the Greater Copenhagen area. The company has existed since [*founding year*].
We are proud of our history and today we count [*size*] employees in Copenhagen.
With us, you become part of a well-functioning team of [*size*] employees working together to achieve our goals in Copenhagen.
We have developed into a company with [*size*] employees, all working in Greater Copenhagen.
Our office in Copenhagen houses a dedicated team of [*size*] employees.
Become part of our company in Copenhagen, where we are [*size*] employees creating a strong professional environment together.
We are based in Greater Copenhagen and employ [*size*] employees, all contributing to our success.
We have built a team of [*size*] employees in Copenhagen, where we work purposefully with development and collaboration.
You will join a company with [*size*] employees in Copenhagen, where we have focused on quality and development.

Table A14: Company Founding Sentences with Family Ownership Variations

Each job posting was randomly assigned a family ownership intensity level and founding year using the distribution in A19. Each question had unique set of sentences to prevent any family name appearing twice for any given participant. We include question fixed effects to account for any exogenous associations with a given name or structure.

Family Ownership Intensity	**Sentence**
1	The company was founded in the year *Founding Year*.
2	The company was founded in the year *Founding Year* by the Jensen family, who remain the main shareholder.
3	The company was founded in the year *Founding Year* by the Jensen family, who remain the main shareholder. Several generations of the family are still active in operations.
1	Since *Founding Year*, the company has existed.
2	Since *Founding Year*, the company has been owned by the Nielsen family, who still own the majority.
3	Since *Founding Year*, the company has been owned by the Nielsen family, who still own the majority. Several family members are actively involved in daily operations.
1	The company has roots dating back to *Founding Year*.
2	The company has roots dating back to *Founding Year*, when the Hansen family founded and still owns the company.
3	The company has roots dating back to *Founding Year*, when the Hansen family founded and still owns the company. The family remains active in management.
1	The firm was established in *Founding Year*.
2	The firm was established in *Founding Year* by the Madsen family, who still own it.
3	The firm was established in *Founding Year* by the Madsen family, who still own it. Several generations still work in the firm.
1	Since its start in *Founding Year*, the company has developed.

Continued on next page

Table A14 – *Continued from previous page*

Family Ownership Intensity	**Sentence**
2	Since its start in *Founding Year*, the company has been owned by the Sørensen family, who still have control.
3	Since its start in *Founding Year*, the company has been owned by the Sørensen family, who still have control. The family is actively involved in the company's operations.
1	The company was founded in *Founding Year*.
2	The company was founded in *Founding Year* by the Kristensen family, who still own the company.
3	The company was founded in *Founding Year* by the Kristensen family, who still own the company. Several family members hold leading roles.
1	Founded in *Founding Year*, the company has existed for many years.
2	Founded in *Founding Year* by the Pedersen family, who still own the company.
3	Founded in *Founding Year* by the Pedersen family, who still own the company. The family is active in daily management.
1	The company has existed since *Founding Year*.
2	The company has existed since *Founding Year*, when the Thomsen family founded and still owns the company.
3	The company has existed since *Founding Year*, when the Thomsen family founded and still owns the company. Several generations continue to work in the company.
1	The firm was started in *Founding Year*.
2	The firm was started in *Founding Year* by the Larsen family, who still own it.
3	The firm was started in *Founding Year* by the Larsen family, who still own it. The family is active in the company's operations.
1	The company has been active since *Founding Year*.

Continued on next page

Table A14 – *Continued from previous page*

Family Ownership Intensity	**Sentence**
2	The company has been active since *Founding Year*, when the Mortensen family founded and still owns the company.
3	The company has been active since *Founding Year*, when the Mortensen family founded and still owns the company. Several family members work in the company.
1	The company was established in *Founding Year*.
2	The company was established in *Founding Year* by the Rasmussen family, who still own the company.
3	The company was established in *Founding Year* by the Rasmussen family, who still own the company. The family still plays an active role.
1	Since *Founding Year*, the company has been part of the local community.
2	Since *Founding Year*, the company has been owned by the Olesen family, who still have ownership.
3	Since *Founding Year*, the company has been owned by the Olesen family, who still have ownership. Several generations are involved in operations.
1	The company was founded in *Founding Year*.
2	The company was founded in *Founding Year* by the Iversen family, who still own the company.
3	The company was founded in *Founding Year* by the Iversen family, who still own the company. The family is active in management.
1	The firm has existed since *Founding Year*.
2	The firm has existed since *Founding Year*, when the Poulsen family founded and still owns the firm.

Continued on next page

Table A14 – *Continued from previous page*

Family Ownership Intensity	**Sentence**
3	The firm has existed since *Founding Year*, when the Poulsen family founded and still owns the firm. Several family members work in the firm.
1	The company was created in *Founding Year*.
2	The company was created in *Founding Year* by the Møller family, who still own the company.
3	The company was created in *Founding Year* by the Møller family, who still own the company. The family is actively involved in operations.

Table A15: Job Titles by Industry

Each participant saw 5 job postings with each title in their selected industry.

Industry	**Job Title**
Accounting	Accountant; Auditor; Financial Accountant
Finance	Business Analyst; Financial Analyst; Risk Analyst
Business Administration	Business Analyst; Project Manager; Logistics Coordinator
Economics	Economist; Financial Analyst; Political Consultant

Table A16: Job Responsibilities by Title and Industry

Each job posting was randomly assigned 4 requirements from the list for the assigned job title.

Job Title	Job Responsibilities
Panel A: Accounting Positions	
Accountant	As an accountant, you will be responsible for bookkeeping, account reconciliation, and payroll administration. You contribute to budgeting, reporting, and process optimization in an engaged team.
	You handle daily accounting tasks, including accounts payable and receivable, payroll, and reconciliations. You participate in monthly and annual closings and help improve workflows.
	In the role of accountant, you work with financial management, reporting, and ongoing optimization of accounting processes. You are responsible for ensuring accurate and timely accounts.
	You become part of a team where you handle bookkeeping, reconciliations, and payroll administration. You support the finance function and contribute to the development of internal processes.
	As an accountant, you have the opportunity to work with accounting, payroll, and reporting. You contribute to optimizing financial processes and collaborate closely with colleagues across departments.
Auditor	As an auditor, you work with a portfolio of small and medium-sized businesses. You take responsibility for your own clients and share knowledge with colleagues in close cooperation.
	You join a team where you build relationships with clients and take responsibility for your own cases. You contribute to knowledge sharing and team development.
	In the role of auditor, you have the opportunity to work independently with auditing and advisory tasks. You collaborate with colleagues and continuously develop your skills.
	You are responsible for auditing clients' accounts and participate in advisory services. You work closely with colleagues and contribute to a strong professional environment.

Continued on next page

Table A16 – *Continued from previous page*

Job Title	Job Responsibilities
	As an auditor, you have the opportunity to develop professionally and personally. You work with your own clients and are part of a team where knowledge sharing and collaboration are in focus.
Financial Accountant	As a financial accountant, you independently handle ongoing bookkeeping, account reconciliations, and reporting. You prepare analyses and reports for management. You are responsible for accounting tasks such as accounts payable, bank reconciliations, and reporting. You contribute to financial management and process optimization. In the role of financial accountant, you work with daily bookkeeping, reconciliations, and preparation of financial analyses. You support management with reporting. You become part of a team where you handle accounting tasks and prepare reports. You help ensure accurate and timely accounts. As a financial accountant, you have the opportunity to develop your accounting skills and work with analyses, reporting, and optimization of financial processes.
Panel B: Finance Positions	
Business Analyst	As a business analyst, you analyze business and financial systems, describe solutions, and implement new processes in collaboration with cross-functional teams. You work on identifying improvement opportunities, developing solutions, and ensuring implementation of new processes. You collaborate closely with colleagues across departments. In the role of business analyst, you turn data and processes into concrete improvements. You test and maintain solutions in collaboration with relevant teams. You are responsible for analyzing current systems, developing optimization proposals, and implementing new processes. You work closely with management and colleagues.

Continued on next page

Table A16 – *Continued from previous page*

Job Title	Job Responsibilities
	As a business analyst, you contribute to the development and maintenance of business processes. You collaborate with cross-functional teams and ensure ongoing improvements.
Financial Analyst	As a financial analyst, you turn data into insights and deliver analyses to management. You support financial management and contribute to the company's development.
	You work on preparing financial analyses, reporting, and performance management. You ensure financial robustness and support management with decision-making.
	In the role of financial analyst, you contribute to budgeting, reporting, and development of financial processes. You work closely with management.
	You are responsible for analyzing financial data, preparing reports, and supporting financial management. You help strengthen the company's financial foundation.
	As a financial analyst, you work on developing and improving financial management tools. You prepare analyses and reports for management and contribute to business development.
Risk Analyst	As a risk analyst, you assess loan applications, prepare risk frameworks, and evaluate new investments. You write analyses and reports for management.
	You work on identifying and monitoring risks, preparing recommendations, and ensuring compliance with risk policies. You contribute to the company's risk management.
	In the role of risk analyst, you analyze credit applications, monitor risk frameworks, and prepare reports. You collaborate with colleagues on risk management.
	You are responsible for evaluating new investments, formulating risk frameworks, and preparing analyses. You help strengthen the company's risk processes.
	As a risk analyst, you work with risk assessment, reporting, and development of risk management tools. You collaborate with management and relevant teams.

Continued on next page

Table A16 – *Continued from previous page*

Job Title	Job Responsibilities
Panel C: Business Administration Positions	
Business Analyst	As a business analyst, you identify and analyze business needs, optimize processes, and present analyses to management. You develop and maintain business solutions. You work on mapping and optimizing business processes in collaboration with stakeholders. You communicate analyses and solutions to management. In the role of business analyst, you contribute to the development and implementation of business strategies. You analyze needs and ensure ongoing process improvements. You are responsible for analyzing and qualifying business requirements, optimizing processes, and presenting results to management. You collaborate across the organization. As a business analyst, you work on developing and maintaining business processes. You ensure clear communication of analyses and solutions to relevant parties.
Project Manager	As a project manager, you coordinate and facilitate project implementation, monitor progress, and provide support to project stakeholders and participants. You work on planning, executing, and following up on projects. You advise and support project teams and ensure progress. In the role of project manager, you are responsible for leading projects from start to finish. You ensure coordination, follow-up, and support to project parties. You are responsible for implementing and optimizing projects, monitoring progress, and providing advice to participants. You work closely with stakeholders. As a project manager, you work to ensure effective project execution, support project teams, and contribute to ongoing process improvements.

Continued on next page

Table A16 – *Continued from previous page*

Job Title	Job Responsibilities
Logistics Coordinator	As a logistics coordinator, you coordinate daily logistics and shipping activities, handle order processing and invoicing, and book and manage transportation. You work to ensure efficient logistics, handle order processing and shipments, and prepare data and presentations for management. In the role of logistics coordinator, you are responsible for coordinating shipments, following up on orders, and preparing reports for management. You are responsible for managing logistics processes, handling transportation and invoicing, and analyzing data for management reporting. As a logistics coordinator, you work to optimize logistics activities, ensure correct order processing, and prepare presentations for management.
Panel D: Economics Positions	
Economist	As an economist, you prepare economic analyses, market studies, and impact assessments. You monitor and evaluate financial institutions or sectors. You work on analyzing economic conditions, preparing assessments, and contributing to decision-making for management. In the role of economist, you contribute to preparing analyses, evaluating effects, and monitoring developments in relevant sectors. You are responsible for conducting economic analyses, preparing reports, and contributing to the monitoring of financial institutions. As an economist, you work on analyzing market conditions, preparing impact assessments, and monitoring sector developments.
Financial Analyst	As a financial analyst, you develop and improve financial management tools, prepare budgets, and analyze financial matters related to operations and investments. You work on preparing and managing budgets, analyzing financial data, and contributing to the company's financial development.

Continued on next page

Table A16 – *Continued from previous page*

Job Title	**Job Responsibilities**
	In the role of financial analyst, you are responsible for developing financial management processes, preparing analyses, and reports for management.
	You are responsible for analyzing financial matters, preparing budgets, and contributing to the optimization of financial management.
	As a financial analyst, you work on developing and improving financial management tools, preparing analyses, and reports for management.
Political Consultant	As a political consultant, you develop and refine political strategies, collaborate with parliamentary members, and coordinate cross-departmental projects.
	You work on analyzing political processes, preparing input, and coordinating cases across departments.
	In the role of political consultant, you contribute to developing policies, collaborating with relevant actors, and analyzing complex issues.
	You are responsible for coordinating political projects, preparing analyses, and advising on political processes.
	As a political consultant, you work on developing strategies, analyzing political matters, and collaborating with relevant stakeholders.

Table A17: Job Qualifications by Title and Industry

Each job posting was randomly assigned 4 responsibilities from the list for the given position.

Job Titles	Qualifications
Panel A: Accounting Positions	
Accountant	Experience with bookkeeping and account reconciliation, Knowledge of payroll administration, Strong teamwork skills, Ability to work in a structured and detail-oriented manner, Experience with daily accounting tasks, Knowledge of accounts payable and receivable management, Experience with payroll administration and reconciliations, Ability to participate in monthly and annual closings, Experience with financial management and accounting processes, Strong analytical skills and attention to detail, Ability to deliver accurate and timely reports, Independent and structured work approach, Experience with bookkeeping and reconciliation, Structured and detail-oriented work approach, Ability to contribute to the development of internal processes, Experience with accounting and payroll administration, Good collaboration skills across departments, Ability to optimize and improve financial processes, Strong reporting skills, Experience with auditing small and medium-sized enterprises, Strong collaboration skills, Ability to work independently with own client portfolio
Auditor	Good collaboration skills, Strong communication skills, Experience with auditing and client relations, Ability to work independently and take responsibility, Experience with auditing and advisory services, Willingness to continuously develop competencies, Experience with auditing financial statements, Strong advisory competencies, Ability to contribute to a professional environment, Ability to work independently with own clients, Interest in professional and personal development, Experience with independent bookkeeping, Strong analytical skills, Experience with account reconciliation, Ability to prepare reports for management

Continued on next page

Table A17 – *Continued from previous page*

Professional Area	**Job Qualifications**
Financial Accountant	Experience with independent bookkeeping, Strong analytical skills, Experience with account reconciliation, Ability to prepare reports for management, Experience with accounts payable and accounting tasks, Strong skills in bank reconciliation, Ability to prepare reporting, Structured and detail-oriented approach to financial management, Experience with daily bookkeeping and reconciliations, Strong analytical skills in financial analysis, Experience in preparing reports for management, Structured and detail-oriented work approach, Experience with accounting tasks and bookkeeping, Ability to prepare accurate reports, Able to meet deadlines and work independently, Experience with accounting and bookkeeping, Interest in optimizing financial processes
Panel B: Finance Positions	
Business Analyst	Strong analytical skills, Experience with business and financial systems, Good collaboration skills across teams, Ability to implement and optimize processes, Experience with process improvements, Good collaboration skills across departments, Ability to implement new solutions, Experience in translating data into business solutions, Good collaboration skills, Experience with testing and maintaining solutions, Experience with process optimization, Experience with development and maintenance of business processes, Strong collaboration skills across disciplines, Ability to identify and implement continuous improvements

Continued on next page

Table A17 – *Continued from previous page*

Professional Area	**Job Qualifications**
Financial Analyst	Strong analytical skills, Experience with data analysis and reporting, Good communication skills, Ability to work in a structured and independent manner, Experience with financial reporting, Good understanding of performance management, Ability to communicate complex financial data to management, Experience with budgeting and reporting, Good collaboration skills, Ability to develop and optimize financial processes, Experience with financial management tools, Good communication skills, both written and verbal, Ability to prepare reports and present results to management
Risk Analyst	Strong analytical skills, Experience with risk assessment and report writing, Good written communication skills, Ability to work in a structured and independent manner, Experience with risk assessment and monitoring, Ability to develop clear recommendations, Knowledge of risk policies and compliance, Experience with credit assessment and risk evaluation, Good collaboration skills, Ability to prepare accurate reports, Experience with risk assessment and investments, Ability to formulate clear risk frameworks, Structured approach to preparing analyses, Experience with risk assessment and reporting, Experience with development of risk management tools
Panel C: Business Administration Positions	
Business Analyst	Strong analytical skills, Experience with process optimization, Good communication skills, both verbal and written, Ability to develop and maintain business solutions, Experience with mapping and optimizing business processes, Strong communication skills, both verbal and written, Ability to collaborate with various stakeholders, Analytical mindset and problem-solving skills, Experience with developing and implementing business strategies, Ability to identify and execute process improvements, Ability to collaborate across departments, Experience with developing and maintaining business processes, Good communication skills across stakeholders

Continued on next page

Table A17 – *Continued from previous page*

Professional Area	**Job Qualifications**
Project Manager	Experience in project management, Strong coordination and facilitation skills, Ability to monitor project progress, Good collaboration skills with stakeholders, Experience with project management, Strong planning and follow-up skills, Good collaboration skills and ability to advise teams, Strong coordination and follow-up skills, Good communication skills, Ability to support and motivate project teams, Strong communication skills, Ability to collaborate with various stakeholders, Structured and results-oriented approach, Strong collaboration skills, Ability to optimize and improve processes
Logistics Coordinators	Experience in coordinating logistics and shipping, Strong organizational skills, Experience with order processing and invoicing, Good communication skills, Experience with logistics and order processing, Familiarity with data analysis and presentations, Experience with shipment coordination, Ability to prepare reports, Structured and detail-oriented approach, Experience with logistics management and transport coordination, Strong analytical skills and experience with data processing, Ability to handle invoicing and administrative tasks, Good communication skills, both verbal and written, Ability to prepare presentations for management
Panel D: Economics Positions	
Economist	Strong analytical skills, Experience with economic analyses and market studies, Ability to conduct impact assessments, Knowledge of monitoring and evaluating financial institutions or sectors, Experience with economic analysis, Good communication skills, both written and verbal, Experience with evaluation and reporting, Ability to monitor and interpret data trends, Experience with economic analysis and reporting, Ability to work in a structured and independent manner, Experience with market analysis, Good at monitoring and reporting sector developments

Continued on next page

Table A17 – *Continued from previous page*

Professional Area	**Job Qualifications**
Financial Analyst	Strong analytical skills, Experience in developing financial management tools, Ability to prepare and analyze budgets, In-depth understanding of financial matters and investments, Experience with budgeting and financial management, Good collaboration skills, Experience with financial management and reporting, Good communication skills, Good understanding of financial management, Ability to work independently and in a structured manner, Experience with financial management tools, Good communication skills, both written and verbal, Ability to prepare reports and present findings to management
Political Consultant	Experience in developing political strategies, Strong collaboration skills, especially with political stakeholders, Ability to coordinate and lead projects across organizations, Strong analytical skills, Experience with political processes, Good collaboration skills across departments, Ability to prepare written input, Experience with political advocacy, Good collaboration skills with internal and external stakeholders, Ability to handle complex issues, Experience in coordinating political projects, In-depth knowledge of political processes, Excellent advisory and communication skills, Experience with strategic development, Good collaboration skills with stakeholders

Table A18: Randomized Components

Each benefit had probability 0.33 for appearing in any given job posting.

Text
Additional Holiday Leave
Gym Membership
Meal Allowance

Table A19: Randomized Components

This table presents the distributions of firm characteristics randomized in the survey. Each job posting was assigned values by first drawing a category (for size and age), then drawing a specific value from the corresponding uniform distribution. Family firm intensity variations are detailed separately in Table A14.

Category	**Distribution**
Family Firm Intensity	$\sim$ *Unif*[1, 3]
Firm Founding Year Category	$\sim$ *Unif*[1,3]
Category 1 (Young)	$\sim$ *Unif*[2009, 2022]
Category 2 (Middle)	$\sim$ *Unif*[1994, 2008]
Category 3 (Old)	$\sim$ *Unif*[1980, 1993]
Firm Size Category	$\sim$ *Unif*[1,3]
Category 1 (Small)	$\sim$ *Unif*[10, 90] in steps of 10
Category 2 (Medium)	$\sim$ *Unif*[100, 900] in steps of 100
Category 3 (Large)	$\sim$ *Unif*[1000, 9000] in steps of 1000
Monthly Wage	$\sim$ *Unif*[390000, 590000] in steps of 10000

Figure 2: This figure depicts the recruitment email sent to students at the University of Copenhagen.



Kære Polit studerende,

Jeg vil gerne invitere dig til at deltage i en forsknings undersøgelse der ledes af mig, Professor Morten Bennedsen, der underviste/underviser jer i Erhvervsøkonomi på 1. årsprøve:

LINK TIL UNDERSØGELSEN:
https://wustl.az1.qualtrics.com/jfe/form/SV_2f6VjFaAIEVsnLo

Formålet med denne undersøgelse er at forstå hvad du tænker om at arbejde i forskellige typer af private virksomheder og der igennem hjælpe personer som dig selv med at finde jobmuligheder, der stemmer overens med dine interesser og færdigheder.

Du vil blive spurgt, hvor sandsynligt det er, at du ansøger om 15 jobopslag. Undersøgelsen tager 10-15 minutter at udfylde. Vi er klar over at nogle vil være tidligt på studiet og andre tættere på at skulle søge "rigtige" jobs. Vi håber alle vil deltage og vi spørger dig hvor langt du er i studiet undervejs. Jeg vil blandt andet bruge resultaterne i undervisningen i Erhvervsøkonomi til foråret, så jeg håber du vil deltage, - uanset hvor langt du er på studiet.
Som tak for din deltagelse vil vi sende relevante økonomi relaterede studenterjob opslag til dig. Vi har udviklet et nyt AI baseret værktøj der identificerer jobopslag, der stemmer overens med dine interesser som vi udleder fra dine svar.

Vi forventer ingen risici ved at deltage i denne forskning. Svarene vil blive holdt fortrolige, og dine data er helt anonyme. Vi linker ikke data til nogle registre og vi har ikke andre information om dig end hvad du giver os i dine svar. Vi har skrevet til dig via din KU mail med tilladelse af og varme anbefalinger fra Studieleder Thomas Marcussen. Du vil få muligheden for at angive en anden email når du udfylder undersøgelsen.

Du kan læse mere om hvordan vi sikrer data sikkerhed og anonymitet på dette dokument https://tsoutsoura.com/survey.html

LINK TIL UNDERSØGELSEN:
https://wustl.az1.qualtrics.com/jfe/form/SV_2f6VjFaAIEVsnLo

Bedste hilsner,

Morten Bennedsen
Forelæser i Erhvervsøkonomi 1. Årsprøve.
Professor Department of Economics, University of Copenhagen
Visiting Professor INSEAD
Editor of Journal of Corporate Finance

Mail: mobe@econ.ku.dk or mortenbennedsen@insead.edu

Google Scholar: https://scholar.google.com/citations?user=r8MqABAAAAAJ&hl=da&oi=ao

Figure 3: This figure presents the Consent Letter at the beginning of the survey.

Kære Polit studerende,

Vi vil gerne invitere dig til at deltage i en undersøgelse der ledes af Professor Morten Bennedsen, der underviste jer i Erhvervsøkonomi på 1. årsprøve og i samarbejde med forskere ved Columbia University og Washington University.

Formålet med denne undersøgelse er at forstå hvad du tænker om at arbejde i forskellige typer af private virksomheder og der igennem hjælpe personer som dig selv med at finde jobmuligheder, der stemmer overens med dine interesser og færdigheder.

Du vil blive spurgt, hvor sandsynligt det er, at du ansøger om 15 jobopslag. Undersøgelsen vil tage 15 minutter at udfylde. Vi er klar over at nogle vil være tidligt på studiet og andre tættere på at skulle søge "rigtige" jobs. Vi håber alle vil deltage og vi spørger dig hvor langt du er i studiet undervejs. Jeg vil blandt andet bruge resultaterne i undervisningen i Erhvervsøkonomi, så jeg håber alle deltager uanset hvor langt i er på studiet.

Som tak for din deltagelse vil vi sende relevante økonomi relaterede studenterjob opslag til dig. Vi har udviklet et nyt AI baseret værktøj der identificerer jobopslag, der stemmer overens med dine interesser som vi udleder fra dine svar.

Dear students,

We would like to invite you to participate in a survey led by Professor Morten Bennedsen, who taught you Business Economics in the 1st year exam and in collaboration with researchers at Columbia University and Washington University.

The purpose of this survey is to understand what you think about working in different types of private companies and through that help people like yourself find job opportunities that match your interests and skills.

You will be asked how likely it is that you will apply for 15 job postings. The survey will take 15 minutes to complete. We are aware that some will be early in their studies and others closer to having to apply for "real" jobs. We hope everyone will participate and we will ask you how far along you are in your studies.

Among other things, I will use the results in the teaching of Business Economics, so I hope everyone participates regardless of how far along you are in your studies. As a thank you for your participation, we will send you relevant economics-related student job postings. We have developed a new AI-based tool that identifies job postings that match your interests as we infer from your answers.

Vi forventer ingen risici ved at deltage i denne forskning. Svarene vil blive holdt fortrolige, og dine data er helt anonyme. Vi linker ikke data til andre registre som f.eks. Danmarks Statistik og vi har ikke andre information om dig end hvad du giver os i dine svar. Vi har skrevet til dig via din KU mail med tilladelse af og varme anbefalinger fra Studieleder Thomas Marcussen. Du vil få muligheden for at angive en anden email eller angive at du ikke vil have flere henvendelser fra os når du udfylder undersøgelsen.

Du kan læse mere om hvordan vi sikrer data sikkerhed og anonymitet på dette dokument https://tsoutsoura.com/survey.html

Dit input vil gøre en forskel for mange studerende, der søger job efter endt uddannelse, og virksomheder, der er interesserede i at ansætte økonomistuderende som dig. Dit input vil også være et vigtigt input for vores erhvervsøkonomiske forskning på EØ og for undervisningen i Erhvervsøkonomi på Polit.

Det er frivilligt at deltage, og du kan til enhver tid nægte at deltage, afbryde eller springe spørgsmål over, du ikke har lyst til at besvare. Mange tak for din tid og vi håber du har lyst til at være med.

Med venlig hilsen
Morten Bennedsen
Professor ved Økonomisk Institut KU og Forelæser i Erhvervsøkonomi 1. Årsprøve.

- ◯ Jeg giver samtykke
- ◯ Jeg giver ikke samtykke

We do not expect any risks by participating in this research. The answers will be kept confidential, and your data is completely anonymous. We do not link data to other registers such as Statistics Denmark and we do not have any other information about you than what you give us in your answers. We have written to you via your UCPH email with permission and warm recommendations from Study Manager Thomas Marcussen. You will be given the opportunity to provide a different email or indicate that you do not want to receive further communications from us when you complete the survey.

You can read more about how we ensure data security and anonymity on this document https://tsoutsoura.com/survey.html

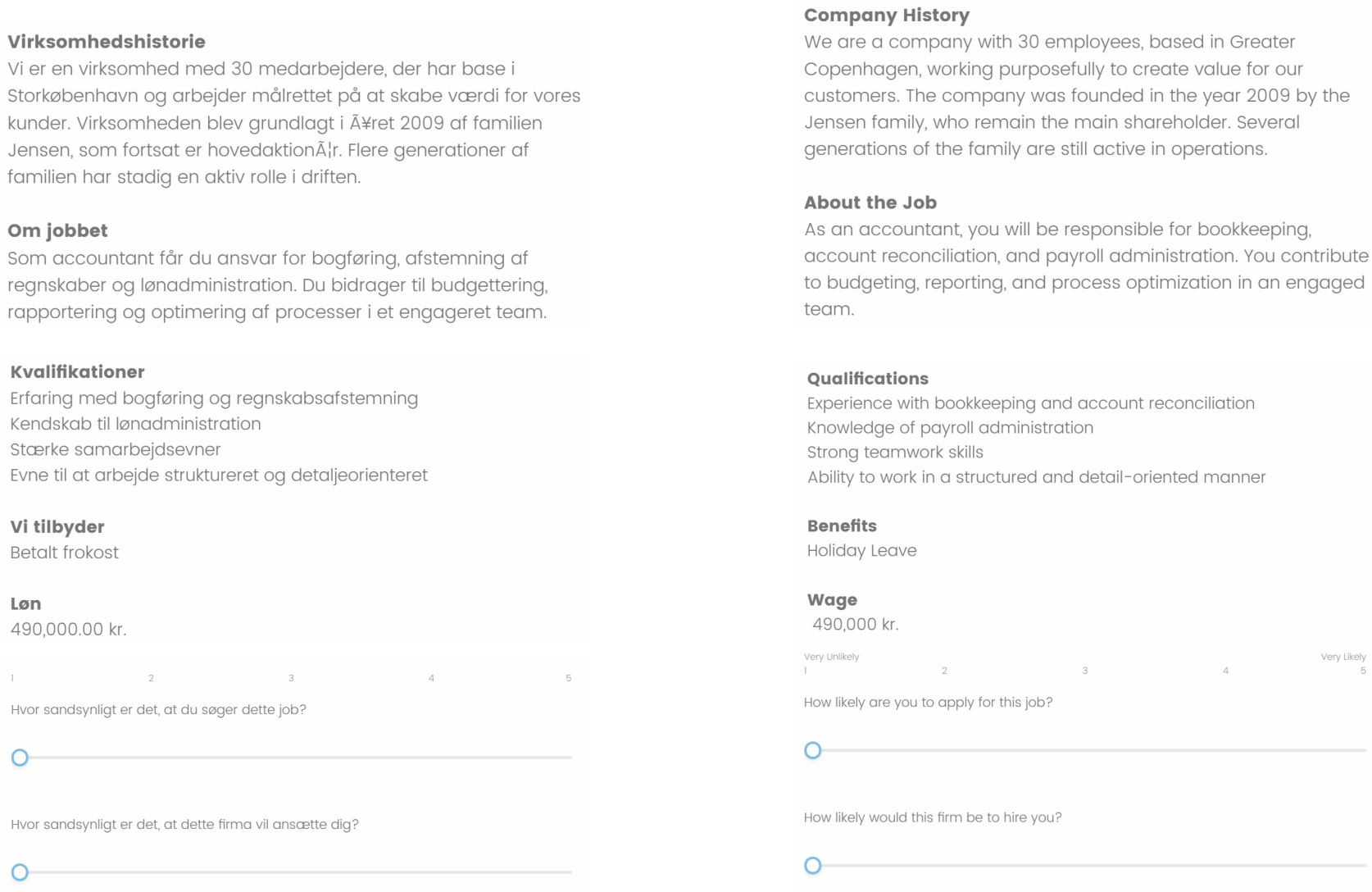
Your input will make a difference for many students looking for jobs after graduation, and companies interested in hiring economics students like you. Your input will also be an important input for our business economics research at EØ and for the teaching of Business Economics.

Participation is voluntary, and you can refuse to participate, interrupt or skip questions you do not wish to answer at any time. Thank you very much for your time and we hope you would like to participate.

Kind regards,
Morten Bennedsen
Professor at the Department of Economics,
University of Copenhagen and Lecturer in Business Economics 1st Year Exam.

- ◯ I accept
- ◯ I do not accept

Figure 4: This figure presents a sample job posting.



Virksomhedshistorie
Vi er en virksomhed med 30 medarbejdere, der har base i Storkøbenhavn og arbejder målrettet på at skabe værdi for vores kunder. Virksomheden blev grundlagt i Ã¥ret 2009 af familien Jensen, som fortsat er hovedaktionÃ¦r. Flere generationer af familien har stadig en aktiv rolle i driften.

Om jobbet
Som accountant får du ansvar for bogføring, afstemning af regnskaber og lønadministration. Du bidrager til budgettering, rapportering og optimering af processer i et engageret team.

Kvalifikationer
Erfaring med bogføring og regnskabsafstemning
Kendskab til lønadministration
Stærke samarbejdsevner
Evne til at arbejde struktureret og detaljeorienteret

Vi tilbyder
Betalt frokost

Løn
490,000.00 kr.

1 2 3 4 5

Hvor sandsynligt er det, at du søger dette job?

Hvor sandsynligt er det, at dette firma vil ansætte dig?

Company History
We are a company with 30 employees, based in Greater Copenhagen, working purposefully to create value for our customers. The company was founded in the year 2009 by the Jensen family, who remain the main shareholder. Several generations of the family are still active in operations.

About the Job
As an accountant, you will be responsible for bookkeeping, account reconciliation, and payroll administration. You contribute to budgeting, reporting, and process optimization in an engaged team.

Qualifications
Experience with bookkeeping and account reconciliation
Knowledge of payroll administration
Strong teamwork skills
Ability to work in a structured and detail-oriented manner

Benefits
Holiday Leave

Wage
490,000 kr.

Very Unlikely 1 2 3 4 5 Very Likely

How likely are you to apply for this job?

How likely would this firm be to hire you?

Hvor længe ville du være villig til at blive hos dette firma (i år)?

- ◯ 1-3 år
- ◯ 3-5 år
- ◯ 5-7 år
- ◯ 7+ år

How long would you be willing to stay with this company (in years)?

- ◯ 1-3 Years
- ◯ 3-5 Years
- ◯ 5-7 Years
- ◯ 7+ Years