Owner Culture and Pay Inequality within Firms*

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Abstract

Using a comprehensive dataset of employee-employer-firm owner-immigration records in 2001-2017, we examine the impact of immigrant owners' national culture on within-firm pay inequality. Firms owned by immigrants from more individualistic countries have higher pay dispersion among employees. Individualism alone explains more than half of the variation in within-firm pay inequality across owners' countries in our sample. This result is robust across various empirical methods, including difference-in-differences analysis of ownership changes. Owners' individualism is associated with their employee compensation structures: more frequent and larger performance pay components—especially for highly educated employees, quicker promotions to high-paying positions, and less pay compression. These findings highlight the prominent role of culture in shaping pay practices and elucidate broader determinants of income inequality.

Keywords: Inequality, Individualism, Immigrant-owned firms

JEL Classification: J31, J15, Z10

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1 Introduction

Within-firm pay inequality contributes significantly to income inequality worldwide.[1] Understanding the pay-setting practices of firms is thus important for tracing the determinants of income inequality and formulating effective policies to rectify it. Within-firm pay inequality varies considerably across countries, contributing to large cross-country differences in income inequality.[2] While firms' pay-setting practices may differ from country to country due to variations in economic structure, productivity, labor market regulations, and other formal institutions, they may also be influenced by informal institutions such as culture. Our paper examines the role of firm owners' national culture in determining within-firm pay inequality, using the setting of immigrant-owned firms in a single host country.[3]

Our research design isolates the impact of national culture but presents significant data challenges. We require a host country with a large, culturally diverse immigrant owner population for sufficient variation and statistical power. The data must identify immigrant owners' countries of origin and include detailed information on wage-setting practices, such as employee performance pay. To this end, we assembled a unique matched administrative dataset of employee-employer-firm owner-immigration records. This dataset covers the universe of closely-held firms in Canada wholly owned by first-generation immigrants, including 353,120 firm-year observations from 2001 to 2017, with immigrant owners from more than 80 countries. It provides detailed information on firm owners with an unambiguous link to administrative immigration records that specify immigrants' countries of origin, number of years since landing, age, education, and skills.

Our setting is ideal for exploring the role of national culture in within-

[1] In 2013, within-firm pay inequality accounted for 42% of total pay inequality in the U.S. (Song et al. (2019)), and from 2002 to 2010, it accounted for 43% of total pay inequality in 22 European countries on average (ILO (2016)). According to the OECD, from 2015 to 2018, about half of the total wage inequality in 18 countries can be attributed to pay differences within firms (OECD (2021)).

[2] The share of within-firm to total pay inequality ranges from 30% in Romania to 58% in Czechia, and the ratio of the standard deviation of within-firm inequality to total pay inequality across 22 European countries is about one-third (ILO (2016)).

[3] We build on prior research that identifies the impact of national culture by comparing immigrants from different source countries in a single host country (Antecol (2000), Antecol (2001); Fernández and Fogli (2006); Fernández (2011); Luttmer and Singhal (2011); Li et al. (2011); Li et al. (2013); Liu (2016); Pan et al. (2017); Nguyen et al. (2018); Pan et al. (2020)). In this work, culture is defined as "*beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation*" (Guiso et al. (2006)).

firm pay inequality. In closely-held firms, immigrant owners are key decision-makers shaping corporate policies. Our dataset allows us to precisely observe the cultural backgrounds of firm owners and control for a wide range of characteristics, including employees' and owners' demographics, firms' location, industry affiliation, life cycle, and various financial variables.

It is plausible that immigrant owners bring their home countries' cultural values to Canada, influencing the pay-setting practices and consequently within-firm pay inequality in the businesses they establish. First, existing research shows that the labor market is not perfectly competitive and that firms significantly influence employee compensation.[4] Second, prior work indicates that the national cultures of immigrant CEOs of U.S.-listed firms influence key corporate policies.[5] Third, drawing on economic theory, we argue that individualism vs. collectivism—a widely used dimension of national culture relevant in corporate settings—should influence the owners' use of individual monetary incentives in employee compensation and thereby shape pay inequality in their firms. Fourth, Canada has a long history and a set of laws that support the preservation of immigrant cultures, enabling a persistent influence of the immigrants' home countries' cultures.

Our primary measure of within-firm pay inequality is the dispersion of a firm's employees' log earnings.[6] We first document a statistically and economically significant association between within-firm pay inequality and immigrant owners' countries of origin fixed effects. We show that these fixed effects explain a substantial portion of the variance of within-firm pay inequality in our sample. Relative to firms owned by U.S. immigrants, pay inequality in firms owned by immigrants from culturally distant countries such as China, India, and Iran is 17%, 8%, and 7% smaller, respectively, while pay inequality in firms owned by immigrants from culturally close countries such as the U.K. is not significantly different.

We also show that the immigrant owners' countries of origin explain a substantial part of the variation in within-firm pay inequality. For instance, the fixed effects of owners' countries of origin are 24% as significant

[4]See Abowd et al. (2002); Card et al. (2013), Card et al. (2018); Song et al. (2019).

[5]See Li et al. (2011), Li et al. (2013); Liu (2016); Pan et al. (2017); Nguyen et al. (2018); Pan et al. (2020).

[6]We follow a large body of prior work reviewed by Card et al. (2018).

as NAICS 4-digit industry fixed effects (capturing technology, capital intensity, and market competition) and 229% as significant as province fixed effects (capturing local product and labor market conditions and institutional environment) in explaining the variance in within-firm pay inequality in our sample.

The association between within-firm pay inequality and immigrant owners' countries of origin remains statistically and economically significant after controlling for firm characteristics (size, age, capital-labor ratio, and ownership dispersion), owner characteristics (skill and education level) and various fixed effects (industry-by-year, province-by-year, and industry-by-province interacted fixed effects). This holds true even when focusing on larger firms and calculating pay dispersion using employee residual earnings after accounting for a range of covariates affecting wages, such as employee age, detailed educational attainment, and tenure. In other words, immigrant owners' countries of origin have significant explanatory power for within-firm pay inequality even after controlling for differences in firm life-cycle, size, performance, owners' management capability, industry characteristics, local labor and product market conditions, and macroeconomic conditions, as well as employee characteristics.

To explain the association between within-firm pay inequality and owners' countries of origin, we focus on individualism vs. collectivism—a dimension of national culture developed by Hofstede (1980) and Hofstede and Hofstede (2001). Countries high in individualism emphasize individual goals, accountability, and achievement, while those high in collectivism prioritize group goals, shared responsibility, and group harmony. We thus hypothesize that firms owned by immigrants from more individualistic countries will rely more on high-powered individual monetary incentives in the workplace, leading to greater pay dispersion among employees (Holmström (1979); Lazear and Rosen (1981)). In contrast, more collectivist owners will manage workplaces where employees share responsibility for outcomes. In such scenarios, lower-powered incentives will more likely be utilized due to the multiplicity of tasks and team production (Holmström and Milgrom (1991); Lazear (1989)), resulting in reduced within-firm pay dispersion.

We begin our analysis of the role of individualism in within-firm pay inequality by examining the relationship between country-specific within-firm

pay inequality (measured by the estimated fixed effects of immigrant owners' countries of origin as described above) and Hofstede's individualism scores for the countries. In this country-level regression, the individualism score alone explains more than half of the variation in the estimated within-firm pay inequality across countries. Additionally, a one standard deviation increase in individualism is associated with a 0.86 standard deviation increase in within-firm pay inequality across owners' countries of origin. This result holds when controlling for other cultural dimensions, the level of development of these countries, their reliance on the shadow economy, the strength of formal institutions, employment/union laws, and management practices of the owners' countries of origin.

Next, we demonstrate a strong, positive association between the individualism of immigrant owners' home countries and within-firm pay inequality using firm-level regressions on a sample of immigrant-owned firms. This association is both statistically and economically significant. We also find that this association weakens in firms whose immigrant owners spent their formative school years in Canada, suggesting that early cultural integration may moderate the influence of original national culture on pay practices. Robustness tests confirm that our results hold when controlling for additional owner characteristics such as language proficiency, gender, marital status, number of firms owned, and owners' technical, managerial, and professional skills, as well as a number of firm characteristics. The results are consistent in subsamples of medium and large firms and when excluding family firms. Our findings are robust across multiple alternative measures of within-firm pay inequality such as the 90/10 income inequality ratio and pay dispersion calculated using employee residual earnings.

When examining the mechanism underlying our main results, we find a strong association between the individualism of firm owners and the compensation structures of their employees. Firms owned by immigrants from more individualistic countries are more likely to include performance pay in employees' compensation packages. The size of the performance pay component is generally larger, especially for employees with high educational attainment. Additionally, more individualistic owners tend to promote employees more quickly to high-paying positions, and their firms exhibit less pay compression. These findings support our hypothesis that greater

within-firm pay inequality arises because more individualistic owners use high-powered individual monetary incentives to manage their workforce.

To address concerns that alternative mechanisms, such as production technology choices, might explain our findings, we conduct a difference-in-differences analysis using a subsample of immigrant-owned firms that experience a change in ownership, where the incumbent owners exit the firm. Specifically, we compare the evolution of within-firm pay inequality around owner-turnover events that involve a change in the owners' countries of origin to events without such a cultural change. We find that firms taken over by owners from countries with higher within-firm pay inequality or more individualistic cultures experience a significant increase in within-firm pay inequality after the ownership changes. We find no evidence of pre-treatment trends and observe a permanent increase in within-firm pay inequality starting one year after the ownership change.

We refine our difference-in-differences analysis in several ways to further control for potential confounding effects. First, we repeat the analysis on a subsample of employee "stayers"—those who work in the firm both before and after the ownership change—to eliminate effects due to compositional changes in the employee base around the ownership change. We find quantitatively similar results. Second, we repeat the analysis for employee stayers in the Accommodation and Food Services sector, where the production function is labor-intensive and homogeneous across firms, and in firms with only minor changes in the capital-labor ratio around the ownership change events. Again, we find similar results. This analysis mitigates concerns that our findings are driven by changes in unobservable production technology associated with ownership changes. Finally, we examine changes in within-firm pay inequality among employee stayers following ownership changes caused by the deaths (and alternatively premature death) of prior owners and find qualitatively similar results. Because death events are plausibly exogenous to confounding factors that might be correlated with both changes in owners' countries of origin and changes in pay inequality among employee stayers, the effects we estimate are plausibly attributable to cultural influences.

To summarize, using a matched administrative panel dataset of employee-employer-firm owner-immigration records, we show that within-firm pay

inequality varies significantly with a firm owner's country of origin, and is higher if the owner immigrated from a more individualistic country. These findings are robust across both cross-sectional and difference-in-differences empirical designs, employing a variety of regression specifications and different subsamples. We support this main finding with a range of results illustrating how the pay structure for employees varies depending on the individualism of the firm's owners, consistent with our hypothesis. Our analyses support the interpretation that culture, particularly individualism, influences within-firm pay inequality through the pay-setting practices of firm owners. Overall, our findings suggest that informal institutions are economically significant determinants of within-firm pay inequality.

Lastly, we provide additional results on employee compensation within immigrant-owned firms that further demonstrate a strong link between the culture of a firm's owners and their pay-setting practices. Specifically, employees who share the same culture as the firm's owners earn more, and have lower separation rates compared to those from different cultures. These findings suggest that specific pay practices could limit the pool of potential employees for immigrant-owned firms to individuals with similar cultural backgrounds, thereby restricting the available human capital and potentially affecting the growth of these firms. Consistent with this notion, we show that the growth of immigrant-owned firms is strongly correlated with the availability of immigrants from the owner's country in Canada.

Our paper makes several contributions to the literature. First, our paper contributes to the emerging literature on the determinants of within-firm pay inequality. Prior work shows that market forces (e.g., competition), firm attributes (e.g., firm size), and technological change (e.g., automation) affect within-firm pay inequality (Mueller et al. (2017); Domini et al. (2020); Gartenberg and Wulf (2020); Bias et al. (2021); Moser et al. (2021); Fang et al. (2022); Friedrich (2022); He et al. (2022)).[7] We extend these studies by highlighting that national culture, a key informal institution, is a primary determinant of pay inequality within firms.

Second, our paper contributes to the literature on the effects of culture on economic outcomes and corporate policies (Antecol (2000), Antecol

[7]More broadly, our paper is related to the large literature on the determinants on pay inequality (Lemieux (2008); Acemoglu and Autor (2011); Card et al. (2018) provide reviews).

(2001); Guiso et al. (2004); Guiso et al. (2009); Algan and Cahuc (2010); Li et al. (2013); Ahern et al. (2015); Gorodnichenko and Roland (2017); and reviews in Guiso et al. (2006); Luttmer and Singhal (2011); Nguyen et al. (2018); Pan et al. (2020)). Our paper is particularly related to Alesina and Giuliano (2011) and Luttmer and Singhal (2011), who show that culture shapes household preferences for income redistribution by the government, impacting households' voting in elections.We extend the literature by examining the role of culture on employee pay structures and within-firm inequality, a significant public policy and societal concern. While most prior studies focus on CEOs of large publicly traded firms, we focus on owners of closely-held firms—Small and Medium Enterprises (SMEs), a predominant segment of the economy in terms of employment. In this context, owners have a direct and substantial influence on firm policies, including pay setting. The absence of complex hierarchical structures typical of large firms means the cultural values and preferences of the owners are more directly reflected in firm decisions, allowing for a more straightforward analysis of the impact of culture. Our study demonstrates that cultural values affect not only high-level corporate policies made by CEOs but also day-to-day business practices within most firms in the economy.

We also contribute to the literature on firms' pay setting (see Prendergast (1999); Bloom and Van Reenen (2011); Rebitzer and Taylor (2011); Gibbons and Roberts (2013) for reviews). Our results suggest that culture plays a role in firms' compensation practices. The finding that within-firm pay inequality varies with owners' countries of origin, particularly with individualism is consistent with studies that emphasize the role of non-pecuniary factors in the workplace (Akerlof and Kranton (2005); Rebitzer and Taylor (2011); Gartenberg and Wulf (2020)). These results are also consistent with findings in the cross-cultural psychology and organizational behavior literature, which find that individualism is positively associated with the use of individual monetary incentives (see reviews in Aycan and Gelfand (2012) and Kerr and Kerr (2016)). By focusing on immigrant-owned firms, we provide unique insights into the economic behavior and practices within these firms, an area that has been largely unexplored. To our knowledge, our study is the first to examine the role of immigrant owners in shaping employee compensation, contributing to a broader un-

derstanding of the economic integration and influence of immigrants in the corporate sector.

2 Conceptual framework

2.A Owner culture and pay setting inside firms

Our empirical tests stem from the argument that a firm's owners can impact the employees' pay and that the national culture of the firm's owners influences how they set their employees' pay. This argument is supported by empirical evidence. First, a substantial body of literature in labor economics provides evidence that local labor markets are not perfectly competitive and that firms have significant latitude in setting employee wages (e.g., Abowd et al. (2002); Card et al. (2013); Card et al. (2018); Song et al. (2019)). Second, decision-makers, typically CEOs and top executives of public firms, influence a range of firm policies, as seen in the seminal work by Bertrand and Schoar (2003). In our sample of closely-held firms—where the median firm has one owner, and the average number of owners per firm is 1.4—the owners are arguably the most influential decision-makers in their firms and could thus determine a range of corporate policies, including setting pay for all levels of employees. Third, extensive literature documents that immigrants carry their home country's culture, including attitudes towards saving, work participation, gender norms, and preference for redistribution, to the host country (Antecol (2000); Antecol (2001); Fernández and Fogli (2006); Fernández (2011); Luttmer and Singhal (2011)). Moreover, recent studies demonstrate that the cultural heritage of second- or third-generation immigrant CEOs affects important firm policies and outcomes such as corporate misconduct, acquisitions, and performance under competitive pressure (Liu (2016); Pan et al. (2017); Nguyen et al. (2018); Pan et al. (2020)).

Our setting of immigrant-owned firms in Canada is particularly favorable for studying the effect of decision-makers' national culture on corporate policies. Immigrant owners in our sample are first-generation immigrants whose behavior and decisions are directly influenced by the cultural values of their home countries. Additionally, Canada's multiculturalism policy

ensures that the culture of the owners' home countries is preserved.[8]

2.B Individualism and within-firm pay inequality

We focus on individualism versus collectivism—a dimension of national culture developed by Hofstede in his seminal works (Hofstede (1980) and Hofstede and Hofstede (2001)). Originally constructed from survey responses of IBM employees across 70 countries, Hofstede's cultural dimensions capture values in the workplace and are thus directly relevant to the corporate setting we study. Hofstede identified four dimensions of culture: individualism (versus collectivism), power distance, masculinity, and uncertainty avoidance. According to Hofstede (2011), individualism governs the value that individuals place on the self versus the group (e.g., team or firm), as well as the relationship between them. Cultures high in individualism emphasize individual goals, accountability, and achievement, whereas cultures high in collectivism emphasize group goals, shared responsibility, and group harmony.[9] We build on these distinctions of individualism versus collectivism, along with existing economic theories, to develop a hypothesis on how owners' individualistic culture affects pay-setting decisions, and thereby pay inequality among employees within firms.

According to canonical agency theory (Holmström (1979)) and tournament theory (Lazear and Rosen (1981)), firm owners should use high-powered monetary incentives to motivate employees. Specifically, owners should either link monetary compensation to performance or maintain large pay gaps along job ladders to motivate employees to climb up the ladders. Follow-up work discusses when this framework does not apply and highlights the costs of high-powered incentives. Holmström and Milgrom (1991) demonstrate that the standard one-dimensional agency model with high-powered incentives is not optimal in settings where a single employee performs multiple tasks or where responsibility is shared among multiple em-

[8] Canada—the first country in the world to adopt a multiculturalism policy in 1971—acknowledges that its citizens come from wide variety of cultural backgrounds and that all cultures have intrinsic value. The multiculturalism policy emphasizes the right of all Canadians to preserve and share their cultural heritage, while also having the right to full and equitable participation in society, including business activities.

[9] Individualism is a widely studied dimension (Triandis (1988); Triandis (2001)), which has been shown to influence important economic outcomes, corporate policies, and human resource management practices (Li et al. (2013); Gorodnichenko and Roland (2017); with reviews in Kirkman et al. (2006), and Aycan and Gelfand (2012)).

ployees. In such settings, the optimal incentive contract for an employee can be a fixed wage independent of performance. Furthermore, Lazear (1989) suggests that when cooperation among employees is important, we expect to see lower-powered incentives and less wage differentiation because the presence of high-powered incentives may lead employees to over-compete or sabotage each other's work.

Hofstede (2011) argues that in individualist cultures, owners view employees as "economic persons" who value personal goals over group goals and emphasize individual employee accountability. Accordingly, owners from individualistic cultures would organize work by assigning clear objectives and responsibilities to individual employees. In this case, the standard one-dimensional agency model with high-powered incentives is more likely to be applied, suggesting a large within-firm pay dispersion among employees. On the other hand, owners from collectivist cultures would place greater emphasis on group interests and organize work in a way that employees share responsibility for outcomes (Kashima and Callan (1994); Sanchez and Levine (1999)). In this scenario, lower-powered incentives are more likely to be utilized due to the multiplicity of tasks and team production, or because employees may otherwise strategically spend less effort on teamwork and over-compete or sabotage work, all of which suggest a smaller within-firm pay dispersion among employees.

There are two additional arguments by which owners from collectivist cultures rely less on high-powered monetary incentives, thereby lowering within-firm pay dispersion. The first argument is based on evidence that collectivist cultures have a stronger preference for equal pay among group members (e.g., Sama and Papamarcos (2000)).[10] Collectivist owners may view unequal pay, in the form of strong pay-for-performance incentives, as eroding group cohesion and employee productivity (Card et al. (2012); Breza et al. (2018)). The second argument is that owners from collectivist cultures expect employees to shirk less and take extra actions that benefit the firm (Moorman and Blakely (1995)), relying on stronger group identity as a substitute for monetary incentives in eliciting effort (Akerlof and Kranton (2005)). As a result, owners from collectivist cultures would

[10] In experiments, Chinese (indicative of high collectivism) used the equality rule in allocating rewards more than Americans did (Bond et al. (1982); Leung and Bond (1984)).

flatten the monetary compensation schedule to emphasize the maintenance of group harmony and the enhancement of the team environment (Gomez et al. (2000); Fadil et al. (2005); Bolino and Turnley (2008)).

The theory and evidence we reviewed above lead to our main hypothesis: firms owned by immigrants from more individualistic countries rely more on high-powered individual monetary incentives in the workplace, leading to greater within-firm pay inequality among employees. We test this hypothesis by examining the relationship between the individualism of immigrant owners and the pay inequality within their firms. We further support these main tests by analyzing how the use of performance pay compensation structures for employees depend on the individualism of immigrant owners

3 Sample and summary statistics

3.A Data sources

We use the Canadian Employer-Employee Dynamic Database (CEEDD), maintained by Statistics Canada. It is a matched employer-employee administrative dataset that covers the universe of Canadian employees and their employers, compiled from tax filings. The CEEDD includes annual labor earnings for each employee from their respective employers, along with details on employee characteristics such as age, gender, and family composition. For firms, the CEEDD provides financial information such as revenue, assets, firm age, industry classification, and location. To identify firms' owners, we link the CEEDD with the 'T2SCH50 Shareholder Information' tax form using firms' unique business numbers. Using this form, it is mandatory for all Canadian-controlled corporations to disclose information about any shareholder who owns 10% or more of the corporation's common and preferred shares.

We then link the CEEDD with the Longitudinal Immigration Database (IMDB), administrative data for all immigrants admitted to Canada since 1980. The IMDB includes information such as immigrants' education, skill level, country of birth and citizenship, and the date they landed. To obtain education data for non-immigrant employees, we link the CEEDD with the

Post-Secondary Student Information System (PSIS) database. The PSIS records information on programs and courses completed by graduates from all Canadian public and private post-secondary institutions.[11] Since all individuals in the datasets we link together—CEEDD, T2SCH50, IMDB, and PSIS—have the same unique identifier, we can track firms' employees and owners along with their educational attainment and other characteristics.

3.B Sample construction

We follow Guiso et al. (2004), Fernández (2011), and Luttmer and Singhal (2011) and identify the impact of culture on outcomes by studying immigrants in a single host country. Our sample includes incorporated firms wholly owned by immigrants from the same country, that is, all disclosed owners of a firm are immigrants from the same country. The cultural origin of firms' immigrant owners is proxied using their countries of birth.[12]

We restrict our sample to firms that are at least two years old to ensure that employees can work a full year in each firm-year in our sample. We also only include firms with at least three employees to ensure that within-firm statistics are meaningful.[13] We exclude firms in the government and educational sectors (Song et al. (2019)). As a result, we obtain a panel of 353,120 firm-years spanning 2001-2017. The panel has an average of 20,770 firms per year, ranging from 8,205 firms in 2001 to 34,975 firms in 2017.

3.C Descriptive statistics

Our main dependent variable is within-firm pay inequality, calculated as the variance of a firm's employees' log annual wage earnings. We exclude

[11] The PSIS has administrative data quality as it collects data through a national survey using a repeated cross-sectional design. There is no sampling, and survey participation is mandatory.

[12] As we use the owners' countries of origin fixed effects to estimate the culture of each country-of-origin group, we require each such group to have at least 1,000 firm-year observations in our sample. This sample screen ensures that the country-of-origin fixed effects can be precisely estimated.

[13] The CEEDD does not provide data on the number of hours or weeks worked by an employee. Therefore, following the approach of prior literature (Card et al. (2013); Song et al. (2019)), which excludes employees with weak labor market attachment, our sample includes employees aged 20 to 60 whose annual earnings exceed the minimum wage for one-quarter of full-time employment in that year. For example, in 2001, the threshold, calculated as 13 weeks of 40 hours at $5.60 per hour, totals $2,912. Following Song et al. (2019), we assign all employees who received labor earnings from the same business number in a given year to that firm. Employees with multiple jobs in the same year are linked to the firm providing their largest source of earnings for that year.

the earnings of the firm's owners from this calculation. Table 1 presents summary statistics for our main sample. On average, firms in our sample are 8 years old, employ 8 employees, report revenue of $1.048 million, have total assets of $0.557 million, and a capital-labor ratio of $86 thousand. The average within-firm pay inequality is 0.313 with a standard deviation of 0.308. Owners in our sample are typically 47 years old and have resided in Canada for 18 years since landing. The average number of owners per firm is 1.4 with 32% of firms having more than one owner. The average owner holds a stake in 1.78 firms.

Our sample primarily consists of small, closely-held firms. For this reason, we expect owners in our sample to significantly influence their firms' policies, including employee compensation. Moreover, considering that the average immigrant owner in our sample spent their initial 29 years in their country of origin before immigrating to Canada, the culture from their countries of origin is expected to play a significant role in shaping their behavior as a firm owner.

The IMDB records immigrants' skills and education levels at the time of landing. Education level is based on years of schooling and the highest degree attained, where a score of one indicates 0 to 9 years of schooling and a score of eight indicates a doctorate. Skill level is classified using a ten-category system that includes managerial, professional, skilled and technical, intermediate and clerical, elemental and laborer, new workers, non-workers, retired, and student. We encoded these ten categories into a scoring system where students are assigned a score of one, and managerial positions receive a score of eight. On average, immigrant owners in our sample have an education score of 3.66, equivalent to completing high school, and a skill score of 4.23. In our analysis, we control for the education and skill levels of owners using variables derived from this data.

Table IA1, Panel A presents the sample composition by the countries of origin of immigrant owners. We report the sample means and standard deviations of within-firm pay inequality for each country-of-origin group. To facilitate comparisons, we use the Z-score to measure how much the within-firm pay inequality of a country deviates from the overall sample average. For example, a Z-score of -1.7 for China means that the average within-firm pay inequality in Chinese-owned firms is 1.7 standard devia-

tions below the sample average. In contrast, a Z-score of 1.2 for U.S.-owned firms indicates that the average within-firm pay inequality in these firms is 1.2 standard deviations above the sample average. Figure IA1 visualizes the variation in within-firm pay inequality across different countries of origin for immigrant owners in Canada.

We also report the number of years since landing, relative to each firm-year observation, for owners from each country of origin. The average duration since landing is similar across different countries, suggesting that our empirical setting involves immigrants with a comparable length of exposure to Canada.[14]

4 Pay inequality in immigrant-owned firms

4.A Baseline results

We begin our analysis by establishing a robust relationship between the countries of origin of immigrant owners and pay dispersion among employees in firms owned by immigrants. We estimate a firm-level regression:

$$Var(w)_t^j = \mathbb{1}(\text{Owners' Cntry})^j \cdot \beta_1 + X_t^j \cdot \beta_2 + FE_n + FE_p + FE_t + \varepsilon_t^j, \quad (1)$$

where $Var(w)_t^j$ is the variance of firm j's employees' log earnings in year t, and $\mathbb{1}(\text{Owners' Cntry})^j$ represents a vector of indicator variables for the countries of origin of firms' immigrant owners. X_t^j stands for, across various specifications, a set of time-varying firm characteristics such as size, age, and capital-labor ratio, as well as firm owners' characteristics like education and skill levels. We employ NAICS 4-digit industry fixed effects, FE_n, to control for variation in pay policies that arise from industry-specific differences in production technology and market conditions. We employ province fixed effects, FE_p, to account for unobserved heterogeneity in local product and labor market conditions and institutional environments. Calendar year fixed effects, FE_t, control for macroeconomic conditions. If the culture of immigrant owners influences pay inequality within their firms, the coefficients in β_1 should jointly statistically significantly differ

[14] Table IA1, Panel B reports the sample composition by calendar year, and Panel C details the sample composition by NAICS 2-digit industry sectors.

from zero. The U.S. is omitted from $\mathbb{1}(\text{Owners' Cntry})^j$ and serves as the benchmark group. Hence, a positive coefficient for a country indicates that firms owned by immigrants from that country exhibit higher within-firm pay inequality compared to those owned by U.S. immigrants.

Table 2, Panel A reports the estimates of Equation 1.[15] In the baseline specification of Column 1, 52% of the coefficients for owners' countries of origin indicators are significantly different from zero at the 10% level of statistical significance or better. These coefficients are jointly different from zero at a 1% level of statistical significance, suggesting that owners' national culture can be an important determinant of within-firm pay inequality. Notably, 83% of these coefficients are negative, indicating that, compared to firms owned by U.S. immigrants, firms owned by immigrants from most other countries tend to exhibit smaller pay inequality within their firms.

The coefficient of -0.0621 for China, which is statistically significant at the 1% level, suggests that pay inequality in firms owned by Chinese immigrants is 16.8% lower compared to firms owned by U.S. immigrants. Countries with cultural proximity exhibit comparable coefficient estimates. For instance, the coefficient of -0.0607 for Hong Kong, statistically significant at the 1% level, is akin to that of China. Conversely, the coefficient of 0.0012 for the U.K. is close to zero and statistically insignificant, indicating that pay inequality in firms owned by U.K. immigrants does not significantly differ from that in firms owned by U.S. immigrants.

In Column 2, we include the logarithm of the number of employees to control for the impact of firm size, as larger firms tend to have greater within-firm pay inequality than smaller ones (Rosen (1982)). We also include the capital-labor ratio to account for differences in production technology that can influence the distribution of employees' marginal productivity and, thereby affect pay inequality. In Column 3, we add the logarithm of firm revenue to control for the impact of firm performance on the distribution of rents among employees. Additionally, we include firm age and its quadratic term to account for different stages in a firm's lifecycle. We also include an indicator variable for whether a firm has multiple owners to control for the potential impact of a dispersed ownership structure. In

[15] Due to space constraints, we report estimated coefficients for only a selected few countries; the full set of coefficients is available in Table IA2, Panel A.

Column 4, we introduce controls for the education and skill levels of the firms' owners. These factors may influence the design and implementation of employee incentives, thereby driving pay inequality within firms.[16] Table 2, Panel B shows that the pairwise correlations of the estimated fixed effects for owners' countries of origin obtained using the four specifications in Table IA2, Panel A are all 0.94 or higher, and are statistically significant at the 1% level.[17]

Complementing our regression analysis, in Table 2, Panel C, we report results from an analysis of variance (ANOVA) that isolates the component of variation in within-firm pay inequality attributable to owners' countries of origin from the variation associated with other factors. The F-test for the joint significance of the fixed effects of the owners' countries of origin is statistically significant at the 1% level. The fixed effects of the owners' countries of origin are 96% as important in explaining the variance of within-firm pay inequality as is the aggregate trend proxied by calendar year fixed effects. They are 24% as important as industry-specific technology factors, product market and labor market conditions, as represented by NAICS 4-digit fixed effects. They are 229% as important as local product and labor market conditions, and institutional environments, as represented by the province fixed effects.[18] These results support our regression analysis, suggesting a significant economic relationship between owners' culture on within-firm pay inequality.

Our results so far suggest that a permanent country-level characteristic, such as national culture, which immigrants carry from their home countries to Canada, has a statistically significant and economically large association

[16] In Table IA2, Panel B, we present results using the same four specifications from Panel A except that we include industry-by-year, province-by-year, and industry-by-province fixed effects in the regression specifications. In Table IA2, Panel C, we present results using the same four specifications from Panel A except that we focus on firms with at least four employees. In Table IA2, Panel D, we present results using the same four specifications from Panel A except that we use employee residual earnings $\xi_t^{i,j}$ estimated using Equation IA1 to construct the dependent variable.

[17] The bottom panel in Table 2, Panel B shows that the estimated fixed effects for owners' countries of origin obtained using specifications in Table IA2, Panel B and Panel C, respectively, exhibit pairwise correlations of 0.92 or higher (statistically significant at the 1% level in all cases) with the estimated fixed effects for owners' countries of origin obtained using the corresponding specifications in Table IA2, Panel A. The pairwise correlations are 0.83 or higher (statistically significant at the 1% level in all cases) for specifications in Table IA2, Panel D.

[18] Table IA2, Panel E presents ANOVA results for alternative specifications with industry-by-year, province-by-year, and industry-by-province fixed effects. Meanwhile, Table IA2, Panel F presents ANOVA results for specifications that include firm and immigrant owners' characteristics. We find results analogous to those presented in Table 2, Panel C.

with within-firm pay inequality. This relationship persists regardless of the control variables or fixed effects used and applies to pay dispersion constructed from both raw and residual employee earnings. In the remainder of the paper, we further establish that this association is attributable to culture, particularly to individualism.

5 Immigrant-owners' individualism

5.A Within-firm pay inequality

Our main hypothesis developed in Section 2 suggests that firms owned by immigrants from more individualistic countries should have greater pay dispersion among their employees. To test this hypothesis, we start by regressing the within-firm pay dispersion of a country—measured by the estimated owners' countries of origin fixed effects from Column 2 of Table 2, Panel A—on Hofstede's individualism score for that country.

Table 3, Panel A presents the results of this country-level regression. Column 1 shows that a country's individualism score is positively associated with the pay inequality within firms owned by immigrants from that country. The coefficient of the individualism score, statistically significant at the 1% level, is economically large: a one standard deviation increase in individualism is associated with a 0.018 increase in within-firm pay inequality, which represents 86% of one standard deviation of within-firm pay inequality across all countries in our sample.[19] Additionally, the adjusted R-sq of this regression is 53%, indicating that individualism alone explains more than half of the variation in within-firm pay inequality across different countries. To illustrate this relationship, Figure 1 plots each country's estimated within-firm pay inequality against its level of individualism, measured relative to the U.S. Both the regression results and the graph demonstrate a clear positive relationship between a country's within-firm pay inequality and its individualism score, consistent with our hypothesis.

In Column 2 of Table 3, Panel A, we include the other three Hofstede cultural dimensions along with a measure of trust to control for the im-

[19] For ease of comparison, we normalize all explanatory variables in this regression to have a standard deviation of one.

pact of cultural values important for economic outcomes. In Column 3, we add the logarithm of GDP per capita to control for characteristics driven by differences in economic development across countries. We also include a country's share of the shadow economy to control for the propensity of a country's migrants to engage in underground labor practices. In Column 4, we add variables to control for the impact of the country's legal environment. In Column 5, we add the employment law index and union law index to control for the country's labor laws. In Column 6, we add the average score from management questions of the World Management Survey (WMS) to control for differences in management practices across countries.[20] Across all these specifications, individualism is the only explanatory variable that consistently shows a positive and statistically significant relationship with within-firm pay inequality. The magnitude of the coefficient of individualism remains stable across different specifications.

In Table 3, Panel B, we test the relationship between individualism and within-firm pay inequality by estimating Equation 1 where we replace country indicators with $Indiv^{j}_{\text{Owners' Cntry}}$—Hofstede's individualism score for each immigrant owner's country of origin. This results in regression:

$$Var(w)^{j}_{t} = Indiv^{j}_{\text{Owners' Cntry}} \cdot \beta_1 + X^{j}_{t} \cdot \beta_2 + FE_n + FE_p + FE_t + \varepsilon^{j}_{t}. \quad (2)$$

The estimated coefficient of owners' individualism in Column 1 is 0.0824, statistically significant at the 1% level. This result indicates that a one standard deviation increase in individualism is associated with a 0.016 increase in within-firm pay inequality. This implies that, for example, pay inequality in firms owned by Chinese immigrants is 0.059 smaller than in firms owned by U.S. immigrants, equivalent to a reduction of 15.9% of the average pay inequality in firms owned by U.S. immigrants. These findings are consistent both qualitatively and quantitatively with those in Table 2, Panel A, obtained using immigrant owners' countries of origin fixed effects.

In Table 3, Panel C, we examine how the impact of individualism on within-firm pay inequality varies with the length of time the immi-

[20]The WMS sample includes 35 countries, and the intersection with our sample comprises 27 countries. The positive relationship between individualism and within-firm pay inequality remains robust even as we control for differences in operations, monitoring, and talent-oriented management practices, which are included separately in the regression.

grant owner was exposed to their home country's culture. We interact $Indiv^{j}_{\text{Owners' Cntry}}$ with $\mathbb{1}(\text{YoungImm})^{j}$, an indicator variable that equals one if the owner immigrated to Canada before the age of seven, reflecting limited exposure to the home country's culture.[21] We find that the effect of individualism is less pronounced for owners who immigrated at a younger age. Since spending all school years in Canada diminishes the impact of the home country's individualism, this result supports the view that our findings are attributable to cultural influences.

5.B Robustness tests for main findings

Our results remain robust when using specifications from Table 3, Panel B, with additional control variables. Specifically, Table IA3, Panel A presents results when we add controls for owner characteristics such as language proficiency (Column 1); gender, marital status, and the number of firms owned (Column 2); and indicators for the owners' technical, managerial, and professions skills (Column 3). Across all these specifications, the coefficients of individualism are comparable in magnitude to our main estimates and remain statistically significant at the 1% level. These tests alleviate concerns that our results are due to factors such as the owner's ability to speak English or their experience in management, which could correlate with individualism. In Column 4, we control for the average pay level of the firm's employees to account for the possibility that the dispersion of pay can be jointly determined with its level. In Column 5, we include the fraction of immigrant employees in the firm and the fraction of these immigrant employees who come from the same country as the firm's owners as control variables. Our results continue to hold. The additional controls help further isolate the impact of individualism from other potential confounding factors related to workforce composition.

Our results continue to hold in samples of larger firms. Specifically, in Table IA3, Panels B and C, we repeat the regressions from Table 3, Panel B, but require firms to have at least 14 employees and 49 employees, respectively. These thresholds correspond to the top quartile and the top percentile of our sample firms. To the extent that larger firms are less

[21] For this analysis, we focus on firms with only one owner.

dependent on "unofficial" labor, these results suggest that our findings are not driven by differences in the use of underground labor. Table IA3, Panel D demonstrates that our results are robust when excluding family firms from the analysis. We define family firms as those where at least one employee is a family member of the firm owner in a given year, based on data from Statistics Canada T1FF 'Family File'.[22]

Our results are robust to using alternative measures of within-firm pay inequality. The remaining panels of Table IA3 report results using specifications from Table 3, Panel B, but with alternative dependent variables: in Panel E, we measure inequality as the gap in log earnings between the employee at the 90th and the 10th percentiles for each firm-year; in Panel F, we include the owners' earnings in computing $Var(w)_t^j$; in Panel G, we measure inequality using employee residual earnings $\xi_t^{i,j}$ estimated using methodology described in Internet Appendix Section Appendix B. Across all these different dependent variables, the coefficient of individualism remains statistically significant at the 1% level. Furthermore, in Panel H, we use within-firm pay dispersion computed using immigrant employees who are from the same country as the firm's owners ('in-group culture variance'); in Panel I, we use pay dispersion computed using employees who are not from the same country as the firm's owners ('out-group culture variance'); and in Panel J, we use variance between the employees that belong to the in-group versus the out-group ('cross-group culture variance'). We find that individualism is positively associated with both the in-group and out-group culture variance, as well as with the cross-group variance. In all these three cases across different specifications, the coefficient of individualism is statistically significant at the 1% level.

Overall, our results demonstrate a strong, positive association between immigrant owners' individualism and within-firm pay inequality, which is both statistically and economically significant. This association weakens for immigrant owners who spent their formative school years in Canada, suggesting that early cultural integration may moderate the influence of original national culture on pay practices. In the next section, we investigate how individualism influences employee compensation structure in

[22]Our findings also remain robust when excluding China and India, the two largest sources of immigrants to Canada, from our analysis.

immigrant-owned firms.

5.C Employee compensation structure

In Section 2, we hypothesize that firms owned by immigrants from more individualistic countries exhibit greater within-firm pay inequality because they rely more heavily on high-powered individual monetary incentives in managing the workforce. To examine this mechanism, we analyze how the compensation structures of employees vary with the level of individualism of the firms' owners.

First, we investigate whether owners from more individualistic countries are more likely to incorporate a performance pay component in their employees' compensation and whether this component constitutes a larger proportion of employee compensation on average. To examine this reasoning, we estimate the firm-level regression in Equation 2 where we use the fraction of firm j's employees that have a performance pay component as part of their compensation in year t, $PerfPayEmpl_t^j$, as the dependent variable. An employee is identified as having a performance pay component in a firm-year if they receive any commission compensation according to their tax form T4 filing in year t. We also estimate a version of the regression in Equation 2 where the dependent variable is $PerfPayAmt_t^j$, which is the fraction of the dollar amount of commission pay summed across all employees who receive it from firm j in year t, scaled by the total compensation of all employees of the firm in the same year.

Table 4, Panels A and B report the results. For both dependent variables, the estimated coefficient of $Indiv^j_{\text{Owners' Cntry}}$ is positive and statistically significant at the 1% level (Column 1). These estimates indicate that a one standard deviation increase in individualism is associated with an increase of 0.38 (0.21) percentage points in the fraction of employees with commission pay (commission pay as a fraction of total pay). This is substantial compared to the respective means of the two dependent variables at 1.00% (0.46%). Columns 2 to 4 show that these results remain unchanged when we add different sets of control variables.[23]

[23]These results remain robust with larger magnitudes when we focus on a subsample of industries common to commission-based roles, such as wholesale and retail trade. Furthermore, using a firm-level regression similar to that in Equation 2, we verify that, in our sample, there

Second, motivated by Lemieux et al. (2009), which shows that employees with higher levels of education earn more in performance pay jobs, contributing to the growth in pay dispersion, we examine whether the commission pay component constitutes a larger fraction of compensation for employees with high educational attainment in firms with more individualistic owners. We estimate the following employee-level regression using the sample of employees that receive commission pay in at least one year:

$$\begin{aligned} cw_t^{i,j} = Indiv^j_{\text{Owners' Cntry}} \times edu^i \cdot \gamma_1 + Indiv^j_{\text{Owners' Cntry}} \cdot \gamma_2 + edu^i \cdot \gamma_3 \\ + X_t^j \cdot \gamma_4 + Z_t^{i,j} \cdot \gamma_5 + FE_n + FE_p + FE_t + \epsilon_t^{i,j}, \end{aligned} \tag{3}$$

where $cw_t^{i,j}$ is commission pay received by employee i from firm j in year t scaled by the employee's total earnings from firm j in that year, edu^i is an indicator variable that equals one if employee i has a bachelor's degree or higher, and $Z_t^{i,j}$ includes employee characteristics such as age and its quadratic term, tenure with the firm, and gender.

Table 4, Panel C reports the estimates of Equation 3. In Column 1, the estimated coefficient γ_2 of owners' individualism is not statistically significant at conventional levels. The estimated coefficient γ_1 is positive and statistically significant at the 5% level. This indicates that for an employee with a bachelor's degree or higher, on average, a one standard deviation increase in the owner's individualism is associated with an increase in the fraction commission pay to total earnings by 1.38 percentage points. These results remain robust when we control for additional firm characteristics (Column 2) and when we use firm fixed effects instead of industry and province fixed effects (Columns 3 and 4).

Third, considering that high-powered incentives can also be offered through rapid promotion within a firm, and that firms with strong pay-for-performance policies are less likely to promote employees based on other factors such as seniority, we examine whether employees with shorter tenures are more likely to advance in the firm's pay distribution and be among the highest-paid in firms owned by more individualistic owners. We

is a strong correlation between within-firm pay inequality $Var(w)_t^j$ and $PerfPayEmpl_t^j$, as well as between $Var(w)_t^j$ and $PerfPayAmt_t^j$.

estimate the following employee-level regression:

$$\begin{aligned}\mathbb{1}(\Delta\text{PayRank})_t^{i,j} = Indiv^j_{\text{Owners' Cntry}} \times \mathbb{1}(\text{ShortTenure})_t^{i,j} \cdot \gamma_1 \\ + Indiv^j_{\text{Owners' Cntry}} \cdot \gamma_2 + \mathbb{1}(\text{ShortTenure})_t^{i,j} \cdot \gamma_3 \\ + X_t^j \cdot \gamma_4 + Z_t^{i,j} \cdot \gamma_5 + FE_n + FE_p + FE_t + \epsilon_t^{i,j},\end{aligned} \tag{4}$$

where $\mathbb{1}(\Delta\text{PayRank})_t^{i,j}$ is an indicator variable that equals one if employee i's pay rank change in firm j between years $t-1$ and t is in the top quartile of the firm's pay rank change distribution. $\mathbb{1}(\text{ShortTenure})_t^{i,j}$ is an indicator variable that equals one if employee i's tenure with firm j is below the median within the firm in year t. We also estimate a version of Equation 4 where the dependent variable is $\mathbb{1}(\text{TopPay})_t^{i,j}$, an indicator variable that equals one if i is the highest paid employee in firm j in year t.[24]

Table 4, Panels D and E report the estimates of Equation 4. For both dependent variables, the estimated coefficient γ_1 of the interaction of owners' individualism and the indicator for short tenure is positive and statistically significant at the 1% level (Column 1). These estimates indicate that a one standard deviation increase in individualism is associated with 0.68 (0.30) percentage points higher likelihood of being in the top quartile of the pay rank change distribution (being the top-paid employee) of the firm for employees with short tenures. These results are robust when we control for additional firm characteristics (Column 2), and when we use firm fixed effects instead of industry and province fixed effects (Columns 3 and 4).

Lastly, a heavier reliance on pay-for-performance compensation suggests that firms owned by more individualistic owners should exhibit less 'pay compression'—the tendency to compensate employees similarly regardless of differences in their skills, experience, or abilities (Santos-Pinto (2012)). To examine the role of individualism in pay compression, we estimate the following employee-level regression:

$$\begin{aligned}w_t^{i,j} = Indiv^j_{\text{Owners' Cntry}} \times \mathbb{1}(\text{HighPriorPay})_t^{i,j} \cdot \gamma_1 \\ + Indiv^j_{\text{Owners' Cntry}} \cdot \gamma_2 + \mathbb{1}(\text{HighPriorPay})_t^{i,j} \cdot \gamma_3 \\ + X_t^j \cdot \gamma_4 + Z_t^{i,j} \cdot \gamma_5 + FE_n + FE_p + FE_t + \epsilon_t^{i,j},\end{aligned} \tag{5}$$

[24] For the regression with the pay rank change as the dependent variable, we require sample firms to have at least ten employees.

where $w_t^{i,j}$ is the logarithm of employee i's earnings from firm j in year t and $\mathbb{1}(\text{HighPriorPay})_t^{i,j}$ is an indicator variable equal to one if employee i's earnings in the year prior to joining firm j rank above the median employee earnings in firm j in year t.[25] If individualistic owners reduce pay compression, the estimate of γ_1 should be positive.

Table 4, Panel F reports the estimates of Equation 5. In Column 1, the estimated coefficient γ_1 for the interaction of owners' individualism and the indicator for employees with high prior pay is positive and statistically significant at the 1% level. This indicates that a one standard deviation increase in individualism is associated with 4.3% higher earnings of employees with high prior pay compared to those with low prior pay. This result is robust when we additionally control for time-varying firm characteristics and when we use firm fixed effects instead of industry and province fixed effects. This evidence suggests that there is less pay compression in firms owned by immigrants from more individualistic countries.[26]

Overall, we find that the pay structure for employees differs considerably based on the individualism of firms' owners.[27] Firms owned by immigrants from more individualistic countries are more likely to include performance pay in employees' compensation. Additionally, the size of the performance pay component is larger for employees with high educational attainment. More individualistic owners also promote employees more quickly to high-paying positions and exhibit less pay compression. These findings support our hypothesis that greater within-firm pay inequality arises because more individualistic owners use high-powered individual monetary incentives to manage their workforce.

[25] For this analysis, we require sample firms to have non-missing earnings from prior employment for every employee and to have at least ten employees.

[26] Relatedly, the individualism of firms' owners can lead to higher within-firm pay dispersion by hiring employees with more varied skills, experiences, or abilities. To examine this possibility, we estimate a firm-level regression similar to that in Equation 2 on a subsample of newly hired employees where the dependent variable is the variance of $PriorPay_t^{i,j}$. In Table IA4, we show that firms owned by immigrants from more individualistic countries hire employees with more dispersed prior earnings.

[27] Policy research (e.g., OECD (2015)) highlights concurrent trends in income inequality and labor income shares across countries. This suggests that the rise in within-firm pay inequality due to individualism, which we document, may be accompanied by a decline in the overall income earned by the firm's employees. In Table IA9, we confirm that the share of labor income relative to the firm's value added is lower for firms with more individualistic owners.

6 Evidence from firms' ownership changes

6.A Difference-in-differences results

In this section, we aim to identify the effect of culture, in particular individualism, on within-firm pay inequality by conducting a difference-in-differences (DiD) analysis using a subsample of immigrant-owned firms that experience a change in ownership with incumbent owners exiting the firm.[28] Using data from three years before to three years after each ownership change event, we estimate the following firm-level regression:

$$\begin{aligned} Var(w)_t^j = \Delta Culture_t^j \times \mathbb{1}(\text{Post})_t^j \times \mathbb{1}(\text{Treated})^j \cdot \mu_1 \\ + \mathbb{1}(\text{Post})_t^j \times \mathbb{1}(\text{Treated})^j \cdot \mu_2 + X_t^j \cdot \mu_3 + FE_f + FE_t + \nu_t^j, \end{aligned} \tag{6}$$

where $\mathbb{1}(\text{Treated})^j$ is an indicator variable that equals one if an immigrant-owned firm j was taken over by immigrant owners from a different country and $\mathbb{1}(\text{Post})_t^j$ is an indicator variable that equals one for all years after firm j's ownership change and zero otherwise. In this regression, control firms are those taken over by immigrant owners from the same country. $\Delta Culture_t^j$ is a categorical variable that equals one if firm j's new owners' culture leans toward more within-firm pay inequality compared to the existing owners, negative one if the new owners' culture leans toward less within-firm pay inequality, and zero if there is no change in the owners' culture. To construct this variable, we use the estimated owners' countries of origin fixed effects from Column 2 of Table 2, Panel A to measure the level of immigrant owners' attitudes toward within-firm pay inequality. Equation 6 includes firm fixed effects FE_f to control for time-invariant unobservable firm characteristics. Vector X_t^j includes, across different specifications, the same set of time-varying firm-level and owner-level control variables used in Table 2.

Table 5, Panel A presents the estimates of Equation 6.[29] The esti-

[28] The countries of origin of immigrant owners may systematically correlate with firms' choices of production technology, leading to different workforce skill compositions and thereby affecting within-firm pay dispersion. Additionally, local labor markets may be segmented by cultural backgrounds, driving the sorting of employees toward owners with similar cultural backgrounds. Such selection could also contribute to variations in within-firm pay dispersion. While these mechanisms do not suggest that individualism should be positively associated with within-firm pay dispersion, they may confound our inferences.

[29] Table IA5, Panel A presents summary statistics for firms in our DiD sample. Across most

mate of μ_1 is positive and statistically significant at the 5% level across all four specifications considered. This result implies a significant increase in within-firm pay dispersion in firms taken over by immigrant owners from a country whose culture favors higher within-firm inequality compared to the cultural attitudes of the firm's exiting owners.

Next, we perform the timing test to examine the parallel-trends assumption required for the validity of the DiD estimator. To this end, we replace $\mathbb{1}(\text{Post})^j_t$ with $\mathbb{1}(\text{Pre})^j_{-3}$, $\mathbb{1}(\text{Pre})^j_{-2}$, $\mathbb{1}(\text{EventYear})^j$, $\mathbb{1}(\text{Post})^j_{+1}$, $\mathbb{1}(\text{Post})^j_{+2}$, and $\mathbb{1}(\text{Post})^j_{+3}$ in Equation 6. These are indicator variables that equal one if the firm's owners will change in three years, will change in two years, has changed in the current year, changed one year before, changed two years before, and changed three years before, respectively. Variable $\mathbb{1}(\text{Pre})^j_{-1}$ is omitted from the regression, making the year prior to the ownership change serve as the benchmark.

The results are reported in Table 5, Panel B and summarized in Figure 2. We find that the estimates of μ_1 for years -3 and -2 are close to zero and statistically insignificant, suggesting no differential trends in within-firm pay dispersion between treated and control firms prior to ownership change. After the ownership change, the estimates of μ_1 become positive, larger in magnitude, and statistically significant at the 5% level for year $+1$ across all four specifications. These results support the parallel-trends assumption and suggest that omitted variables are unlikely to drive both changes in culture and within-firm pay dispersion in our sample. The results in Table 5 corroborate our baseline findings and further suggest that the national culture of firms' owners affects within-firm pay inequality.

6.B Employee stayers

Ownership changes could be associated with changes in firms' production technology, which may affect within-firm pay dispersion. Most importantly, a change in production technology may require a different composition of employee skills, thereby affecting employee pay and within-firm pay dispersion. Since firms typically adjust their employee skills through hiring and firing, this channel is predominantly associated with changes in

characteristics we consider, the treated and control groups are very similar.

employee composition.

To mitigate the effect of compositional changes in the workforce on within-firm pay inequality, we re-compute the within-firm pay dispersion using employee "stayers"—employees who remain with the firm both before and after the ownership change—and estimate Equation 6 using this alternative dependent variable.[30] In Table 6, Panel A, we show that the culture of immigrant owners affects within-firm pay dispersion among employees stayers with magnitudes that are quantitatively similar to those based on the sample of all employees.[31]

In Table 6, Panel B, we perform the analysis as in Panel A, except that we replace $\Delta Culture_t^j$ in Equation 6 with $\Delta Individualism_t^j$ which takes the values of one, zero, or negative one depending on whether the firm's new immigrant owners come from a country with a Hofstede individualism score that is higher, the same, or lower, respectively, compared to the score of the firm's exiting owners. Consistent with the results on individualism in Section 5, we find positive and statistically significant coefficients for the triple interaction term μ_1, indicating an increase in within-firm pay dispersion when owners from more individualistic countries take over the firm. The magnitude of the coefficients is about 60% of those in Panel A, reinforcing the view that individualism is a key determinant of within-firm pay inequality.[32]

Next, we repeat the DiD analysis from Panel A using the subsample of employee stayers of firms in the Accommodation and Food Services industry (NAICS 72). This labor-intensive industry relies on standardized production technology, which facilitates comparisons between firms and supports our identification assumptions. Similarly, we repeat the analysis

[30] The sample for this analysis consists of firms with at least three employee stayers to ensure meaningful within-firm statistics. Table IA5, Panel B presents summary statistics for firms in this employee stayers sample. Similar to our DiD sample based on all employees, the treated and control groups are very similar across most characteristics we consider.

[31] In Table IA6, we report the results of the timing test using the employee stayers sample. Due to the much smaller sample size, we only examine employees who stay in the same firm for two years after the ownership change. Despite the smaller sample size, our findings are consistent with those based on all employees.

[32] To examine which employee stayers experience changes in earnings, Table IA7 estimates Equation 6 with the dependent variable being the logarithm of each employee's annual earnings. We provide estimates separately for the subsamples of high-paid and low-paid employee stayers. High-paid (low-paid) employee stayers are defined as those whose earnings are in the top (bottom) decile within their firms at year $t-1$. The results indicate that the increase in within-firm pay dispersion in the employee stayers sample is predominantly due to pay reductions experienced by low-paid stayers. High-paid stayers experience a small pay increase, but this increase is not statistically significant in our sample.

using the subsample of firms where the change in the capital-labor ratio around the ownership change is in the bottom quartile of the sample distribution. Table 6, Panel C and D, respectively, present the results. We continue to find positive and statistically significant coefficients for μ_1 with magnitudes close to those reported in Panel A. These results suggest that potential confounding effects due to changes in production technology associated with ownership changes are minimal in our sample.

Following Smith et al. (2019), we repeat the DiD analysis of employee stayers from Panel A using a subsample of firms where ownership changes are triggered by the death of owners. Since such death events are plausibly exogenous to factors that might affect firms' pay-setting practices, this empirical setting further mitigates endogeneity concerns. We report the results in Table 6, Panel E. We find qualitatively similar results to those reported in Panel A: within-firm pay dispersion increases if the firm's new owners come from cultures associated with higher inequality.[33] Taken together, the DiD analyses on the subsample of employee stayers provide further evidence consistent with the view that the culture of immigrant owners affects within-firm pay inequality.

7 Pay-setting in immigrant-owned firms

In this section, we provide additional results on employee compensation within immigrant-owned firms, which should be observed if the owners' cultural backgrounds influence the pay-setting practices of these firms. Specifically, we examine whether the compensation of employees who share the same culture as the firm's owners differs from that of those from other cultures. First, we estimate the following employee-level regression:

$$w_t^{i,j} = \mathbb{1}(\text{SameCulture})_t^{i,j} \cdot \gamma_1 + X_t^j \cdot \gamma_2 + Z_t^{i,j} \cdot \gamma_3 + FE_f + FE_t + \epsilon_t^{i,j}, \quad (7)$$

where $w_t^{i,j}$ is the logarithm of employee i's earnings from firm j in year t and $\mathbb{1}(\text{SameCulture})_t^{i,j}$ is an indicator variable that equals one if employee i is

[33] Due to the small number of observations in Table 6, Panel E, Statistics Canada suppresses reporting of the exact magnitudes of the estimated coefficients. In Table IA8, we repeat the analysis using a subsample of ownership changes associated with the premature death of owners, defined as deaths occurring at the age of 60 or younger. This analysis yields findings analogous to those reported in Table 6, Panel E. Statistics Canada suppresses reporting of these results.

an immigrant to Canada from the same country as the owners of firm j. Second, we estimate Equation 7 with the dependent variable $\mathbb{1}(\text{Separation})_{t+1}^{i,j}$—an indicator variable that equals one if individual i is an employee of firm j in year t but not in year $t+1$.

Table IA10 reports the estimates of Equation 7. The estimated coefficient γ_1 is positive and statistically significant at the 1% level for employee earnings, indicating that the earnings of employees who share the same culture as the firm's immigrant owners are 9.48% higher on average compared to other employees of the same firm (Column 1). The estimated coefficient γ_1 is negative and statistically significant at the 1% level for employee separations, indicating that employees who share the same culture with the firm's immigrant owners are 3.78 percentage points less likely to separate from the firm compared to other employees (Column 4). Both results remain unchanged when we control for firm and owner characteristics (Columns 2 and 5), as well as when we additionally control for indicators of an employee being in the same age group and of the same gender as the firm's owner (Columns 3 and 6). These results suggest that the culture of the firms' owners significantly influences pay-setting practices within firms.

The strong relationship between the culture of immigrant owners and the pay-setting practices within their firms we document suggests that the pay policies of immigrant-owned firms may primarily attract individuals willing to accept these terms. This implies that the pool of potential employees for immigrant-owned firms could be limited to individuals with similar cultural backgrounds, thereby restricting the available human capital and potentially constraining the growth of these firms.[34] To examine this possibility, we estimate the following firm-level regression:

$$\Delta Sales_t^j = ImmShare^j_{\text{Owners' Cntry}} \cdot \beta_1 + X_t^j \cdot \beta_2 + FE_n + FE_p + FE_t + \varepsilon_t^j, \quad (8)$$

where $\Delta Sales_t^j$ is the growth rate of sales of firm j between years $t-1$ and t, and $ImmShare^j_{\text{Owners' Cntry}}$ stands for the fraction of immigrants from the country of origin of firm j's owners, relative to all immigrants to Canada.[35]

[34] The average share of immigrant employees in the immigrant-owned firms in our sample is 52.9%, with 34.1% being from the same country as the owner.

[35] This ratio is calculated using data on all immigrants to Canada over the last five years, that is, from year $t-5$ to $t-1$, and the results are robust if we use the last ten years instead.

Table IA11 reports the estimates of Equation 8. The estimated coefficient of $ImmShare^{j}_{\text{Owners' Cntry}}$ is positive and statistically significant at the 1% level across all specifications, suggesting that the growth of immigrant-owned firms is closely linked to the availability of same-country immigrants. This is plausibly due to the fact that pay practices adopted by these firms' owners limit the available human capital willing to work for these firms. The results of this section support our findings that there is a strong link between the culture of firms' owners and their pay-setting practices, and suggest that culture may affect corporate growth through this mechanism.

8 Conclusions

This paper explores the influence of national culture, particularly Hofstede's individualism vs. collectivism, on within-firm pay inequality among immigrant-owned firms in Canada. Leveraging a comprehensive administrative dataset, we find that the cultural backgrounds of immigrant owners significantly affect the pay-setting practices of their firms. Firms owned by immigrants from more individualistic cultures exhibit higher levels of within-firm pay inequality, attributable to a greater emphasis on performance-based incentives and rapid employee promotions. By illustrating how culture influences pay-setting practices, we provide insights into the mechanisms driving income inequality. Our findings suggest that policy interventions to mitigate income inequality should incorporate cultural considerations. Additionally, our paper emphasizes the importance of considering cultural factors in designing and implementing corporate governance policies. We underscore the role of informal institutions, such as culture, in shaping economic outcomes within firms and highlight the broader implications of cultural influences on labor market dynamics.

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Figure 1. Individualism and within-firm inequality: Immigrant owners' countries of origin

This figure plots within-firm pay inequality by immigrant owners' countries of origin, measured using estimated coefficients of the country fixed effects from Column 2 of Table IA2, against each country's Hofstede individualism score. The individualism scores of countries are normalized relative to the U.S. score so that the U.S. score is zero. To ease exposition, we only report country-of-origin groups with at least 800 unique firms. The size of the circles represents the number of observations for the corresponding country in our sample. The line depicts the slope from the univariate regression of the owners' countries of origin fixed effects on individualism, where the regression is weighted by each country's number of observations in our sample.

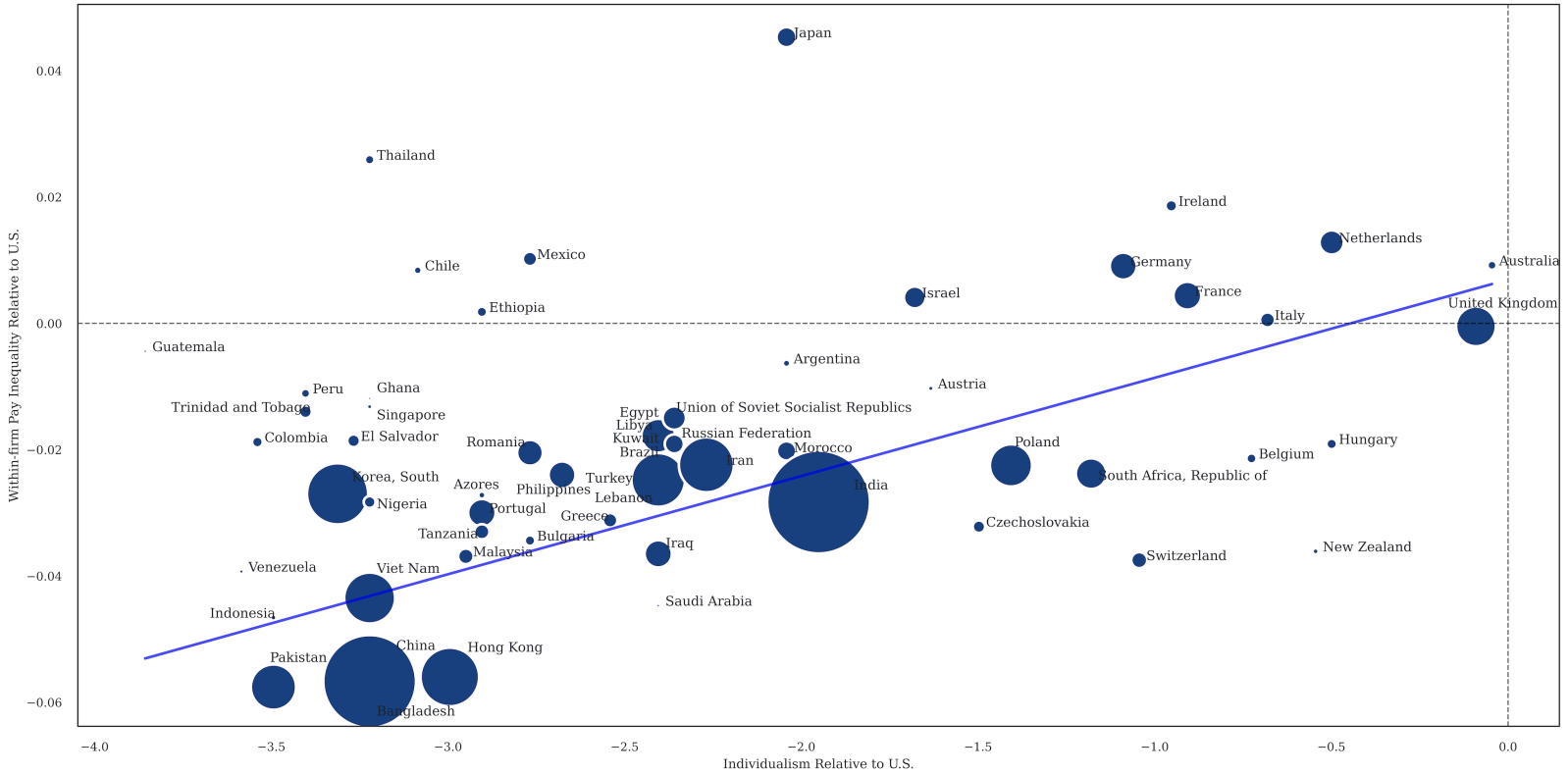


Table 1. Descriptive statistics

This table presents the summary statistics of our sample. The sample consists of 353,120 firm-year observations over the period 2001 – 2017, and the corresponding firms' immigrant owners and the firms' employees. Details of the data sources and sample construction steps are provided in Section 3. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. The numbers of observations are rounded to the nearest five.

Firm characteristics	Observations	Mean	Std	p25	Median	p75
Within-firm pay inequality	353,120	0.313	0.308	0.102	0.242	0.428
Employees (#)	353,120	8	74	4	5	8
Revenue (in 000's)	352,070	1,048	1,549	274	515	1,050
Assets (in 000's)	352,070	557	950	86	211	557
Capital-labor ratio (in 000's)	352,070	86	159	16	37	87
Firm age (years)	353,120	8	6	4	7	12
Multiple owners (0/1)	353,120	0.32	0.47	0	0	1
Owners per firm (#)	353,120	1.4	0.68	1	1	2
Fraction of immigrant employees (%)	318,665	52.93	29.67	33.33	60.00	75.00
Fraction of same-culture immigrant employees (%)	318,665	34.05	30.11	0.00	33.33	60.00
Immigrant owners' characteristics						
Individualism	318,665	0.38	0.20	0.20	0.38	0.48
Firms owned (#)	353,120	1.78	2.14	1	1	2
Age (years)	344,210	47	9	41	47	53
Landing duration (years)	353,120	18	8	12	18	23
Education level	352,690	3.66	1.99	2	3.5	6
Skill level	352,650	4.23	2.13	3	4	6
Fraction of female owners (%)	353,120	27.20	38.00	0.00	0.00	50.00
Fraction of married owners (%)	318,665	80.92	37.65	100.00	100.00	100.00
Fraction of English-speaking owners (%)	318,665	8.35	27.47	0.00	0.00	0.00
Fraction of French-speaking owners (%)	318,665	1.85	13.42	0.00	0.00	0.00
Employee characteristics						
Employee earnings (in 000's)	2,540,415	21.744	21.569	9.989	17.136	27.498
Age (years)	2,540,415	37	11	27	36	47
Education (bachelor's degree or higher 0/1)	1,788,090	0.28	0.45	0.00	0.00	1.00
Tenure (years)	2,540,415	3	3	1	2	4
Female (0/1)	2,540,415	0.52	0.50	0.00	1.00	1.00

Table 2. Pay inequality in immigrant-owned firms

This table examines the relationship between immigrant owners' countries of origin and within-firm pay inequality. Panel A presents estimates from Equation 1. The dependent variable, *Within-firm pay inequality*, is measured as the variance of a firm's employees' log earnings. Country indicators are based on the owners' countries of origin, and U.S. is the benchmark group. Due to space constraints, this table only reports selected example country-of-origin groups. A complete list of coefficients for all countries is reported in Table IA2, Panel A. The top table in Panel B reports the pairwise correlation coefficients of the estimated owners' countries of origin fixed effects across different specifications in Table IA2, Panel A. The bottom table in Panel B reports correlation coefficients of the estimated owners' countries of origin fixed effects across specifications in Table IA2, Panel A with those in Table IA2 Panels B, C and D, respectively. Panel C presents the analysis of variance (ANOVA) decomposing the variance of within-firm pay inequality by fixed effects used in Panel A. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

Panel A. Immigrant owners' countries of origin and within-firm pay inequality

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
China	-0.0621***	-0.0567***	-0.0455***	-0.0445***
	(0.0091)	(0.0009)	(0.0090)	(0.0090)
India	-0.0310***	-0.0283***	-0.0177**	-0.0185**
	(0.0091)	(0.0090)	(0.0090)	(0.0090)
Iraq	-0.0461***	-0.0365***	-0.0282***	-0.0273**
	(0.0110)	(0.0108)	(0.0108)	(0.0108)
Germany	0.0129	0.0091	0.0087	0.0108
	(0.0124)	(0.0122)	(0.0124)	(0.0125)
Greece	-0.0337**	-0.0312**	-0.0324**	-0.0263*
	(0.0142)	(0.0141)	(0.0139)	(0.0139)
Hong Kong	-0.0607***	-0.0560***	-0.0473***	-0.0440***
	(0.0097)	(0.0096)	(0.0096)	(0.0097)
United Kingdom	0.0012	-0.0005	0.0038	0.0063
	(0.0108)	(0.0107)	(0.0107)	(0.0108)
...				
Log (Employees)		0.0313***	0.0146***	0.0147***
		(0.0011)	(0.0016)	(0.0016)
Log (Capital-labor ratio)		0.0166***	0.0099***	0.0099***
		(0.0010)	(0.0009)	(0.0009)
Log (Revenue)			0.0197***	0.0196***
			(0.0012)	(0.0012)
Log (Firm age)			0.0023	0.0025
			(0.0048)	(0.0048)
Log (Firm age)^2			-0.0003	-0.0002
			(0.0014)	(0.0014)
Multiple owners			-0.0328***	-0.0332***
			(0.0016)	(0.0016)
Owner skill level				-0.0020***
				(0.0004)
Owner education level				0.0039***
				(0.0005)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Observations	353,120	352,070	348,280	347,400
Adj. R-sq	0.036	0.043	0.047	0.047

Panel B. Correlations of coefficients of owners' countries of origin obtained using different specifications

	Pairwise correlation matrix of coefficients obtained using specifications in Table IA2, Panel A			
	Coefficients from Column (1)	Coefficients from Column (2)	Coefficients from Column (3)	Coefficients from Column (4)
With coefficients from Column (1)	1.0000			
With coefficients from Column (2)	0.970***	1.0000		
With coefficients from Column (3)	0.942***	0.984***	1.0000	
With coefficients from Column (4)	0.949***	0.983***	0.993***	1.0000

	Pairwise correlation matrix of coefficients obtained using specifications in Table IA2, Panel A			
	Coefficients from Column (1)	Coefficients from Column (2)	Coefficients from Column (3)	Coefficients from Column (4)
With corresponding coefficients from Panel B	0.986***	0.986***	0.987***	0.987***
With corresponding coefficients from Panel C	0.940***	0.939***	0.933***	0.929***
With corresponding coefficients from Panel D	0.842***	0.836***	0.835***	0.832***

Panel C. ANOVA analysis of the determinants of within-firm pay inequality

	Partial sum of squares	Degrees of freedom	F	p-value
Owner's countries of origin FEs	151.53	85	19.53	0.00
Year FEs	158.67	16	108.62	0.00
Industry FEs	642.16	312	22.54	0.00
Province FEs	66.08	12	60.32	0.00

Table 3. Individualism and within-firm pay inequality

This table examines the relationship between Hofstede's individualism of immigrant owners and within-firm pay inequality. Individualism is the raw score from Hofstede and Hofstede (2001) in Panel A, and it is divided by 100 in Panels B and C. Panel A presents country-level regression results of pay inequality on individualism, where the dependent variable is measured using the estimated owners' countries of origin fixed effects from Equation 1. We normalize all explanatory variables to have a standard deviation of one. Panel B presents the firm-year-level regression estimates from Equation 2. Panel C examines how the effect of individualism varies with the length of the immigrant owner's exposure to the home country's culture. *Young immigrant owners* is an indicator variable that equals one if the immigrant owner landed in Canada before turning seven years old. For this analysis, the sample is limited to firms with only one owner. All financial variables are winsorized at 1% and 99%, and all dollar values are converted to 2002 real values using consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five in Panels B and C.

Panel A. Individualism and estimated within-firm pay inequality of a country from Equation 1

	(1)	(2)	(3)	(4)	(5)	(6)
	Estimated within-firm pay inequality of a country					
Individualism	0.018***	0.015***	0.015***	0.015***	0.017***	0.015***
	(0.002)	(0.002)	(0.003)	(0.003)	(0.004)	(0.004)
Power distance		-0.002	-0.001	-0.004	-0.003	
		(0.003)	(0.003)	(0.003)	(0.004)	
Masculinity		-0.002	-0.002	-0.002	-0.002	
		(0.002)	(0.002)	(0.002)	(0.003)	
Uncertainty avoidance		0.005**	0.005*	0.001	0.002	
		(0.002)	(0.003)	(0.003)	(0.004)	
Trust		-0.003	-0.002	-0.004	-0.002	
		(0.002)	(0.003)	(0.003)	(0.004)	
Log (GDP per capita)			0.001	-0.001	-0.003	
			(0.002)	(0.003)	(0.004)	
Share of shadow economy			0.007	0.031	0.044	
			(0.034)	(0.038)	(0.050)	
Legal origin: Common law				-0.010*	-0.011	
				(0.005)	(0.007)	
Rule of law				0.004	0.006	
				(0.005)	(0.007)	
Employment law index					-0.014	
					(0.026)	
Union law index					0.024	
					(0.026)	
WMS score						0.006
						(0.004)
Observations	58	58	58	57	47	27
Adj. R-sq	0.529	0.655	0.643	0.654	0.649	0.608

Panel B. Individualism and within-firm pay inequality (firm-level estimates)

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Individualism	0.0824***	0.0722***	0.0608***	0.0595***
	(0.0050)	(0.0049)	(0.0050)	(0.0050)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	318,665	317,700	314,000	313,100
Adj. R-sq	0.034	0.041	0.045	0.046

Panel C. Individualism and within-firm pay inequality: Young immigrant owners

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Individualism × Young immigrant owners	-0.0819**	-0.0799**	-0.0755**	-0.0733*
	(0.0392)	(0.0386)	(0.0385)	(0.0386)
Individualism	0.0834***	0.0697***	0.0628***	0.0611***
	(0.0064)	(0.0063)	(0.0064)	(0.0064)
Young immigrant owners	0.0507**	0.0505**	0.0478**	0.0547***
	(0.0207)	(0.0205)	(0.0204)	(0.0205)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	212,610	211,925	210,480	209,670
Adj. R-sq	0.037	0.045	0.047	0.048

Table 4. Employee compensation structure

This table examines the relationship between immigrant owners' individualism and employees' compensation structure. Panels A and B present firm-level regression results of a firm's performance pay structure on immigrant owners' individualism. In Panel A, the dependent variable is the fraction of a firm's employees that have a performance pay component as part of their compensation in a given year. In Panel B, the dependent variable is the fraction of the dollar amount of performance pay summed across all employees who receive it from the firm in a given year, scaled by the total compensation of all employees of the firm in the same year. An employee is identified to have the performance pay component if they receive any commission pay according to their tax form T4 filing in a given year. Panel C presents employee-level estimates from Equation 3 using the sample of performance-paid employees. The dependent variable is the commission pay received by an employee from her firm in a given year scaled by her total earnings in that year. Panel D and E present employee-level estimates from Equation 4. In Panel D, the dependent variable, $\Delta PayRank$, is an indicator variable that equals one if the employee's pay rank change between years $t-1$ and t is in the top quartile of the firm's pay rank change distribution. For this analysis, we require sample firms to have at least ten employees. In Panel E, the dependent variable, *TopPay*, is an indicator variable that equals one if an employee is the highest paid in the firm in a given year. *ShortTenure* is an indicator variable that equals one if the employee's tenure with a given firm is below the median within the firm in that year. Panel F presents employee-level estimates from Equation 5. The dependent variable is the logarithm of an employee's earnings. *HighPriorPay* is an indicator variable that equals one if her earnings in the year prior to joining the firm rank above the median employee earnings in the same firm in that year. For this analysis, we require sample firms to have non-missing earnings from prior employment for every employee and to have at least ten employees. All financial variables are winsorized at 1% and 99%, and all dollar values are converted to 2002 real values using consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

Panel A. Individualism and share of employees with performance pay (firm-level estimates)

	(1)	(2)	(3)	(4)
	Share of performance-paid employees			
Individualism	0.0192***	0.0173***	0.0163***	0.0165***
	(0.0016)	(0.0016)	(0.0016)	(0.0016)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	318,645	317,705	313,970	313,125
Adj. R-sq	0.074	0.086	0.088	0.088
Dep. Variable Mean	0.0100			
Dep. Variable Std	0.0564			

Panel B. Individualism and share of performance pay amount (firm-level estimates)

	(1)	(2)	(3)	(4)
	Share of performance pay amount			
Individualism	0.0107***	0.0099***	0.0091***	0.0092***
	(0.0012)	(0.0012)	(0.0012)	(0.0012)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	318,645	317,705	313,970	313,125
Adj. R-sq	0.058	0.062	0.063	0.063
Dep. Variable Mean	0.0046			
Dep. Variable Std	0.0407			

Panel C. Individualism and the share of an employee's commission pay (employee-level estimates)

	(1)	(2)	(3)	(4)
	Share of an employee's commission pay			
Individualism × Education	0.0690**	0.0571**	0.0409**	0.0389**
	(0.0284)	(0.0272)	(0.0189)	(0.0189)
Individualism	-0.0297	-0.0333	0.2742**	0.2950**
	(0.0326)	(0.0360)	(0.1260)	(0.1493)
Education	-0.0436***	-0.0353***	-0.0187**	-0.0174**
	(0.0121)	(0.0116)	(0.0082)	(0.0082)
Industry, province, year FEs	Yes	Yes	No	No
Firm, year FEs	No	No	Yes	Yes
Employee gender, age, age^2, tenure	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	No	Yes
Revenue, firm age, multiple owners	No	Yes	No	Yes
Owner skill and education level	No	Yes	No	Yes
Observations	38,650	38,235	39,045	38,595
Adj. R-sq	0.170	0.175	0.448	0.451
Dep. Variable Mean	0.1652			
Dep. Variable Std	0.2694			

Panel D. Individualism and employee promotion: Large change in pay rank (employee-level estimates)

	(1)	(2)	(3)	(4)
			Δ Pay rank	
Individualism × Short tenure	0.0338***	0.0369***	0.1184***	0.0529***
	(0.0094)	(0.0097)	(0.0372)	(0.0119)
Individualism	-0.0375***	-0.0312***	-0.1296***	-0.0605***
	(0.0065)	(0.0073)	(0.0243)	(0.0201)
Short tenure	-0.1254***	-0.1230***	-0.1688***	-0.1466***
	(0.0034)	(0.0034)	(0.0131)	(0.0038)
Industry, province, year FEs	Yes	Yes	No	No
Firm, year FEs	No	No	Yes	Yes
Employee gender, age, age^2, education, tenure	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	No	Yes
Revenue, firm age, multiple owners	No	Yes	No	Yes
Owner skill and education level	No	Yes	No	Yes
Observations	867,070	855,400	956,780	878,910
Adj. R-sq	0.057	0.058	0.077	0.074
Dep. Variable Mean	0.1362			
Dep. Variable Std	0.3430			

Panel E. Individualism and employee promotion: Highest-paid employee (employee-level estimates)

	(1)	(2)	(3)	(4)
	Top Pay			
Individualism × Short tenure	0.0150***	0.0185***	0.0499***	0.0221***
	(0.0049)	(0.0047)	(0.0161)	(0.0065)
Individualism	-0.0115***	-0.0012	-0.0132	0.0036
	(0.0038)	(0.0039)	(0.0112)	(0.0075)
Short tenure	-0.0215***	-0.0172***	-0.0175**	-0.0081***
	(0.0016)	(0.0017)	(0.0070)	(0.0023)
Industry, province, year FEs	Yes	Yes	No	No
Firm, year FEs	No	No	Yes	Yes
Employee gender, age, age^2, education, tenure	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	No	Yes
Revenue, firm age, multiple owners	No	Yes	No	Yes
Owner skill and education level	No	Yes	No	Yes
Observations	867,070	855,400	956,780	878,910
Adj. R-sq	0.030	0.043	0.050	0.050
Dep. Variable Mean	0.0488			
Dep. Variable Std	0.2155			

Panel F. Individualism and pay compression (employee-level estimates)

	(1)	(2)	(3)	(4)
	Log (Earnings)			
Individualism × High prior pay	0.2125***	0.2278***	0.2140***	0.2170***
	(0.0301)	(0.0292)	(0.0287)	(0.0290)
Individualism	0.3639***	0.2855***	-0.4134	-0.2572
	(0.0226)	(0.0202)	(0.5903)	(0.5001)
High prior pay	0.1668***	0.1453***	0.1468***	0.1492***
	(0.0118)	(0.0115)	(0.0111)	(0.0112)
Industry, province, year FEs	Yes	Yes	No	No
Firm, year FEs	No	No	Yes	Yes
Employee gender, age, age^2, education, tenure	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	No	Yes
Revenue, firm age, multiple owners	No	Yes	No	Yes
Owner skill and education level	No	Yes	No	Yes
Observations	96,575	95,385	101,730	100,295
Adj. R-sq	0.267	0.313	0.471	0.476
Dep. Variable Mean	9.7607			
Dep. Variable Std	0.6833			

Table 5. Firms' ownership changes

This table presents the difference-in-differences (DiD) analysis on the effect of a change in the owners' countries of origin on within-firm pay inequality among all firm's employees. Panel A presents estimates of Equation 6. *Treated* is an indicator variable that equals one if the firm was taken over by owners from a different country. *Post* is an indicator variable that equals one for all years after a firm's ownership change. Δ *Culture* is a categorical variable that equals one (negative one) if the new owners' culture leans toward more (less) within-firm pay inequality compared to the firm's exiting owners, and equals zero if there is no change in the owners' culture. To construct this variable, we use the estimated owners' countries of origin fixed effects from Equation 1 to measure the level of immigrant owners' attitudes toward within-firm pay inequality. Panel B presents regression results that validate the parallel trend assumption of the difference-in-differences analysis. Pre_{-3}, Pre_{-2}, *Event year*, $Post_{+1}$, $Post_{+2}$, $Post_{+3}$ are indicator variables that equal one if the firm's owners will change in 3 years, will change in 2 years, has changed in the current year, changed in 1 year before, changed in 2 years before, and changed in 3 years before, respectively. Variable Pre_{-1} is omitted and forms the benchmark group. All variables are defined in Appendix A. Standard errors are clustered at the firm level. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

Panel A. DiD estimates from Equation 6: All employees

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Post × Treated	0.0009	0.0004	-0.0026	-0.0017
	(0.0168)	(0.0168)	(0.0168)	(0.0168)
Post × Treated × Δ Culture	0.0374**	0.0372**	0.0321**	0.0330**
	(0.0157)	(0.0157)	(0.0157)	(0.0157)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	17,780	17,740	17,465	17,445
Adj. R-sq	0.289	0.291	0.288	0.287

Panel B. DiD timing test estimates: All employees

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Pre_{-3} × Treated × Δ Culture	0.0074	0.0054	0.0018	0.0035
	(0.0247)	(0.0247)	(0.0250)	(0.0250)
Pre_{-2} × Treated × Δ Culture	0.0064	0.0066	0.0036	0.0053
	(0.0250)	(0.0250)	(0.0254)	(0.0253)
Event year × Treated × Δ Culture	0.0363	0.0369*	0.023	0.0253
	(0.0223)	(0.0222)	(0.0228)	(0.0228)
$Post_{+1}$ × Treated × Δ Culture	0.0599**	0.0607**	0.0482*	0.0512**
	(0.0245)	(0.0245)	(0.0249)	(0.0248)
$Post_{+2}$ × Treated × Δ Culture	0.0462*	0.0460*	0.0365	0.0386
	(0.0276)	(0.0275)	(0.0274)	(0.0274)
$Post_{+3}$ × Treated × Δ Culture	0.0446	0.0422	0.0322	0.0341
	(0.0326)	(0.0330)	(0.0332)	(0.0332)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	17,800	17,740	17,465	17,445
Adj. R-sq	0.288	0.29	0.287	0.287

Table 6. Firms' ownership changes: Employee stayers

This table presents the difference-in-differences (DiD) analysis using employee stayers. *Employee stayers* are defined as those employees who work for the firm both before and after the ownership change. Panel A presents estimates of Equation 6 on a subsample of employee stayers. Panel B presents the same analysis on employee stayers except that we use Hofstede's individualism scores as the culture measure. $\Delta\, Individualism$ takes the values of one, zero, and negative one depending on whether the firm's new immigrant owners come from a country with the individualism score that is higher, the same, or lower, respectively, compared to the individualism score of the firm's exiting owners. Panels C to E present subsample analysis on employee stayers. Panel C presents the results on a subsample of firms operating in the Accommodation and Food Services sector (NAICS 72). Panel D presents the results on a subsample of firms where the change of capital-labor ratio is below the bottom quartile of the sample. Panel E presents results on a subsample of firms in which owner turnover events were caused by the death of prior owners. We only report signs and significance levels in Panel E as the coefficients are suppressed by Statistics Canada. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

Panel A. DiD estimates: Employee stayers

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (stayers)			
Post × Treated	0.0252	0.0262	0.0244	0.0247
	(0.0236)	(0.0236)	(0.0243)	(0.0243)
Post × Treated × Δ Culture	0.0435*	0.0419*	0.0463**	0.0465**
	(0.0223)	(0.0223)	(0.0230)	(0.0230)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	4,960	4,840	4,780	4,775
Adj. R-sq	0.413	0.415	0.413	0.414

Panel B. DiD estimates using employee stayers: Individualism

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (stayers)			
Post × Treated	-0.002	0.005	0.0055	0.0054
	(0.0202)	(0.0202)	(0.0209)	(0.0209)
Post × Treated × Δ Individualism	0.0276*	0.0273*	0.0247*	0.0249*
	(0.0145)	(0.0144)	(0.0146)	(0.0147)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	4,960	4,840	4,780	4,775
Adj. R-sq	0.412	0.414	0.412	0.413

Panel C. Subsample of the 'Accommodation and Food Services' sector

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (stayers)			
Post × Treated	0.0133	0.0152	0.0109	0.0072
	(0.0294)	(0.0294)	(0.0299)	(0.0292)
Post × Treated × Δ Culture	0.0508*	0.0497*	0.0507*	0.0555**
	(0.0274)	(0.0271)	(0.0281)	(0.0275)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	1,160	1,155	1,155	1,155
Adj. R-sq	0.407	0.407	0.407	0.406

Panel D. Subsample of firms with a small change in the capital-labor ratio

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (stayers)			
Post × Treated	0.0112	0.0108	0.0170	0.0099
	(0.0249)	(0.0246)	(0.0246)	(0.0242)
Post × Treated × Δ Culture	0.0561**	0.0536**	0.0533**	0.0603***
	(0.0224)	(0.0219)	(0.0219)	(0.0207)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	1,440	1,440	1,420	1,420
Adj. R-sq	0.377	0.379	0.391	0.395

Panel E. Subsample of owner turnover events caused by owners' deaths

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (stayers)			
Post × Treated	+	-	-	-
Post × Treated × Δ Culture	+**	+**	+*	+*
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes

Internet Appendix to

Owner Culture and Pay Inequality within Firms

(For Online Publication Only)

Jan Bena Guangli Lu Iris Wang

June, 2024

Appendix A Variable definitions

Variable	Definition
Age	An employee's age since birth.
Assets	Total of all current, capital, long-term assets, and assets held in trust (in 000's).
Average log earnings of employees	Average log earnings of employees in a given firm-year.
Capital-labor ratio	Assets / # employees (in 000's) in a given firm-year.
Country of origin	Country of birth of an immigrant as recorded in Longitudinal Immigration Database (IMDB).
Cross-group culture variance	Variance between the employees that belong to the in-group versus the out-group. In-group employees are immigrants from the same country of origin as the firm's owner.
Culture	Cultural value proxied by the estimated owners' country of origin fixed effects from Equation 1.
Degree	Measures the educational attainment of an employee based on data from Post-Secondary Student Information System (PSIS) and IMDB. The categories include upper secondary education, non-university diploma, trade certificate, bachelor's degree or equivalent, master's degree or equivalent, and doctorate or equivalent.
Earnings	Employment income received from a business enterprise, including wages, salaries, and commissions, before deductions, as indicated in Box 14 on the T4 remittance slip. Self-employment income is excluded.
Education/Edu	Indicator variable that equals one if an employee has a bachelor's degree or higher.
Employees (#)	Number of employees of a firm in a given year.
Employee stayers	Employees who work for the firm both before and after the change of firm's ownership.
Employment law index	Measures the protection of labor and employment laws as the average of sub-indices: (1) Alternative employment contracts; (2) Cost of increasing hours worked; (3) Cost of firing workers; and (4) Dismissal procedures. Source: Botero et al. (2004).
Event year	Indicator variable that equals one if the firm's owners has changed in the current year.
Family firm	Firms having at least one employee who is a family member (this information is from Statistics Canada T1FF 'Family File') of the firm owner in a given year.
Female	Indicator variable that equals one if an employee is a female.
Firm age	Year minus a firm's birth year in which the individual started the business or the business can be distinctly identified.
Firms owned (#)	Number of firms owned by a firm's owners.
Firm size	Logarithm of the number of employees in a given firm-year.
Fraction of English-speaking owners	# English-speaking owners of a firm / total # owners of a firm in a given year.
Fraction of female owners	# female owners of a firm / total # owners of a firm in a given year.
Fraction of French-speaking owners	# French-speaking owners of a firm / total # owners of a firm in a given year.
Fraction of immigrant employees	# immigrant employees / total # employees of a firm in a given year.
Fraction of married owners	# married owners of a firm / total # owners of a firm in a given year.
Fraction of owners with college degrees	# owners of a firm that hold college or up degree / total # owners of a firm in a given year.
Fraction of same-culture immigrant employees	# immigrant employees that come from the same country of origin as firm owners / # employees of a firm in a given year.
Gap in log earnings between 90th and 10th percentiles	Gap in log earnings between the employee at the 90th and 10th percentiles of the earnings distribution in each firm-year.
GDP per capita	A country's average GDP per capita before 2005. GDP per capita is in 2020 U.S. dollars. Source: World Bank.

Variable	Definition
Has female owners	Indicator variable that equals one if a firm has at least one female owner in a given year.
High-paid stayers	Employee stayers whose earnings are at the top decile within their firms at year $t-1$.
High prior pay	Indicator variable that equals one if an employee's earnings in the year prior to joining the firm rank above the median employee earnings in the current firm in a given year.
Immigrant share	Proportion of immigrants in Canada from the country of origin of a firm's owners, relative to all immigrants to Canada. This ratio is calculated using data on all immigrants to Canada from year $t-5$ to $t-1$.
In-group culture variance	Pay dispersion computed using immigrant employees who are from the same country as the firm's owners.
Individualism	Individualism score as defined by Hofstede and Hofstede (2001) divided by 100, except in Table 3 where it is normalized to have a standard deviation of one. Individualistic culture emphasizes individual goals, individual accountability, and individual achievement.
Industry	NAICS 4-digit industry classification.
Labor income share	Ratio of total payments to employees over the firm's value-added in a given firm-year.
Landing duration	Year minus the landing year of the immigrant owner.
Legal origin: Common law	Indicator variable that equals one if the country's legal origin is English common law following the classification in La Porta et al. (2008).
Low-paid stayers	Employee stayers whose earnings are at the bottom decile within their firms at year $t-1$.
Masculinity	Defined by Hofstede and Hofstede (2001). Masculinity represents a preference for achievement, heroism, assertiveness, and material rewards for success.
Multiple owners	Indicator variable that equals one if a firm has multiple owners in a given year.
NAICS	North American Classification System (NAICS) code for business.
New hires	Employees who joined the firm in a given year.
Out-group culture variance	Pay dispersion computed using employees who are not from the same country as the firm's owners.
Owner age	Age of a firm's owners.
Owner education level	Average education level of a firm's owners based on years of schooling recorded by IMDB at the time of landing. Each immigrant owner's education level is based on years of schooling and the highest degree attained, where a score of one indicates 0 to 9 years of schooling and a score of eight indicates a doctorate.
Owner has managerial skill	Indicator variable that equals one if at least one of the firm's owners has managerial skill recorded by IMDB at the time of landing.
Owner has professional skill	Indicator variable that equals one if at least one of the firm's owners has professional skill recorded by IMDB at the time of landing.
Owner has technical skill	Indicator variable that equals one if at least one of the firm's owners has technical skill recorded by IMDB at the time of landing.
Owners per firm (#)	Number of immigrant owners of a firm in a given year.
Owner skill level	Average skill level of a firm's owners based on skill level recorded by IMDB at the time of landing. Each immigrant owner's skill level is classified using a 10-category system that includes managerial, professional, skilled and technical, intermediate and clerical, elemental and laborer, new workers, non-workers, retired, and student. We encoded these ten categories into a scoring system where students are assigned a score of one, and managerial positions receive a score of eight.
Post	Indicator variable that equals one for all years after a firm's ownership change.

Variable	Definition
Post_{+1}	Indicator variable that equals one if the firm's owners have changed in 1 year before.
Post_{+2}	Indicator variable that equals one if the firm's owners have changed in 2 years before.
Post_{+3}	Indicator variable that equals one if the firm's owners have changed in 3 years before.
Power distance	Defined by Hofstede and Hofstede (2001). This dimension expresses the degree to which the less powerful members of a society accept and expect that power is distributed unequally.
Pre_{-2}	Indicator variable that equals one if the firm's owners will change in 2 years.
Pre_{-3}	Indicator variable that equals one if the firm's owners will change in 3 years.
Premature death	Indicator variable that equals one if a firm's owner dies at the age of 60 or younger.
Province	Province of Canada from the firm's tax filing address.
Residual pay inequality	Variance of a firm's employees' residual earnings by controlling for observable characteristics such as education and age. Details of the methodology are provided in Internet Appendix Section Appendix B.
Revenue	The sum of all (non-farm) revenue amounts reported (in 000's) in a given firm-year.
Rule of law	Perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Source: World Bank.
Sales growth	Growth rate of a firm's sales between years $t-1$ and t.
Same age	Indicator variable that equals one if an employee is in the same age bracket as the firm's owner. We create eight age brackets: <25, (25-30], (30,35], (35,40], (40,45], (45,50], (50,55], and >55.
Same culture	Indicator variable that equals one if an employee is an immigrant to Canada from the same country as the firm's owner.
Same gender	Indicator variable that equals one if an employee is of the same gender as the firm's owner.
Separation	Indicator variable that equals one if an individual is an employee of the firm at year t and not at year $t+1$.
Share of an employee's commission pay	Commission pay received by an employee from her firm in a given year scaled by her total earnings from the firm in that year.
Share of performance-paid employees	Fraction of a firm's employees that have a commission pay component as part of their compensation from the firm in a given year.
Share of performance pay amount	Fraction of the dollar amount of commission pay summed across all employees who receive it from the firm in a given year, scaled by the total compensation of all employees of the firm in the same year.
Share of shadow economy	The estimated share of shadow economy relative to GDP for each country. Source: Schneider et al. (2010).
Short tenure	Indicator variable that equals one if the employee's tenure with a firm is below the median within the firm in that year.
Tenure	An employee's tenure with a firm.
Top pay	Indicator variable that equals one if an employee is the highest paid in a firm in a given year.
Treated	Indicator variable that equals one if the firm was taken over by owners from a different country.
Trust	The fraction of people in a country that choose "can be trusted" to the question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" Source: World Value Survey.
Uncertainty avoidance	Defined by Hofstede and Hofstede (2001). Uncertainty avoidance expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity.

Variable	Definition
Union law index	Measures the protection of collective relations laws as the average of: (1) Labor union power and (2) Collective disputes. Source: Botero et al. (2004).
Value added	Sum of payrolls from T4, net income before tax, and capital cost allowance in a given firm-year.
Within-firm pay inequality	Variance of a firm's employees' log earnings in a given year.
WMS score	Country-level average of all management questions from World Management Survey (WMS).
Young immigrant owners	Indicator variable that equals one if the immigrant owner landed in Canada before turning seven years old.
Δ Culture	Categorical variable that equals one (negative one) if the new owners' culture leans toward more (less) within-firm pay inequality compared to the firm's exiting owners, and equals zero if there is no change in the owners' culture. To construct this variable, we use the estimated owners' countries of origin fixed effects from Equation 1 to measure the level of immigrant owners' attitudes toward within-firm pay inequality. When a firm has multiple owners after the ownership change, the new owners may not come from the same country. In this case, we use the cultural value with the largest absolute value as the new cultural value after the owner changes.
Δ Individualism	Categorical variables that takes the values one, zero, negative one depending on whether the firm's new immigrant owners come from a country with the individualism score that is higher, the same, or lower, respectively, compared to the individualism score of the firm's exiting owners.
Δ Pay rank	Indicator variable that equals one if the employee's pay rank changes between years $t-1$ and t is in the top quartile of the firm's pay rank change distribution.

Appendix B Employee residual earnings

Important sources of heterogeneity in employees' earnings are their education and skills attained through employment (Juhn et al. (1993); Card et al. (2016)). As part of our analysis, we establish that the relationship between immigrant owners' countries of origin and within-firm pay inequality persists when we remove these sources of heterogeneity from employees' earnings. Specifically, we estimate Equation 1, in which we construct the dependent variable using employee residual earnings. To obtain employee residual earnings, we estimate the following employee-level regression

$$\begin{aligned} w_t^{i,j} = \mathbb{1}(\text{degree})^i \cdot \gamma_1 + \mathbb{1}(\text{degree})^i \times FE_t \cdot \gamma_2 \\ + \mathbb{1}(\text{degree})^i \times age_t^i \cdot \gamma_3 + age_t^i \cdot \gamma_4 + (age_t^i)^2 \cdot \gamma_5 \\ + \mathbb{1}(\text{degree})^i \times tenure_t^{i,j} \cdot \gamma_6 + tenure_t^{i,j} \cdot \gamma_7 \\ + \mathbb{1}(\text{female})^i \cdot \gamma_8 + X_t^j \cdot \gamma_9 \\ + FE_n + FE_p + FE_t + \xi_t^{i,j}, \end{aligned} \tag{IA1}$$

where $w_t^{i,j}$ is the logarithm of employee i's earnings from firm j in year t. $\mathbb{1}(\text{degree})^i$ contains indicator variables that capture the educational attainment of employee i. Specifically, it includes indicators for each of the following education outcomes: upper secondary education, non-university diploma, trade certificate, bachelor's degree or equivalent, master's degree or equivalent, and doctorate or equivalent. This variable is constructed using data from the Post-Secondary Student Information System (PSIS), for non-immigrants to Canada, and the Longitudinal Immigration Database (IMDB), for immigrants to Canada. age_t^i is the logarithm of employee i's age in year t, $tenure_t^{i,j}$ is employee i's tenure with firm j in year t, and $\mathbb{1}(\text{female})^i$ is an indicator variable equal to one for female employees. X_t^j stands for time-varying firm characteristics used in Equation 1. Variable $\xi_t^{i,j}$ provides estimates of employees' residual earnings.

Appendix C Additional results and robustness tests

This section of the Internet Appendix provides additional results and robustness analyses referenced in the main text.

Figure IA1. Variation in within-firm pay inequality by owners' countries of origin

This figure plots the Z-scores from Table IA1 that measure how far the within-firm pay inequality of a country deviates from the overall average within-firm pay inequality in the sample.

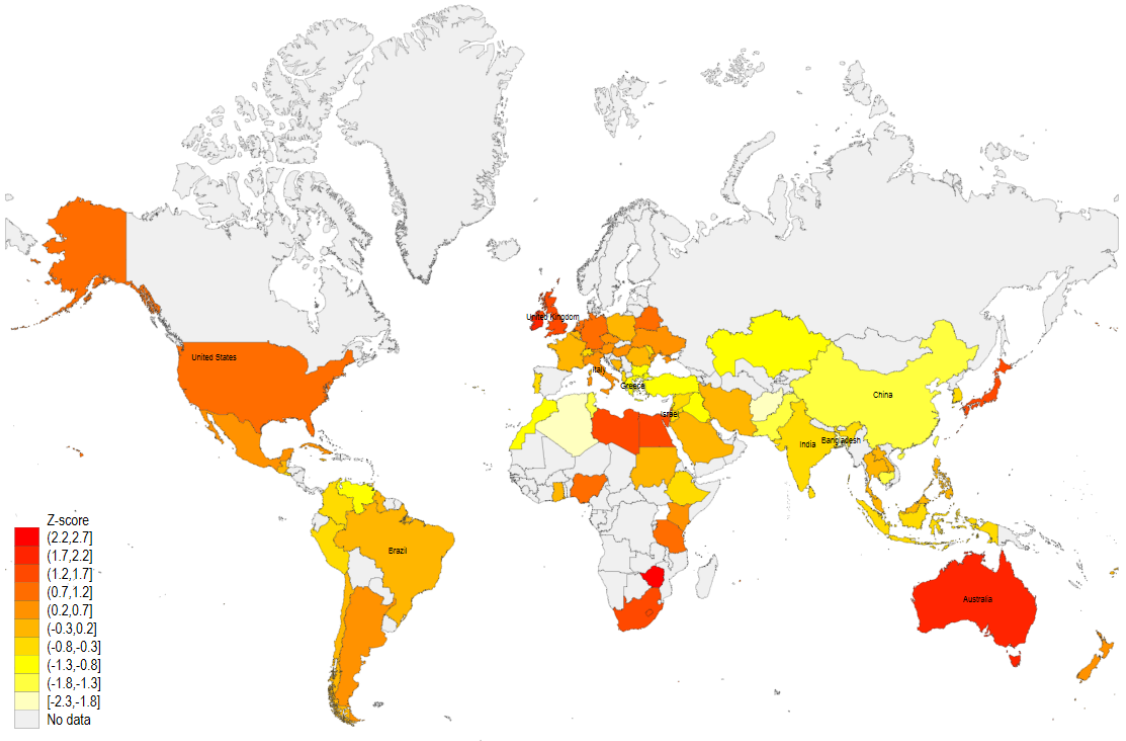


Figure IA2. Within-firm pay inequality around firms' ownership changes

This figure plots year-by-year coefficient estimates from Table 5, Panel B capturing the timing of the effect of a change in the immigrant owners' countries of origin on within-firm pay inequality. Variable Pre_{-1} is omitted as the benchmark group. Vertical bars around the point estimates denote 95% confidence intervals of the coefficients.

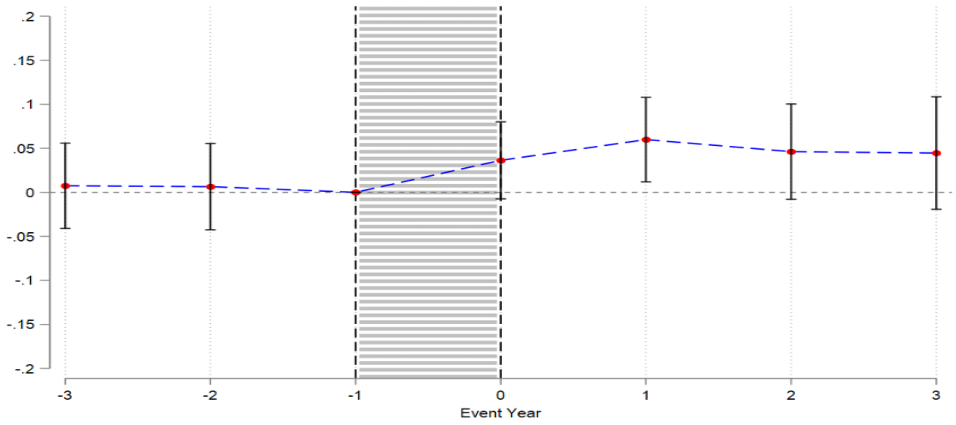


Table IA1. Additional descriptive statistics

This table presents additional descriptive statistics on the sample composition. The sample consists of 353,120 firm-year observations over the period 2001 – 2017. Panel A presents sample composition by a firm's owners' country of origin. Panel B tabulates the sample composition over time. Panel C presents sample composition by NAICS 2-digit industry sectors. Details of the sample and variables construction are provided in Section 3. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. The numbers of observations and the numbers of unique firms are rounded to the nearest five.

Panel A. Sample composition by immigrant owners' country of origin

Country	observation	# unique firms	Within-firm pay inequality			Landing duration (years)	
			Mean	Std	Z-score	Mean	Std
Afghanistan	3,215	845	0.2657	0.2591	-1.9	17	6
Albania	605	210	0.3140	0.3450	-0.5	11	5
Algeria	1,365	350	0.2697	0.2372	-1.8	16	6
Argentina	560	140	0.3419	0.3288	0.4	18	7
Australia	715	175	0.3905	0.3510	1.8	14	8
Austria	440	80	0.3537	0.2533	0.7	21	8
Azores	565	115	0.3161	0.3123	-0.4	26	5
Bangladesh	1,880	490	0.2539	0.2453	-2.3	17	7
Belarus	210	65	0.3681	0.3424	1.2	11	5
Belgium	845	160	0.3234	0.3378	-0.2	19	9
Bosnia & Herzegovina	885	210	0.3334	0.3443	0.1	16	5
Brazil	685	185	0.3280	0.3141	0.0	15	7
Bulgaria	870	205	0.3041	0.3259	-0.8	16	6
Cambodia	2,365	485	0.2811	0.2621	-1.5	24	7
Chile	610	150	0.3368	0.3611	0.2	21	7
China	45,825	12,245	0.2733	0.2763	-1.7	15	7
Colombia	870	265	0.3164	0.2950	-0.4	13	7
Cuba	315	85	0.3540	0.3227	0.7	15	7
Czechoslovakia	1,150	220	0.3407	0.3604	0.3	24	6
Egypt	6,585	1,550	0.3797	0.3522	1.5	18	7
El Salvador	1,160	285	0.3186	0.2884	-0.3	22	6
Ethiopia	840	195	0.3151	0.3392	-0.4	20	7
Fiji	940	210	0.3359	0.3054	0.2	21	7
France	4,440	1,030	0.3272	0.3018	-0.1	15	8
Germany	4,310	825	0.3657	0.3354	1.1	19	8
Ghana	335	90	0.3356	0.3647	0.2	18	6
Greece	1,435	275	0.2924	0.2681	-1.1	23	7
Guatemala	355	100	0.3360	0.3146	0.2	20	7
Guyana	2,400	500	0.3358	0.3161	0.2	23	7
Hong Kong	19,155	3,745	0.3037	0.3038	-0.8	19	6
Hungary	895	195	0.3467	0.3381	0.5	20	8
India	58,320	13,995	0.3153	0.3062	-0.4	18	8
Indonesia	460	100	0.3153	0.3095	-0.4	17	8
Iran	16,715	3,875	0.3263	0.3082	-0.1	18	7
Iraq	4,390	1,090	0.2977	0.2840	-1.0	17	6
Ireland	1,010	190	0.4014	0.3831	2.2	20	8
Israel	2,895	645	0.3566	0.3128	0.8	19	9
Italy	1,500	305	0.3454	0.3383	0.5	21	8
Jamaica	965	250	0.3260	0.3365	-0.1	23	7
Japan	2,365	405	0.3837	0.2999	1.6	17	8
Jordan	775	215	0.3118	0.2823	-0.5	16	7
Kazakhstan	355	120	0.2999	0.3142	-0.9	12	4
Kenya	1,515	305	0.3502	0.3186	0.6	21	7
Korea, South	20,235	4,780	0.3053	0.2814	-0.7	14	7
Kuwait	790	220	0.3240	0.3432	-0.2	17	7
Laos	460	100	0.3216	0.2826	-0.2	28	5
Lebanon	16,215	3,555	0.2963	0.2677	-1.0	19	7
Libya	530	160	0.3762	0.4358	1.4	11	6
Macao	365	80	0.2852	0.2354	-1.3	19	6

Malaysia	1,580	320	0.3254	0.3436	-0.1	20	7
Mauritius	465	85	0.3543	0.4066	0.8	22	7
Mexico	1,380	375	0.3446	0.3603	0.5	15	9
Moldova	255	110	0.3151	0.3101	-0.4	12	5
Morocco	2,265	575	0.3019	0.2689	-0.8	19	8
Netherlands	3,560	670	0.3652	0.3661	1.1	20	8
New Zealand	480	105	0.3388	0.2922	0.3	19	9
Nigeria	990	270	0.3698	0.3800	1.2	13	7
Pakistan	11,310	3,180	0.2757	0.2650	-1.6	15	6
Peru	720	175	0.3204	0.2857	-0.3	18	7
Philippines	4,245	1,010	0.3234	0.3340	-0.2	19	7
Poland	10,210	1,935	0.3361	0.3497	0.2	22	6
Portugal	4,515	825	0.3121	0.3416	-0.5	22	6
Romania	3,915	905	0.3361	0.3283	0.2	18	7
Russian Federation	2,215	660	0.3342	0.3442	0.1	12	5
Saudi Arabia	260	95	0.3218	0.3384	-0.2	16	7
Singapore	415	90	0.3472	0.4134	0.5	18	8
Republic of South Africa	5,425	1,100	0.3802	0.4075	1.5	15	8
Sri Lanka	5,610	1,380	0.3108	0.2881	-0.6	18	6
Sudan	715	145	0.3305	0.2807	0.0	16	6
Switzerland	1,730	325	0.3054	0.3118	-0.7	20	8
Syria	2,960	700	0.3199	0.2963	-0.3	20	7
Taiwan	6,705	1,375	0.2842	0.2775	-1.4	17	6
Tanzania	1,555	290	0.3575	0.3315	0.9	23	7
Thailand	785	185	0.3354	0.2900	0.2	16	8
Trinidad and Tobago	1,145	275	0.3310	0.3203	0.0	20	7
Tunisia	700	200	0.2830	0.2270	-1.4	13	6
Turkey	2,735	725	0.2996	0.2733	-0.9	18	8
Uganda	430	85	0.4249	0.3410	2.9	21	8
Ukraine	1,595	480	0.3432	0.3773	0.4	13	5
Union of Soviet Socialist Republics	3,210	700	0.3473	0.3514	0.5	21	7
United Kingdom	8,980	1,905	0.3718	0.3540	1.3	20	9
United States	4,610	990	0.3688	0.3572	1.2	18	9
Venezuela	380	115	0.2911	0.2676	-1.2	14	8
Viet Nam	14,670	3,365	0.2768	0.2734	-1.6	24	7
Yugoslavia	3,265	745	0.3386	0.3276	0.3	19	6
Zimbabwe	440	90	0.4067	0.4097	2.3	17	8

Panel B. Sample composition over time

Year	Observations	Within-firm inequality	
		Mean	Median
2001	8,205	0.3365	0.2621
2002	9,415	0.3470	0.2739
2003	10,785	0.3403	0.2640
2004	12,105	0.3498	0.2730
2005	13,505	0.3498	0.2723
2006	14,425	0.3514	0.2693
2007	15,610	0.3448	0.2676
2008	19,445	0.3322	0.2542
2009	21,155	0.3303	0.2537
2010	22,370	0.3273	0.2554
2011	23,330	0.3091	0.2402
2012	24,140	0.2951	0.2300
2013	28,190	0.2920	0.2248
2014	30,090	0.2910	0.2265
2015	31,805	0.2920	0.2283
2016	33,595	0.2955	0.2326
2017	34,975	0.2939	0.2297
Total	353,120	0.3134	0.2424

Panel C. Sample composition by 2-digit NAICS industry sectors

NAICS	Sector	Observations	Unique firms (#)	Within-firm pay inequality		Employees (#)		Revenue (in 000's)	
				Mean	Std	Mean	Std	Mean	Std
11	Agriculture, forestry, fishing and hunting	5,265	1,025	0.2858	0.3178	13	26	672	1,252
21	Mining, quarrying, and oil and gas extraction	340	90	0.4486	0.4205	13	34	2016	2,374
22	Utilities	80	20	0.4144	0.3737	13	15	2044	2,368
23	Construction	29,540	7,665	0.3355	0.3463	7	8	888	1,290
31	Manufacturing	7,300	1,540	0.2939	0.2499	11	14	1055	1,547
32	Manufacturing	5,335	1,060	0.3207	0.2678	10	12	1296	1,573
33	Manufacturing	11,140	2,200	0.3362	0.3120	11	33	1292	1,679
41	Wholesale trade	24,245	5,105	0.3227	0.3244	10	185	2234	2,426
44	Retail trade	57,030	13,105	0.3194	0.2977	8	21	1630	1,950
45	Retail trade	8,340	2,235	0.2897	0.2809	6	8	866	1,152
48	Transportation and warehousing	10,685	3,150	0.3268	0.3498	8	15	1933	2,292
49	Transportation and warehousing	1,305	380	0.3055	0.3019	7	8	1000	1,398
51	Information and cultural industries	2,295	640	0.3562	0.3543	9	13	1154	1,725
52	Finance and insurance	4,180	1,080	0.3466	0.3655	17	478	848	1,656
53	Real estate and rental and leasing	5,515	1,565	0.3327	0.3584	8	97	737	1,364
54	Professional, scientific and technical services	24,115	6,870	0.3603	0.3754	7	20	675	1,093
55	Management of companies and enterprises	1,005	275	0.3646	0.3666	8	12	876	1,529
56	Administrative and support, waste management and remediation services	16,310	3,930	0.3127	0.2987	12	23	1077	1,660
62	Health care and social assistance	32,225	6,750	0.3547	0.3676	7	14	670	601
71	Arts, entertainment and recreation	1,715	470	0.3360	0.2992	8	13	686	992
72	Accommodation and food services	81,265	19,830	0.2717	0.2307	8	9	547	606
81	Other services (except public administration)	23,870	5,650	0.2841	0.2869	6	6	491	660
91	Public administration	35	10	0.4778	0.3447	6	2	818	1029

Table IA2. Pay inequality in immigrant-owned firms

This table examines the relationship between immigrant owners' countries of origin and within-firm pay inequality. *Within-firm pay inequality*, is measured as the variance of a firm's employees' log earnings. Country indicators are based on the owners' countries of origin, and the U.S. is the benchmark group. Panel A presents estimates from Equation 1. Panel B presents the results when we include industry-by-year, province-by-year, and industry-by-province fixed effects in the regression specifications. Panel C presents results using the same four specifications from Panel A except that we focus on firms with at least four employees. Due to space constraints, Panel B and Panel C only report country-of-origin groups with at least 800 unique firms. Panel D presents results when we use employee residual earnings to construct within-firm pay inequality using methodology from Internet Appendix Section Appendix B. For this analysis, coefficients are suppressed by Statistics Canada, we thus only report F statistics, the numbers of observations, and adjusted R squared for this table. Panel E and F present additional ANOVA results. Panel E presents results of ANOVA analysis where we include interactions among group-level factors. Panel F presents results of ANOVA analysis where we include group-level factors and other continuous covariates included in Panel A specification. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

Panel A. Baseline specification

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Afghanistan	-0.0564***	-0.0447***	-0.0381***	-0.0356***
	(0.0110)	(0.0109)	(0.0109)	(0.0109)
Albania	-0.0228	-0.0116	-0.00272	-0.00260
	(0.0214)	(0.0213)	(0.0211)	(0.0211)
Algeria	-0.0405***	-0.0342***	-0.0239*	-0.0249*
	(0.0132)	(0.0131)	(0.0129)	(0.0130)
Argentina	-0.0145	-0.0063	-0.0013	0.0011
	(0.0211)	(0.0210)	(0.0210)	(0.0210)
Australia	0.0121	0.0092	0.0082	0.0077
	(0.0198)	(0.0197)	(0.0196)	(0.0196)
Austria	-0.0028	-0.0103	-0.0014	0.0015
	(0.0216)	(0.0217)	(0.0225)	(0.0226)
Azores	-0.0250	-0.0272	-0.0239	-0.0162
	(0.0209)	(0.0210)	(0.0206)	(0.0205)
Bangladesh	-0.0705***	-0.0586***	-0.0484***	-0.0493***
	(0.0117)	(0.0116)	(0.0116)	(0.0116)
Belarus	0.0042	0.0133	0.0195	0.0176
	(0.0301)	(0.0304)	(0.0304)	(0.0305)
Belgium	-0.0179	-0.0214	-0.0111	-0.0085
	(0.0264)	(0.0269)	(0.0286)	(0.0284)
Bosnia and Herzegovina	-0.0235	-0.0153	-0.0080	-0.0061
	(0.0180)	(0.0182)	(0.0180)	(0.0180)
Brazil	-0.0228	-0.0193	-0.0118	-0.0105
	(0.0199)	(0.0201)	(0.0196)	(0.0198)
Bulgaria	-0.0390**	-0.0344**	-0.0243	-0.0244
	(0.0167)	(0.0168)	(0.0167)	(0.0167)
Cambodia	-0.0350***	-0.0303**	-0.0237*	-0.0181
	(0.0124)	(0.0124)	(0.0124)	(0.0124)
Chile	-0.00520	0.00839	0.0141	0.0175
	(0.0207)	(0.0204)	(0.0205)	(0.0205)
China	-0.0621***	-0.0567***	-0.0455***	-0.0445***
	(0.0091)	(0.0090)	(0.0090)	(0.0090)
Colombia	-0.0270*	-0.0188	-0.0072	-0.0086
	(0.0152)	(0.0150)	(0.0151)	(0.0152)
Cuba	-0.0058	-0.0045	-0.0016	-0.0032
	(0.0244)	(0.0244)	(0.0246)	(0.0247)
Czechoslovakia	-0.0342*	-0.0322*	-0.0234	-0.0219
	(0.0176)	(0.0176)	(0.0175)	(0.0174)
Egypt	-0.0202*	-0.0178	-0.0073	-0.0088
	(0.0115)	(0.0114)	(0.0113)	(0.0113)

El Salvador	-0.0315**	-0.0186	-0.0131	-0.0094
	(0.0144)	(0.0142)	(0.0140)	(0.0142)
Ethiopia	-0.0150	0.0018	0.0104	0.0131
	(0.0273)	(0.0274)	(0.0274)	(0.0275)
Fiji	-0.0244	-0.0152	-0.0078	-0.0045
	(0.0178)	(0.0176)	(0.0174)	(0.0174)
France	0.0026	0.0044	0.0143	0.0155
	(0.0114)	(0.0112)	(0.0113)	(0.0113)
Germany	0.0129	0.0091	0.0087	0.0108
	(0.0124)	(0.0122)	(0.0124)	(0.0125)
Ghana	-0.0223	-0.0119	-0.0111	-0.0100
	(0.0311)	(0.0315)	(0.0317)	(0.0317)
Greece	-0.0337**	-0.0312**	-0.0324**	-0.0263*
	(0.0142)	(0.0141)	(0.0139)	(0.0139)
Guatemala	-0.0126	-0.0044	0.0034	0.0061
	(0.0276)	(0.0275)	(0.0273)	(0.0274)
Guyana	-0.0116	-0.0100	-0.0060	-0.0016
	(0.0131)	(0.0130)	(0.0130)	(0.0131)
Hong Kong	-0.0607***	-0.0560***	-0.0473***	-0.0440***
	(0.0097)	(0.0096)	(0.0096)	(0.0097)
Hungary	-0.0238	-0.0191	-0.0158	-0.0137
	(0.0181)	(0.0182)	(0.0182)	(0.0181)
India	-0.0310***	-0.0283***	-0.0177**	-0.0185**
	(0.0091)	(0.0090)	(0.0090)	(0.0090)
Indonesia	-0.0477*	-0.0466*	-0.0347	-0.0337
	(0.0277)	(0.0276)	(0.0284)	(0.0284)
Iran	-0.0257***	-0.0224**	-0.0147	-0.0136
	(0.0096)	(0.0095)	(0.0095)	(0.0095)
Iraq	-0.0461***	-0.0365***	-0.0282***	-0.0273**
	(0.0110)	(0.0108)	(0.0108)	(0.0108)
Ireland	0.0216	0.0186	0.0180	0.0196
	(0.0235)	(0.0238)	(0.0240)	(0.0239)
Israel	0.0037	0.0041	0.0040	0.0076
	(0.0130)	(0.0129)	(0.0129)	(0.0130)
Italy	0.0020	0.0005	0.0036	0.0091
	(0.0151)	(0.0149)	(0.0150)	(0.0151)
Jamaica	-0.0155	-0.0063	-0.0006	0.0027
	(0.0184)	(0.0183)	(0.0183)	(0.0184)
Japan	0.0430***	0.0453***	0.0543***	0.0564***
	(0.0147)	(0.0145)	(0.0144)	(0.0144)
Jordan	-0.0343**	-0.0245	-0.0189	-0.0180
	(0.0169)	(0.0165)	(0.0165)	(0.0165)
Kazakhstan	-0.0477**	-0.0319	-0.0230	-0.0248
	(0.0234)	(0.0228)	(0.0227)	(0.0228)
Kenya	-0.0330**	-0.0336**	-0.0295*	-0.0275*
	(0.0163)	(0.0160)	(0.0160)	(0.0160)
Korea, South	-0.0288***	-0.0270***	-0.0079	-0.0087
	(0.0094)	(0.0093)	(0.0093)	(0.0093)
Kuwait	-0.0234	-0.0196	-0.0194	-0.0185
	(0.0197)	(0.0190)	(0.0190)	(0.0189)
Laos	-0.0110	-0.0078	0.0024	0.0085
	(0.0229)	(0.0223)	(0.0221)	(0.0223)
Lebanon	-0.0299***	-0.0248***	-0.0196**	-0.0170*
	(0.0095)	(0.0094)	(0.0094)	(0.0094)
Libya	-0.0212	-0.0166	-0.0125	-0.0124
	(0.0273)	(0.0269)	(0.0268)	(0.0269)
Macao	-0.0679***	-0.0663***	-0.0602***	-0.0572***
	(0.0198)	(0.0193)	(0.0196)	(0.0198)
Malaysia	-0.0384**	-0.0369**	-0.0308*	-0.0283*
	(0.0170)	(0.0170)	(0.0170)	(0.0170)
Mauritius	-0.0114	-0.0114	-0.0039	-0.0030
	(0.0501)	(0.0497)	(0.0496)	(0.0495)
Mexico	0.0040	0.0102	0.0161	0.0159
	(0.0182)	(0.0181)	(0.0182)	(0.0183)
Moldova	-0.0195	-0.0015	0.0084	0.0063

	(0.0256)	(0.0255)	(0.0257)	(0.0257)
Morocco	-0.0241*	-0.0202	-0.0170	-0.0160
	(0.0126)	(0.0125)	(0.0124)	(0.0125)
Netherlands	0.0184	0.0128	0.0180	0.0209
	(0.0133)	(0.0133)	(0.0146)	(0.0146)
New Zealand	-0.0379*	-0.0361*	-0.0365*	-0.0342
	(0.0217)	(0.0217)	(0.0214)	(0.0215)
Nigeria	-0.0323*	-0.0283	-0.0200	-0.0216
	(0.0195)	(0.0197)	(0.0195)	(0.0196)
Pakistan	-0.0671***	-0.0576***	-0.0472***	-0.0487***
	(0.0095)	(0.0094)	(0.0094)	(0.0094)
Peru	-0.0168	-0.0111	-0.0062	-0.0051
	(0.0170)	(0.0168)	(0.0162)	(0.0163)
Philippines	-0.0324***	-0.0240**	-0.0113	-0.0131
	(0.0123)	(0.0122)	(0.0122)	(0.0122)
Poland	-0.0262**	-0.0225**	-0.0164	-0.0155
	(0.0105)	(0.0103)	(0.0103)	(0.0103)
Portugal	-0.0342***	-0.0300**	-0.0228*	-0.0138
	(0.0118)	(0.0117)	(0.0116)	(0.0117)
Romania	-0.0261**	-0.0205*	-0.0123	-0.0108
	(0.0115)	(0.0115)	(0.0115)	(0.0115)
Russian Federation	-0.0291**	-0.0191	-0.0122	-0.0135
	(0.0140)	(0.0137)	(0.0136)	(0.0136)
Saudi Arabia	-0.0500**	-0.0447*	-0.0411*	-0.0383
	(0.0238)	(0.0240)	(0.0243)	(0.0244)
Singapore	-0.0171	-0.0132	-0.0085	-0.0071
	(0.0373)	(0.0372)	(0.0372)	(0.0373)
Republic of South Africa	-0.0248*	-0.0238*	-0.0195	-0.0182
	(0.0131)	(0.0130)	(0.0130)	(0.0130)
Sri Lanka	-0.0283**	-0.0230**	-0.0181*	-0.0157
	(0.0111)	(0.0110)	(0.0110)	(0.0110)
Sudan	-0.0195	-0.0107	-0.0049	-0.0075
	(0.0163)	(0.0163)	(0.0162)	(0.0161)
Switzerland	-0.0359**	-0.0375***	-0.0274*	-0.0248*
	(0.0143)	(0.0143)	(0.0149)	(0.0149)
Syria	-0.0225*	-0.0173	-0.0121	-0.0090
	(0.0118)	(0.0117)	(0.0116)	(0.0117)
Taiwan	-0.0709***	-0.0683***	-0.0529***	-0.0506***
	(0.0105)	(0.0104)	(0.0104)	(0.0104)
Tanzania	-0.0320**	-0.0330**	-0.0256	-0.0214
	(0.0162)	(0.0162)	(0.0161)	(0.0162)
Thailand	0.0188	0.0259	0.0357*	0.0346*
	(0.0196)	(0.0197)	(0.0196)	(0.0197)
Trinidad and Tobago	-0.0181	-0.0140	-0.0093	-0.0068
	(0.0159)	(0.0156)	(0.0156)	(0.0156)
Tunisia	-0.0354**	-0.0309**	-0.0251*	-0.0264*
	(0.0143)	(0.0136)	(0.0135)	(0.0135)
Turkey	-0.0327***	-0.0247**	-0.0194	-0.0169
	(0.0125)	(0.0124)	(0.0123)	(0.0123)
Uganda	0.0307	0.0280	0.0291	0.0295
	(0.0263)	(0.0262)	(0.0259)	(0.0261)
Ukraine	-0.0165	-0.0015	0.0030	0.0019
	(0.0152)	(0.0149)	(0.0150)	(0.0150)
Union of Soviet Socialist Republics	-0.0166	-0.0150	-0.0126	-0.0112
	(0.0126)	(0.0125)	(0.0124)	(0.0124)
United Kingdom	0.0012	-0.0005	0.0038	0.0063
	(0.0108)	(0.0107)	(0.0107)	(0.0108)
Venezuela	-0.0485**	-0.0393**	-0.0291	-0.0297
	(0.0203)	(0.0199)	(0.0201)	(0.0201)
Viet Nam	-0.0501***	-0.0435***	-0.0350***	-0.0291***
	(0.0096)	(0.0095)	(0.0095)	(0.0096)
Yugoslavia	-0.0271**	-0.0219*	-0.0167	-0.0145
	(0.0117)	(0.0115)	(0.0115)	(0.0115)
Zimbabwe	0.0050	0.0051	0.0043	0.0065
	(0.0407)	(0.0409)	(0.0408)	(0.0407)

Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
F statistics	7.98***	6.98***	6.16***	6.07***
Observations	353,120	352,070	348,280	347,395
Adj. R-sq	0.036	0.043	0.047	0.047

Panel B. Specifications with interacted fixed effects

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Afghanistan	-0.0550***	-0.0444***	-0.0386***	-0.0367***
	(0.0114)	(0.0112)	(0.0112)	(0.0112)
China	-0.0627***	-0.0580***	-0.0478***	-0.0469***
	(0.0095)	(0.0094)	(0.0093)	(0.0094)
Egypt	-0.0206*	-0.0183	-0.0091	-0.0107
	(0.0119)	(0.0118)	(0.0117)	(0.0117)
France	-0.0017	0.0005	0.0101	0.0111
	(0.0118)	(0.0116)	(0.0116)	(0.0116)
Germany	0.0154	0.0109	0.0115	0.0129
	(0.0129)	(0.0127)	(0.0129)	(0.0129)
Hong Kong	-0.0607***	-0.0570***	-0.0493***	-0.0464***
	(0.0101)	(0.0100)	(0.0100)	(0.0100)
India	-0.0313***	-0.0295***	-0.0198**	-0.0209**
	(0.0095)	(0.0093)	(0.0093)	(0.0093)
Iran	-0.0259***	-0.0231**	-0.0163*	-0.0155
	(0.0099)	(0.0098)	(0.0098)	(0.0098)
Iraq	-0.0478***	-0.0395***	-0.0324***	-0.0318***
	(0.0113)	(0.0112)	(0.0111)	(0.0111)
Korea, South	-0.0296***	-0.0283***	-0.0101	-0.011
	-0.0098	-0.0097	-0.0097	-0.0097
Lebanon	-0.0293***	-0.0252**	-0.0208**	-0.0186*
	(0.0099)	(0.0098)	(0.0097)	(0.0098)
Pakistan	-0.0667***	-0.0582***	-0.0486***	-0.0502***
	(0.0100)	(0.0098)	(0.0098)	(0.0098)
Philippines	-0.0329***	-0.0260**	-0.0143	-0.0162
	(0.0127)	(0.0126)	(0.0126)	(0.0126)
Poland	-0.0279**	-0.0249**	-0.0195*	-0.0187*
	(0.0109)	(0.0107)	(0.0107)	(0.0107)
Portugal	-0.0355***	-0.0308**	-0.0248**	-0.0163
	(0.0125)	(0.0123)	(0.0122)	(0.0123)
Romania	-0.0266**	-0.0212*	-0.0139	-0.0126
	(0.0119)	(0.0119)	(0.0118)	(0.0118)
Republic of South Africa	-0.0272**	-0.0273**	-0.0231*	-0.0216
	(0.0137)	(0.0136)	(0.0136)	(0.0136)
Sri Lanka	-0.0300***	-0.0258**	-0.0214*	-0.0193*
	(0.0115)	(0.0113)	(0.0113)	(0.0113)
Taiwan	-0.0703***	-0.0690***	-0.0549***	-0.0529***
	(0.0109)	(0.0108)	(0.0107)	(0.0107)
United Kingdom	0.0013	-0.0013	0.0022	0.0046
	(0.0113)	(0.0112)	(0.0111)	(0.0111)
Viet Nam	-0.0517***	-0.0460***	-0.0384***	-0.0331***
	(0.0100)	(0.0099)	(0.0099)	(0.0099)
...				
Industry × year FEs	Yes	Yes	Yes	Yes
Province × year FEs	Yes	Yes	Yes	Yes
Industry × province FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
F statistics	7.51***	6.62***	5.96***	5.86***
Observations	352,535	351,485	347,690	346,805
Adj. R-sq	0.042	0.049	0.053	0.053

Panel C. Firms with at least four employees

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Afghanistan	-0.0467***	-0.0355***	-0.0283***	-0.0257**
	(0.0107)	(0.0105)	(0.0105)	(0.0105)
China	-0.0579***	-0.0534***	-0.0423***	-0.0413***
	(0.0086)	(0.0085)	(0.0084)	(0.0084)
Egypt	-0.0174	-0.0148	-0.0042	-0.0056
	(0.0109)	(0.0107)	(0.0106)	(0.0106)
France	0.0139	0.0167	0.0272**	0.0281***
	(0.0110)	(0.0108)	(0.0108)	(0.0108)
Germany	0.0183	0.0146	0.0158	0.0183
	(0.0116)	(0.0114)	(0.0115)	(0.0115)
Hong Kong	-0.0535***	-0.0489***	-0.0398***	-0.0366***
	(0.0092)	(0.0091)	(0.0091)	(0.0091)
India	-0.0275***	-0.0246***	-0.0136	-0.0141*
	(0.0086)	(0.0084)	(0.0084)	(0.0084)
Iran	-0.0191**	-0.0157*	-0.0076	-0.0065
	(0.0091)	(0.0090)	(0.0089)	(0.0089)
Iraq	-0.0325***	-0.0239**	-0.0156	-0.0144
	(0.0110)	(0.0108)	(0.0106)	(0.0106)
Korea, South	-0.0281***	-0.0250***	-0.0052	-0.0057
	(0.0089)	(0.0087)	(0.0087)	(0.0087)
Lebanon	-0.0238***	-0.0193**	-0.0137	-0.0111
	(0.0091)	(0.0089)	(0.0089)	(0.0089)
Pakistan	-0.0522***	-0.0436***	-0.0331***	-0.0346***
	(0.0091)	(0.0090)	(0.0089)	(0.0089)
Philippines	-0.0248**	-0.0164	-0.0037	-0.0051
	(0.0118)	(0.0117)	(0.0117)	(0.0117)
Poland	-0.0200**	-0.0163*	-0.0093	-0.0082
	(0.0100)	(0.0098)	(0.0098)	(0.0098)
Portugal	-0.0339***	-0.0284**	-0.0198*	-0.0113
	(0.0113)	(0.0111)	(0.0111)	(0.0111)
Romania	-0.0200*	-0.0142	-0.0050	-0.0036
	(0.0117)	(0.0116)	(0.0116)	(0.0116)
Republic of South Africa	-0.0120	-0.0113	-0.0054	-0.0044
	(0.0126)	(0.0125)	(0.0124)	(0.0124)
Sri Lanka	-0.0194*	-0.0147	-0.0102	-0.0077
	(0.0108)	(0.0106)	(0.0106)	(0.0106)
Taiwan	-0.0650***	-0.0621***	-0.0469***	-0.0446***
	(0.0102)	(0.0100)	(0.0100)	(0.0100)
United Kingdom	0.0048	0.0036	0.0084	0.0108
	(0.0105)	(0.0103)	(0.0103)	(0.0103)
Viet Nam	-0.0446***	-0.0381***	-0.0295***	-0.0238***
	(0.0092)	(0.0090)	(0.0090)	(0.0091)
...				
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	270,045	269,278	266,365	265,690
Adj. R-sq	0.050	0.058	0.063	0.064

Panel D. Immigrant owners' countries of origin and within-firm pay inequality computed using residual employee earnings (coefficients suppressed by Statistics Canada)

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (residual employee earnings)			
...				
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
F statistics	5.43***	5.07***	4.58***	4.52***
Observations	347,300	347,300	347,300	347,300
Adj. R-sq	0.035	0.038	0.040	0.040

Panel E. ANOVA analysis of the determinants of within-firm pay inequality: Interacted fixed effects

	Partial sum of squares	Degrees of freedom	F	p-value
Owner's countries of origin FEs	140.2	85	18.19	0
Industry × year FEs	478.93	4,719	1.12	0
Province × year FEs	31.48	207	1.68	0
Industry × province FEs	294.92	1,373	2.37	0

Panel F. ANOVA analysis of the determinants of within-firm pay inequality: Continuous covariates

	Partial sum of squares	Degrees of freedom	F	p-value
Owner's countries of origin FEs	107.8	85	14.08	0
Year FEs	173.64	16	120.45	0
Industry FEs	446.28	311	15.93	0
Province FEs	60.31	12	55.78	0
Log (Employees)	14.84	1	164.7	0
Log (Capital-labor ratio)	28.88	1	320.57	0
Log (Revenue)	55.15	1	612.17	0
Log (Firm age)	0.04	1	0.39	0.53
Log (Firm age)^2	0	1	0.04	0.83
Multiple owners	75.82	1	841.54	0
Owner skill level	4.35	1	48.26	0
Owner education level	13.02	1	144.46	0

Table IA3. Individualism and inequality: Robustness

This table presents additional regression results that examine the relationship between Hofstede's individualism and within-firm pay inequality. Panel A presents the results when we include additional control variables. Panel B presents the results in firms with at least 14 employees (top quartile of the sample). Panel C presents the results in firms with at least 49 employees (top percentile of the sample). Panel D presents the results when we exclude family firms from the sample. We identify family firms as those having at least one employee who is a family member (this information is from Statistics Canada T1FF 'Family File') of the firm owner in a given year. Panel E to J report results obtained using specifications from Table 3, Panel B, but with alternative ways to construct the dependent variable. Panel E presents the results when we measure inequality as the gap in log earnings between the employee at the 90th and 10th percentiles in each firm-year. Panel F presents the results when we include the owners' earnings in the computation of *Within-firm pay inequality*. Panel G presents the results when we use employee residual earnings to construct the dependent variable. Panel H presents the results when we use within-firm pay dispersion computed using immigrant employees who are from the same country as the firm's owners ('in-group culture variance'). Panel I presents results when we use within-firm pay dispersion computed using employees who are not from the same country as the firm's owners ('out-group culture variance'). Panel J, we use variance between the employees that belong to the in-group versus the out-group ('cross-group variance'). All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

Panel A. Individualism and within-firm pay inequality: Additional control variables

	(1)	(2)	(3)	(4)	(5)
	Within-firm pay inequality				
Individualism	0.0554***	0.0599***	0.0605***	0.0281***	0.0566***
	(0.0056)	(0.0051)	(0.0050)	(0.0049)	(0.0052)
Fraction of English-speaking owners	0.0028				
	((0.0042)				
Fraction of French-speaking owners	0.0146**				
	(0.0071)				
Has female owners		0.0016			
		(0.0042)			
Fraction of married owners		0.0085***			
		(0.0021)			
Average owner age		0.0000			
		(0.0000)			
Average number of business owned		0.0010*			
		(0.0004)			
Owner has technical skill			0.0021		
			(0.0021)		
Owner has managerial skill			-0.0043*		
			(0.0025)		
Owner has professional skill			-0.0035		
			(0.0029)		
Fraction of owners with college degrees			0.0145***		
			(0.0023)		
Average log earnings of employees				0.0998***	
				(0.0028)	
Fraction of immigrant employees					0.0009
					(0.0037)
Fraction of same-culture immigrant employees					-0.0091**
					(0.0035)
Industry, province, year FEs	Yes	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	Yes	Yes	Yes	Yes	Yes
Revenue, firm age, multiple owners	Yes	Yes	Yes	Yes	Yes
Owner skill and education level	Yes	Yes	No	Yes	Yes
Observations	313,140	305,530	313,985	313,140	313,125
Adj. R-sq	0.046	0.045	0.045	0.060	0.046

Panel B. Firms with at least 14 employees

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Individualism	0.0664***	0.0599***	0.0533***	0.0514***
	(0.0077)	(0.0076)	(0.0076)	(0.0077)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	33,660	33,575	33,135	33,050
Adj. R-sq	0.209	0.220	0.222	0.224

Panel C. Firms with at least 49 employees

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Individualism	0.0804***	0.0644***	0.0618***	0.0611***
	(0.0216)	(0.0210)	(0.0211)	(0.0209)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	3,170	3,165	3,100	3,100
Adj. R-sq	0.420	0.442	0.441	0.442

Panel D. Individualism and within-firm pay inequality: Excluding family firms

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Individualism	0.0832***	0.0730***	0.0618***	0.0605***
	(0.0050)	(0.0049)	(0.0050)	(0.0050)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	314,530	313,605	309,895	309,070
Adj. R-sq	0.034	0.041	0.045	0.046

Panel E. Inequality computed as the gap in log earnings between the employee (excluding owners) at the 90th and 10th percentiles in each firm-year

	(1)	(2)	(3)	(4)
	Gap in log earnings between 90th and 10th percentiles			
Individualism	0.2515***	0.1853***	0.1662***	0.1626***
	(0.0115)	(0.0108)	(0.0108)	(0.0108)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	318,665	317,725	313,985	313,140
Adj. R-sq	0.072	0.167	0.171	0.173

Panel F. Inequality computed including owners' earnings

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (including owners' earnings)			
Individualism	0.1097***	0.0963***	0.0840***	0.0818***
	(0.0066)	(0.0065)	(0.0066)	(0.0065)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	318,665	317,725	313,985	313,140
Adj. R-sq	0.106	0.117	0.122	0.123

Panel G. Inequality computed using residual employee earnings

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (residual employee earnings)			
Individualism	0.0518***	0.0455***	0.0415***	0.0411***
	(0.0041)	(0.0041)	(0.0041)	(0.0041)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	313,055	313,055	313,055	313,055
Adj. R-sq	0.033	0.037	0.039	0.039
Dep. Variable Mean	0.2753			
Dep. Variable Std	0.2772			

Panel H. Individualism and in-group culture variance

	(1)	(2)	(3)	(4)
	In-group culture variance			
Individualism	0.1206***	0.1014***	0.0960***	0.0903***
	(0.0111)	(0.0110)	(0.0110)	(0.0110)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	160,345	159,880	158,550	158,175
Adj. R-sq	0.028	0.036	0.040	0.041
Dep. Variable Mean	0.3106			
Dep. Variable Std	0.3881			

Panel I. Individualism and out-group culture variance

	(1)	(2)	(3)	(4)
	Out-group culture variance			
Individualism	0.0575***	0.0562***	0.0481***	0.0483***
	(0.0057)	(0.0056)	(0.0057)	(0.0057)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	213,160	212,495	209,640	209,000
Adj. R-sq	0.035	0.040	0.043	0.043
Dep. Variable Mean	0.3101			
Dep. Variable Std	0.3211			

Panel J. Individualism and cross-group culture variance

	(1)	(2)	(3)	(4)
	Cross-group culture variance			
Individualism	0.0295***	0.0320***	0.0297***	0.0290***
	(0.0027)	(0.0026)	(0.0026)	(0.0026)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	178,105	177,545	175,750	175,260
Adj. R-sq	0.044	0.088	0.089	0.089
Dep. Variable Mean	0.0714			
Dep. Variable Std	0.1172			

Table IA4. Selection on employee ability

This table examines how selection on employee ability varies with individualism based on a subsample of newly hired employees. The dependent variable is the *Variance of new hires' prior pay* in each firm-year. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

	(1)	(2)	(3)	(4)
	Variance (New hires' prior pay)			
Individualism	0.0783***	0.0723***	0.0670***	0.0666***
	(0.0140)	(0.0140)	(0.0143)	(0.0143)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	32,520	32,410	32,060	31,980
Adj. R-sq	0.036	0.037	0.037	0.037

Table IA5. Descriptive statistics for the ownership changes sample

This table tabulates summary statistics in the treated and control firms from Equation 6 among all employees and employee stayers, respectively. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. The numbers of observations are rounded to the nearest five.

Panel A. All employees

Firm characteristics	Mean	Std	Obs.	Mean	Std	Obs.	Mean	Std
	All			Control			Treated	
Within-firm pay inequality	0.312	0.297	17,720	0.311	0.295	2,110	0.32	0.309
Employees (#)	8	8	17,720	8	8	2,110	8	8
Revenue (in 000's)	1,088	1,528	17,430	1,088	1,520	2,065	1,086	1,595
Assets (in 000's)	605	1,034	17,430	618	1,047	2,065	500	916
Capital-labor ratio (in 000's)	93	180	17,430	96	183	2,065	71	143
Firm age (years)	8	5	17,455	8	5	2,070	8	5
Multiple owners (0/1)	0.56	0.5	17,720	0.57	0.5	2,100	0.48	0.5
Owners per firm (#)	1.76	0.85	17,720	1.78	0.86	2,100	1.59	0.74
Immigrant owners' characteristics								
Firms owned (#)	1.79	1.72	17,720	1.8	1.73	2,045	1.72	1.62
Age (years)	46	9	17,430	46	9	2,110	46	9
Education level	3.59	1.9	17,710	3.61	1.9	2,105	3.4	1.83
Skill level	4.15	2.02	17,715	4.15	2	2,100	4.2	2.15
Fraction of female owners (%)	28.90%	35.90%	15,030	29.20%	35.50%	940	24.60%	41.10%

Panel B. Employee stayers

Firm characteristics	Mean	Std	Obs.	Mean	Std	Obs.	Mean	Std
	All			Control			Treated	
Within-firm pay inequality	0.314	0.213	3,725	0.312	0.213	290	0.337	0.21
Employees (#)	14	13	4,360	14	13	600	14	11
Revenue (in 000's)	1,940	2,205	3,715	1,951	2,196	290	1,801	2,312
Assets (in 000's)	989	1,285	3,715	1,002	1,288	290	819	1,232
Capital-labor ratio (in 000's)	88	138	3,715	90	142	290	55	76
Firm age (years)	9	5	3,725	9	5	290	9	5
Multiple owners (0/1)	0.6	0.49	4,360	0.61	0.49	600	0.48	0.5
Owners per firm (#)	1.77	0.9	3,725	1.82	0.91	290	1.14	0.47
Immigrant owners' characteristics								
Firms owned (#)	2.13	2.31	3,725	2.15	2.34	290	1.79	1.73
Age (years)	47	9	3,660	47	9	270	47	10
Education level	3.39	1.83	4,355	3.39	1.82	600	3.41	1.84
Average skill level	4.18	2.01	4,355	4.16	1.98	600	4.28	2.25
Fraction of female owners (%)	29.20%	35.90%	3,725	29.60%	35.50%	290	23.20%	40.10%

Table IA6. DiD timing test: Employee stayers

This table presents regression results that validate the parallel trend assumption of the DiD analysis in Table 6 among employee stayers. *Employee stayers* are defined as those employees who work at the firm both before and after an owner turnover event. The dependent variable, *Within-firm pay inequality*, is measured as the variance of a firm's employee stayers' log earnings among employee stayers. The sample for this analysis consists of firms with at least three employee stayers. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (stayers)			
Pre_{-2} × Treated × Δ Culture	0.0029	0.0067	0.0081	0.0078
	(0.030)	(0.030)	(0.032)	(0.031)
Event year × Treated × Δ Culture	0.0039	0.0094	0.0176	0.0179
	(0.021)	(0.021)	(0.022)	(0.022)
$Post_{+1}$ × Treated × Δ Culture	0.0203	0.0247	0.0339	0.0342
	(0.029)	(0.029)	(0.031)	(0.031)
$Post_{+2}$ × Treated × Δ Culture	0.0640*	0.0658*	0.0730**	0.0732**
	(0.033)	(0.034)	(0.035)	(0.035)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	4,960	4,840	4,780	4,775
Adj. R-sq	0.415	0.418	0.416	0.416

Table IA7. Earnings of high- vs. low-paid stayers

This table repeats the same DiD analysis as in Table 6 Panel A but replaces the dependent variable with the log earnings of high-paid stayers and low-paid stayers. We define *High-paid (Low-paid) stayers* as the employee stayers whose earnings are at the top (bottom) decile within their firms. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

	(1)	(2)	(3)	(4)
	Log (Earnings)			
	High-paid stayers		Low-paid stayers	
Post × Treated	0.0284	0.0319	0.0057	0.0153
	(0.0265)	(0.0268)	(0.0356)	(0.0364)
Post × Treated × Δ Culture	0.0081	0.0108	-0.0804***	-0.0887***
	(0.0253)	(0.0251)	(0.0338)	(0.0341)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	Yes	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	Yes	No	Yes
Owner skill and education level	No	Yes	No	Yes
Observations	4,840	4,775	4,840	4,775
Adj. R-sq	0.859	0.861	0.553	0.559

Table IA8. Premature deaths of immigrant owners

This table presents the DiD results among employee stayers on a subsample of firms in which owner turnover events were caused by the premature death of prior owners. We define *premature death* at the age of 60 or younger. The dependent variable, *Within-firm pay inequality*, is measured as the variance of a firm's employees' log earnings among employee stayers. The coefficients are suppressed by Statistics Canada. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

	(1)	(2)	(3)	(4)
	Within-firm pay inequality (stayers)			
Post × Treated	+	-	-	-
Post × Treated × Δ Culture	+**	+**	+	+*
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes

Table IA9. Individualism and labor income share

This table examines the relationship between individualism and labor income share. *Labor income share* is measured as the ratio of total payments to employees over the firm's value-added. All financial variables are winsorized at 1% and 99%, and all dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

	(1)	(2)	(3)	(4)
	Labor income share			
Individualism	-0.0158***	-0.0143***	-0.0238***	-0.0242***
	(0.0042)	(0.0037)	(0.0036)	(0.0036)
Industry, province, year FEs	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes
Owner skill and education level	No	No	No	Yes
Observations	282,500	281,720	278,625	277,985
Adj. R-sq	0.134	0.297	0.336	0.337

Table IA10. Compensation of same-culture employees

This table presents estimates from Equation 7. *Same culture* is an indicator variable that equals one if an employee is an immigrant to Canada from the same country as the owners and zero otherwise. The dependent variable in Column 1 to 3 is the logarithm of an employee's earnings. The dependent variable in Column 4 to 6, *Separation*, is an indicator variable that equals one if an individual is an employee of the firm at year t and not at year $t+1$. *Same age* is an indicator variable that equals one if an employee is in the same age bracket as the owner's. *Same gender* is an indicator variable that equals one if an employee is of the same gender as the owner's. In Column 3 and 6, we limit the sample to firms with single owner. All financial variables are winsorized at 1% and 99%, and all dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

	(1)	(2)	(3)	(4)	(5)	(6)
	Log (Earnings)			Separation		
Same culture	0.0948***	0.0981***	0.0965***	-0.0378***	-0.0363***	-0.0375***
	(0.0031)	(0.0028)	(0.0036)	(0.0016)	(0.0012)	(0.0016)
Same age			0.0322***			0.0011
			(0.0023)			(0.0014)
Same gender			-0.0001			0.0148***
			(0.0038)			(0.0016)
Firm, year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Employee gender, age, age^2, education, tenure	Yes	Yes	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	No	Yes	Yes
Revenue, firm age, multiple owners	No	Yes	Yes	No	Yes	Yes
Owner skill and education level	No	Yes	Yes	No	Yes	Yes
Single owner sample	No	No	Yes	No	No	Yes
Observations	1,954,615	1,847,665	1,246,680	1,954,615	1,847,665	1,246,680
Adj. R-sq	0.413	0.418	0.426	0.261	0.250	0.250

Table IA11. Firm growth and the share of immigrants

This table presents estimates from Equation 8 that examines the relationship between immigrant share and a firm's growth. *Immigrant share* is the proportion of immigrants in Canada from the country of origin of a firm's owners, relative to all immigrants to Canada. This ratio is calculated using data on all immigrants to Canada from year $t-5$ to $t-1$. *Sales growth* is calculated as the growth rate of a firm's sales between years $t-1$ and t. All financial variables are winsorized at 1% and 99%, and all dollar values are converted to 2002 real values using the consumer price index from Statistics Canada. All variables are defined in Appendix A. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. The numbers of observations are rounded to the nearest five.

	(1)	(2)	(3)	(4)	(5)	(6)
	Sales growth					
Immigrant share	0.0824***	0.0794***	0.0638***	0.0606***	0.0548***	0.0459***
	(0.0107)	(0.0107)	(0.0114)	(0.0115)	(0.0116)	(0.0116)
Fraction of English-speaking owners					-0.0099***	
					(0.0020)	
Fraction of French-speaking owners					0.0090**	
					(0.0044)	
Has female owners						-0.0054*
						(0.0032)
Fraction of married owners						0.0164***
						(0.0016)
Average owner age						-0.0012***
						(0.0001)
Average number of business owned						-0.0053***
						(0.0004)
Industry, province, year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Firm size, capital-labor ratio	No	Yes	Yes	Yes	Yes	Yes
Revenue, firm age, multiple owners	No	No	Yes	Yes	Yes	Yes
Owner skill and education level	No	No	No	Yes	Yes	Yes
Observations	253,105	253,105	253,105	252,485	252,485	246,420
Adj. R-sq	0.011	0.031	0.082	0.082	0.083	0.085