Owner Culture and Pay Inequality within Firms*

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Abstract

We study the role of national culture in explaining within-firm pay inequality in closely-held firms owned by immigrants using a unique employee-employer matched dataset linked with firm ownership and immigrant records in Canada over the 2001 – 2017 period. We find that culture that immigrant owners carry from their home countries is an economically significant determinant of pay inequality within their firms. We show that Hofstede's individualism is a key cultural dimension affecting within-firm pay inequality: firms owned by individuals from more individualistic countries have larger pay inequality. We show that the impact of culture on within-firm pay inequality is causal. In a difference-in-differences setting using firms that undergo ownership changes, we find a significant increase in within-firm pay inequality after the firm was taken over by immigrant owners from a country with higher within-firm pay inequality or from a more individualistic country. We find similar results among employee stayers; among employee stayers in firms within a labor-intensive industry where production technology is comparable; when the owner changes were caused by deaths of prior owners. Overall, our findings suggest that informal institutions such as national culture are important determinants of income inequality.

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1. Introduction

Within-firm pay inequality is an important component of total pay inequality in many countries around the world. It accounted for 42% of total pay inequality of large firms in the U.S. in 2013 (Song et al., 2018) and, on average, for 44% of total pay inequality in 22 European countries in 2002 – 2010 (ILO, 2016). Within-firm pay inequality varies considerably across countries. The share of within-firm to total pay inequality ranges from 30% in Romania to 58% in Czechia, and the standard deviation of within-firm pay inequality across the 22 European countries is about one third of the standard deviation of total pay inequality (ILO, 2016). The reasons for why we observe large differences in within-firm pay inequality across countries are not well understood.[1] To fill this void, in this paper we examine to what extent national culture can explain the differences in within-firm pay inequality across countries and whether national culture can be an important determinant of within-firm pay inequality.

We address this question by studying differences in within-firm pay inequality among small and medium size closely-held firms owned by immigrants in Canada. Our empirical design builds on the definition of culture as "*beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation*" (Guiso et al., 2006, p. 23) and follows prior literature that identifies the impact of national culture on economic outcomes by comparing immigrants from different countries of origin (Antecol, 2000, 2001; Fernández and Fogli, 2006; Fernández, 2011; Luttmer and Signhal, 2011). Because the immigrant-owned firms operate in the same country, they face the same economic, technological, legal, and institutional environment. If within-firm pay inequality varies systematically with immigrant-owners' countries of origins, such variation can be largely attributed to the culture that the owners carry from their respective home countries. We are able to precisely measure the cultural heritage of firms' owners and the pay of their firms' employees using the Canadian Employer-Employee Dynamics Database (CEEDD) – a linked employer-employee administrative dataset built from individual employees' and their employers' tax filings. CEEDD contains information on firms' owners that are linked to administrative immigration records with information on immigrants' countries of origin.

It is plausible that immigrant owners carry the cultural values of their home countries to Canada, and thus that their national culture influences the pay inequality within their firms. First, Canada – due to its unique history and by law – encourages immigrants to preserve their cultures and provides substantial variation in immigrant owners' countries of origin. Second, a large literature shows that the labor market is

[1] Emerging literature (Mueller et al., 2017; Domini et al., 2020; Friedrich, 2020; Gartenberg and Wulf, 2020; Bias et al. 2021; Fang et al., 2021; Moser et al., 2021) examines how within-firm pay inequality varies with market forces (e.g., competition), firm attributes (e.g., firm size), credit supply, international trade, and technological change (e.g., automation).

not perfectly competitive and firms can directly influence wages (e.g., Abowd et al., 1999; Card et al., 2013; Card et al., 2018; Song et al., 2018). Third, prior research on decision-makers of public firms shows that culture and norms they carry from their home countries influence key firm policies (Li et al., 2011, 2013; Liu, 2016; Pan et al., 2017; Nguyen et al., 2018; Pan et al., 2020). Analogous to CEOs of public firms, immigrant owners of closely-held firms are arguably key decision makers in our setting who determine corporate policies, including employees' compensation structures. Fourth, we expect that individualism vs. collectivism – a widely used cultural dimension by Hofstede (1980, 2001) that is relevant in a corporate setting – can have a meaningful impact on within-firm pay inequality based on existing economic theories.

Our sample consists of firms held by immigrant owners where we require each firm to be wholly-owned by immigrants from the same country of origin. The sample has 353,000 firm-year observations between 2001 and 2017 with owners from more than 80 countries. Following prior work on within-firm pay inequality (see Card et al., 2018 for a review), the main dependent variable in our study is the dispersion of a firm's employees' log earnings[2]. We first show that the association between within-firm pay inequality and immigrant owners' country of origin is statistically and economically significant. For example, we estimate the pay inequality in firms owned by immigrants from India (China) to be 8% (17%) smaller relative to the pay inequality in firms owned by U.S. immigrants, while the pay inequality in firms owned by immigrants from Australia and UK is not significantly different from that in firms owned by U.S. immigrants. We further show that the proportion of total variation in within-firm pay inequality in our sample that is explained by immigrant owners' countries of origin is economically large. Specifically, we find that owners' countries of origin fixed effects are 24% as important as NAICS 4-digit industry fixed effects (that capture, e.g., technology, capital intensity, concentration at a granular level) and are 179% as important as province fixed effects (that capture, e.g., local product and labor market conditions, and institutional environment) in explaining the variance of 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 such as firm size, firm age and capital-labor ratio; controlling for owner's characteristics such as skill, education, age, gender and marital status; and controlling for industry, province, and year fixed effects or, alternatively, for industry-by-year, province-by-year, and industry-by-province fixed effects. In other words, immigrant owners' countries of origin have statistically significant explanatory power for within-firm pay inequality even when we account for differences in firm scale and performance, owners' capability in managing firms,

[2] We remove the earning of a firm's owners when constructing the inequality measure.

industry characteristics and shocks, local labor and product market conditions, and macroeconomic conditions.

To explain cross-country differences in within-firm pay inequality, we focus on individualism vs. collectivism – a dimension of national culture developed by Hofstede (1980, 2001) that is most relevant in a corporate setting. Countries high in individualism emphasize individual goals, individual accountability, and individual achievement, whereas countries high in collectivism emphasize group goals, shared responsibility, and group harmony. Individualism thus more likely coincides with work that is being organized in line with the standard one-dimensional incentive principal-agent model where high-powered incentive scheme is optimal (Holmström, 1979; Lazear and Rosen, 1981). This rationale favors the use of strong monetary incentives and can lead to large differences in employee pay. Collectivism, on the other hand, is arguably associated with work being organized in teams where a single employee performs multiple tasks or where responsibility is shared among employees. In such settings, the optimal incentive contract of an employee can be to pay a fixed wage independent of measured performance (Holmström and Milgrom, 1991). Further, Lazear (1989) argues that, where cooperation among employees is important, we should expect to see less wage differentiation, that is, lower-powered incentives. We thus hypothesize that within-firm pay inequality is smaller in firms with more collectivistic owners, or greater in firms with more individualistic owners.

To test our hypothesis, we study the relationship between individualism that is measured at a country level and the country-specific within-firm pay inequality measured with immigrant owners' country-of-origin fixed effects estimated using our sample of immigrants-owned firms. In this country-level regression, we find that individualism is positively and significantly associated with within-firm pay inequality with large economic magnitude. One standard deviation of individualism measure is associated with a 0.86 standard deviation of within-firm pay inequality across all owners' countries of origin in our sample. Further, the adjusted R-squared in this regression is 52.9%, suggesting that individualism alone explains more than half of the variations in the estimated within-firm pay inequality across countries. These findings are robust when controlling for other important cultural dimensions, as well as for a range of country-level characteristics.

A potential concern with our baseline results is that immigrant owners' countries of origin may systematically correlate with unobservable production technology choices used by firms, leading to different compositions of employees in terms of skills. To the extent that pay varies with skills, this alternative mechanism could also lead to differences in within-firm pay inequality across immigrant owners' home countries. To mitigate this concern and further identify the effect of culture, we employ a difference-in-differences analysis on a subsample of immigrant-owned firms that experience an ownership change.

We compare the evolution of within-pay inequality around owner-turnover events when there is a change in the owners' country of origin relative to owner-turnover events where there is no change in the owners' country of origin. We find that following immigrant ownership changes events, there is a significant increase in within-firm pay inequality in firms taken over by owners from countries with higher within-firm pay inequality compared to prior owners or by owners from more individualistic countries. We find no evidence of pre-treatment trends and observe a permanent increase in within-firm pay inequality starting from one year after the ownership change.

To further control for potential confounding effects, we refine our difference-in-differences in a number of ways. First, we repeat the difference-in-differences analysis on a subsample of employees who work in the firm both before and after the ownership change – employee stayers, to eliminate the compositional changes in employee base around ownership changes events. We find quantitatively similar results, indicating that owners' culture affects within-firm pay inequality by changing the pay of current employees. Second, we find similar results for employee stayers in a subsample of firms in the Accommodation and Food Services sector where the production function is labor-intensive and homogenous across firms, which mitigates concerns that our results are driven by changes in unobservable production technology associated with ownership changes. Finally, we study how within-firm pay inequality of employee stayers changes following the deaths of firm owners and again obtain qualitatively similar results.[3] Because death events are plausibly exogenous to confounding factors that might be correlated with both changes in owners' country of origin and changes in pay inequality among employees, the effect we identify is likely to be causal.

We next investigate the mechanisms through which owners' individualism affects within-firm pay inequality. Within-firm pay inequality may vary with individualism due to pay compression, which refers to the phenomenon that a firm has a negligible difference in pay between employees regardless of their abilities. Within-firm pay inequality may also vary with individualism due to the selection on employee ability. We test for the presence of the first channel at the individual employee level by interacting individualism of a firm's owners' home country with the ability of the firm's employees. We test for the presence of the second channel by regressing the dispersion of abilities of a firm's newly hired employees on the firm's owners' culture. An employee's ability is proxied by his or her wage prior to joining the firm. We find empirical support for both channels. Consistent with individualistic owners putting more emphasis

[3] Our results are robust in a small subsample of premature deaths of firm owners in which we define premature death at the age of 60 or younger.

on monetary incentives, pay compression is smaller in firms owned by more individualist owners. Further, we find that individualistic owners tend to select employees with more dispersed abilities.

In summary, using detailed employee-employer-owner administrative panel data and a cross-sectional, as well as difference-in-differences empirical design, we show that national culture is an economically important determinant of pay inequality inside immigrant-owned firms. Within-firm pay inequality varies significantly with a firm owner's country of origin, and it is higher if the owner immigrated from a more individualistic country. Our findings highlight the importance of informal institution such as national culture in understanding the differences in within-firm pay inequality across countries.

Our paper first 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; Friedrich, 2020; Bias et al., 2021; Fang et al., 2021; Moser et al., 2021; He et al., 2021). We complement these studies by highlighting the role of national culture in explaining pay inequality within firms. 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), and to our knowledge, we are the first to study the impact of culture using employer-employee matched dataset.

Second, our paper contributes 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 a role of culture in affecting pay setting inside firms. The result that within-firm inequality varies with owners' countries of origin, and individualism in particular, is consistent with studies that emphasize the role of non-pecuniary benefit and costs in the workplace (Akerlof and Kranton, 2005; Rebitzer and Taylor, 2011; Gartenberg and Wulf, 2020). The results are also consistent with findings in cross-cultural psychology and cross-cultural organizational behaviors literature that individualism is positively associated with the use of individual monetary incentives (see reviews in Kirkman et al., 2006 and Aycan and Gelfand, 2012).

Thirdly, we contribute to a growing literature on the effects of culture on economic outcomes and corporate policies (Antecol, 2000, 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). We add to this literature by focusing on an important outcome variable, within-firm pay inequality. In particular, our paper is related to Alesina and Giuliano (2011) and Luttmer and Singhal (2011), who show that culture shapes household preferences for income redistribution by government, and thereby impacting households' voting in elections.

The paper is organized as follows. In Section 2, we describe our conceptual framework and hypothesis development. In Section 3, we describe the data and sample construction. In Section 4, we present our main results on the impact of national culture on within-firm pay inequality. In Section 5, we link the estimated country-of-origin fixed effects to individualism. We proceed to identify the casual effect of culture on pay inequality within firms in Section 6. In Section 7, we explore possible channels for the effect of culture on within-firm inequality. Section 8 concludes.

2. Conceptual framework

2.A. Owner culture and pay setting inside firms

Our empirical tests follow from the argument that a firm's owners can impact the firm's employees' pay and that national culture of the firm's owners' influences how they set pay of their employees. This argument is supported by empirical facts. First, a large literature in labor economics provides evidence that local labor markets are not perfectly competitive and firms have significant latitude to set employee wages (e.g., Abowd et al., 1999; Card et al., 2013; Card et al., 2018; Song et al., 2018). Second, decision makers, typically CEOs and top executives of public firms, influence a range of firm policies (see the seminal work by Bertrand and Schoar, 2003). In our sample of closely-held firms – 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 employees' pay. Third, a large literature documents that immigrants carry their respective home country's culture such as attitudes to saving, work participation, gender norms, and preference for redistribution to the host country (Antecol, 2000, 2001; Fernández and Fogli, 2006; Fernández, 2011; Luttmer and Signhal, 2011). Furthermore, recent studies show 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 immigrants-owned firms in Canada is particularly favorable to study 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 cultural values of their home countries. In addition, Canada's multiculturalism policy facilitates that the culture of the owners' home countries is preserved. Specifically, Canada – the first country in the world to adopt the multiculturalism policy in 1971 – acknowledges that its citizens come from a 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 having the right to a full and equitable participation in the society, including business activities.

2.B. Individualism and within-firm pay inequality

We focus on individualism vs. collectivism – a dimension of national culture developed by Hofstede (1980, 2001). Originally constructed from answers to surveys of employees from International Business Machines Corporations (IBM) across 70 countries, Hofstede culture dimensions capture values in the workplace, and are thus immediately relevant to the corporate setting we study. Hofstede identified four dimensions of culture: individualism (vs. collectivism), power distance, masculinity, and uncertainty avoidance. According to Hofstede (2011), individualism governs the value that individuals place on the self vs. on the group (e.g., team or firm), as well as the relationship between them. Cultures high in individualism emphasize individual goals, individual accountability, and individual achievement, whereas cultures high in collectivism emphasize group goals, shared responsibility, and group harmony.[4] We build on these distinctions of individualism (vs. collectivism) together with existing economic theories to develop hypothesis 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) show 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 employees. In such settings, the optimal incentive contract of an employee can be a fixed wage contract independent of measured performance even if objective measures of output are available. Further, 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 work.

[4] 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; and reviews in Kirkman et al., 2006, and Aycan and Gelfand, 2012).

According to Hofstede (2011), 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 used, 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 teams with shared responsibility for outcomes (Kashima and Callan, 1994; Sanchez and Levine, 1999). In this case, lower-powered incentives are more likely to be used due to 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 suggests a small within-firm pay dispersion among employees.

There are two additional arguments by which owners from collectivist cultures rely less on high-powered monetary incentives, lowering within-firm pay dispersion. The first argument is based on the evidence that collectivistic cultures have a stronger preference for more equal pay among group members (e.g., Sama and Papamarcos, 2000).[5] Collectivistic owners may view unequal pay in the form of strong pay-for-performance incentives as decreasing group cohesion and employee productivity (Card et al., 2012; Breza et al., 2018). The second argument is that owners from collectivistic cultures would 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 collectivistic cultures would flatten the monetary compensation schedule to put emphasis on the maintenance of group harmony and enhancement of team environment (Gómez et al., 2000; Fadil et al., 2005; Bolino and Turnley, 2008).

The theory end evidence we review above suggest that firms held by owners who immigrated from more individualistic countries rely more on individual monetary high-powered incentives in the workplace, leading to a greater within-firm pay inequality among employees.

3. Data and summary statistics

3.A. Data sources

Our main source of data is the matched employer-employee dataset from the Canadian Employer-Employee Dynamic Database (CEEDD) maintained at Statistics Canada, an administrative dataset with

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

information on the universe of Canadian employees and their employers compiled from tax records. CEEDD contains annual labor earnings information received by each employee from each employer each year. CEEDD also provides information on workers' characteristics such as age, gender, and marital status. Our access to the data covers the years from 2001 to 2017. At the firm level, the dataset contains high-quality financial information such as total assets, revenue, industry classification, and location. Following Song, et al. (2018), we assign all workers who received labor earnings from the same business identifier in a given year to that firm. Workers who hold multiple jobs in the same year are linked to the firm providing their largest source of earnings for that year. Although CEEDD contains comprehensive information on employee earnings and firms' financials, it has several limitations. First, CEEDD lacks individual worker's education and occupation, which could be helpful in our analysis. Second, we are not able to measure wage rates because CEEDD lacks information on hours or weeks an employee worked. Following prior literature (Card et al., 2013; Song et al., 2018), we only include individuals aged 20 to 60 whose earnings is above a minimum threshold[6] to minimize the effect of variation in hours worked, removing individuals who are not strongly attached to the labor market (Song, et al., 2018).

Next, we link CEEDD with T2 Schedule 50 forms which contain information on each firm's shareholders with an ownership stake of 10% or greater. Private companies are required to file T2 Schedule 50 to disclose any shareholder that holds 10% or more of the companies' common or preferred shares.[7] We rely on this linkage to identify firms' owners. In comparison to studies that use U.S. Census data which lack information on shareholders and thus typically proxy owners by top earners (e.g., Kerr and Kerr, 2017), CEEDD data allows us to accurately measure firm ownership.

We then link CEEDD with the Longitudinal Immigration Data Base (IMDB), which is derived from the records of individuals who successfully applied for permanent residency status in Canada (equivalent to holding a Green Card in the U.S.). Our access to the IMDB data covers the years from 1980 to 2018. IMDB includes information on immigrants' education, skill, country of origin, and the date they landed. We define a person as an immigrant if she ever shows up in IMDB. Using the country of origin of the owners for the immigrant-owned firms, we are able to precisely measure the cultural origin of firms' ownership. Compared to prior literature that infers CEOs' cultural heritage from names, our approach does not introduce measurement error when determining the owners' cultural heritages.

[6] Specifically, we remove individuals whose annual earnings is below that year's minimum wage across all provinces for one quarter full-time. For example, in 2001, 13 weeks for 40 hours at $5.6 per hour, or $2,912).

[7] A maximum of the 10 top shareholders needs to be disclosed.

3.B. Variable construction and sample construction

Our dependent variable, within-firm pay inequality, is calculated as the variance of a firm's employees' log wage earnings. In calculating the inequality measure, we exclude the owner's earnings received from the firm as the owner may be compensated by both wage earnings, dividends, and capital gains. However, our baseline results are not sensitive to excluding owner pay from the variable construction.[8]

It is challenging to isolate the impact of national culture on within-firm pay inequality from confounding factors such as differences in economic, technological, and institutional conditions across countries. Following the literature that identifies the impact of culture by studying immigrants and their descendants (Guiso et al., 2004; Fernández, 2011; Luttmer and Signhal; 2011), in this paper, we restrict our sample to firms that are wholly owned by immigrants in Canada over the period of 2001 – 2017. Since these firms face similar product markets, labor markets, and institutional environments, the remaining differences in pay inequality associated with immigrant owners' source countries can be largely attributed to the differences in the culture and norms that these immigrants carry to Canada. When a firm has multiple owners, for ease of interpretation, we only include it in the sample if all of its owners are immigrants from the same country. We make this choice because it is not clear how ownership power and differing cultural values may interact in firms with multiple owners.

We further exclude firms owned by Canadians. Due to the limited data span of IMDB, we are unable to capture immigrants who landed in Canada before the year 1980. As a result, we exclude from the sample firms owned by individuals born in Canada or early immigrants who landed in Canada before 1980. We exclude firms in the government or educational sectors following Song, et al. (2018). We further restrict our sample to firms to be at least two years old to enter our sample to ensure that the majority of employees in the firm work a full year in each firm-year observation. Importantly, we restrict our sample to firms with at least three employees to ensure that within-firm statistics are meaningful. Finally, as we use the owner's country of origin fixed effects to estimate the culture of each owner's country-of-origin group, we require each group to have at least 1,000 firm-year observations in our sample to ensure that these fixed effects are precisely estimated.

Following these sample construction steps, we end up with a panel of 353,100 firm-years over the 2001 – 2017 period which we use to test whether owners' cultural heritage has any effect on within-firm

[8] Internet Appendix Table IA Panel A reports correlations between our main inequality measure and alternative inequality measures: a measure that includes owners' earnings and the gap in log earnings between the 90th and 10th percentiles (both excluding owners and including owners).

pay inequality. This yields a sample of 20,800 firms per year on average, ranging 8,200 firms in 2001 to 35,000 firms in 2017.

3.D. Descriptive statistics

Table 1 presents descriptive statistics for our sample over the 2001-2017 period. Panel A presents summary statistics of key variables. The top panel of Panel A documents summary statistics of firm-level characteristics. The sample mean of our within-firm pay inequality measure is 0.314, and the standard deviation is as big as the sample mean. The average firm in our sample is 8 years old, has 8 employees, total asset of $0.557 million, capital-labor ratio of $86,000, and revenue of $1.048 million. The bottom panel of Panel A presents summary statistics on owner-level characteristics. The average number of owners per firm is 1.4, and 30.8 % of owners in the sample hold at least a college degree at the time of immigration. The average owner is 47 years old, and owns 1 to 2 businesses. Our sample mainly consists of small firms that are closely-held.

Prior work shows that managers of large public firms have significant influence over firm performance and corporate policies (Bertrand and Schoar, 2003). Since the firms in our sample are small in size and closely-held due to our sample construction that requires full ownership by individual immigrants, we expect the owners to have significant influence over firm policies, including the pay setting. Relative to firm-year observation, the immigrant owners have been in Canada for 18 years since landing on average. Therefore, on average, an immigrant owner spent her first 29 years in her source country before immigrating to Canada, and it is thus very likely that her source country's culture had a significant influence on her behaviors as an owner.

IMDB also records immigrants' skill and education level at the time of landing. Education level is based on years of schooling, with score 1 being 0 to 9 years of schooling and score 8 being a doctorate. An average owner receives an education level of score 3.66 at the time of landing, i.e., 13 or more years of schooling (or equivalently, high school degree). We also use the fraction of a firm's owners with a college degree or higher as an alternative to measure the education level of owners. Skill level is based on IMDB's classification of 10 categories, including managerial, professionals, skilled and technical, intermediate and clerical, elemental and laborer, new workers, non-workers, retired, and student. We recoded the 10 categories into scores, with score 1 being students, and score 8 being managerial. We acknowledge that the score ranking may not be the best way to represent the skill level for immigrants. As an alternative measure, we construct three indicator variables that equals to 1 if at least one owner of a firm has technical/managerial/professional skill. The results are robust to different measures of owners' skills.

Panel B presents the sample composition by owners' country of origins. Due to space constraints, we only report country-of-origin groups that have at least 800 unique firms. We report all country groups in Internet Appendix Table IA2. We report the sample means and standard deviations of within-firm pay inequality for each country-of-origin group. For ease of comparison, we use the Z-score to measure how far the within-firm pay inequality of a country deviates from the overall average within-firm pay inequality. For example, on the one hand, the average within-firm pay inequality in companies owned by Chinese immigrants is 0.273, and the corresponding Z-score is -1.7. The Z-score shows that the average within-firm pay inequality in Chinese-owned companies is 1.7 standard deviations below the average within-firm pay inequality of all companies in the sample. On the other hand, the average within-firm pay inequality in U.S.-owned firms is 0.3688, and the corresponding Z-score is 1.2. This suggests that the average within-firm inequality in U.S.-owned firms is 1.2 standard deviations above the overall sample average. We also report landing duration that measures the number of years since landing relative to each firm-year observation. We show that the sample mean of landing duration is very similar across different country-of-origin groups, suggesting that our sample allows comparing immigrants with a similar length of exposure in Canada.[9]

4. Owners' country of origin and within-firm pay inequality

In this section, we present our main result on the relation between owners' country of origin and pay inequality. Specifically, we estimate the following regression using a sample of firms that are wholly owned by immigrants in Canada:

$$WFI_t^j = I_{SC}^j \cdot \beta_1 + X_t^j \cdot \beta_2 + Industry\,FE + Province\,FE + Year\,FE + \varepsilon_t^j. \quad (1)$$

The dependent variable, WFI_t^j, is the within-firm pay inequality at firm j in year t, measured by the variance of its employees' log wage earnings. I_{SC}^j includes a vector of dummy variables indicating the owners' source countries of firm j in year t. Firms owned by immigrants from the U.S. are omitted to form the benchmark group. Vector β_1 contains coefficients of the owners' country of origin fixed effects. A positive coefficient associated with a source country indicates a higher within-firm pay inequality in firms owned by that country's immigrants relative to firms owned by U.S. immigrants. Our hypothesis predicts that the coefficients in β_1 will be jointly statistically significantly different from zero if the owners' cultural heritage has any impact on pay inequality within firms.

[9] In Internet Appendix Table IA1 Panel B and C, we report sample composition by year and NAICS 2-digit industry sectors.

In our regression specification, we include four-digit NAICS industry fixed effects, year fixed effects, and province fixed effects to control for the unobservable differences in technology, economic, and institutional conditions, which may influence within-firm pay inequality by impacting the marginal product of labor and how firm's rents are distributed among employees. In particular, year fixed effects control for unobservable differences in macroeconomic conditions. Industry fixed effects control for the industry-specific production technology and market conditions. Province fixed effects control for local product market conditions, labor market conditions, and institutional environments. For robustness, we replace these fixed effects with year-by-industry interacted fixed effects, year-by-province interacted fixed effects, and province-by-industry interacted fixed effects and find similar results. Vector X_t^j includes a set of time-varying firm characteristics and owner-level characteristics that may affect within-firm pay inequality.

Table 2 reports the estimates of Equation (1). Due to space constraints, we only report coefficients of owners' country of origin fixed effects for source countries with at least 800 unique firms, and we report the full set of coefficients in Internet Appendix Table IA2. Column 1 in Table 2 Panel A shows the baseline result. 70% of coefficients of owners' country of origin fixed effects are significantly different from zero, indicating that firms owned by immigrants from most countries around the world have significantly different within-firm pay inequality compared to firms owned by U.S. immigrants. These coefficients are jointly highly statistically significant, which is consistent with an important role of culture in within-firm inequality. Interestingly, most coefficients of the owners' country of origin fixed effects are negative, indicating that firms owned by immigrants from countries around the world have smaller within-firm pay inequality relative to firms owned by U.S. immigrants, which is the most individualistic country in our sample.

To illustrate the pattern and the economic significance of our results, we highlight several examples. The coefficient of China is -0.062 and it is statistically significant, indicating that the pay inequality we estimate for firms owned by Chinese immigrants is smaller by 0.062 than that of firms owned by U.S. immigrants, or 16.8% of the average pay inequality of the latter group from Table 1 Panel C. We find significant coefficients of similar magnitude at -0.061 and -0.071 for Hong Kong and Taiwan, respectively, the two places that are culturally close to mainland China and also have low Hofstede individualism. On the other side of the spectrum, the coefficients of France, Germany, and the United Kingdom are all positive but small and statistically insignificant, indicating that firms owned by immigrants from these countries have a similarly high level of pay inequality as firms owned by the U.S. immigrants. Interestingly, all these three countries score high on Hofstede individualism, the United Kingdom being culturally close to the U.S. Taken together, we find both statistically and economically significant variations in within-firm pay inequality across immigrant owners' countries of origin, and the pattern in the coefficients we estimate

suggests a close relationship between the within-pay inequality and individualism, one of the key dimensions of culture.

In Column 2, we include the logarithm of the number of employees to control for the impact of firm size. According to the span of control model (Rosen, 1982), the difference in capability and marginal productivity between employees of different hierarchies tend to be greater in bigger firms. Therefore, bigger firms tend to have a higher level of within-firm pay inequality than smaller firms. We also include the capital-labor ratio to control for the impact of production technology, which may affect within-firm pay inequality through its influence on the distribution of employees' marginal productivity. In Column 3, we additionally include the logarithm of firm revenue to control for the impact of firm performance on within-firm pay inequality. Well-performing firms are likely to share rents with employees, and, to the extent that rents may not be shared equally, firm performance will affect within-firm pay inequality. Furthermore, we include firm age to control for the variations of within-firm pay inequality over a firm's life cycle. We also include an indicator variable for whether a firm has multiple owners to control for the potential impact of the ownership structure. Lastly, in Column 4, we include variables related to the skill and the education level of the immigrant owners to control for the influence of the owner's management skills, which may affect the design and implementation of incentives and thus pay inequality within firms. We obtain very similar results when we gradually add control variables capturing firm and owner characteristics from Column 2 to Column 4. Specifically, in Table 3 Panel B, we present the pair-wise correlation coefficients of the estimated owners' country of origin fixed effects between different specifications in Panel A. We show that the correlations are 0.94 or greater.

In Internet Appendix Table IA3, we report (i) results obtained using specifications with more comprehensive sets of fixed effects, (ii) results on firms with at least four employees, (iii) and results with control variables that capture owner skills, demographics, and other characteristics. We find very similar coefficients of the owners' country of origin fixed effects in all the specifications, and their correlation with the coefficients from the first model in Table 3 Panel A is at least 0.93. The similarity of the coefficients of the owners' country of origin fixed effects across different specifications suggests a robust relationship between the owner's cultural heritage and within-firm pay inequality.

To further assess the importance of culture, we use the analysis of variance (ANOVA) to decompose the variance of within-firm pay inequality into variations associated with each independent variable. We expect the owners' country of origin fixed effects to account for a non-trivial share of the overall variation if the owners' cultural heritage has an economically meaningful impact on within-firm pay inequality. Table 2 presents the results on the ANOVA analysis based on Equation (1). In Panel A, the F-test of joint significance of the owner's country of origin fixed effects is statistically significant at the 1%

level, suggesting that the owner's cultural heritage influences within-firm pay inequality in an important way. In terms of economic significance, the partial sum of squares column presents each variable's contribution to the total variance of within-firm pay inequality after controlling for the influence from the other independent variables. Panel A shows that the owner's country of origin fixed effects contribute 151.53 to the variance of within-firm pay inequality, which is 95.5% of the contribution associated with year fixed effects, 23.6% of the contribution associated with NAICS 4-digit industry fixed effects, and 178.8% of the contribution associated with province fixed effects. In other words, in terms of explaining the variance of within-firm pay inequality, the owners' cultural heritage is 95.5% as important as macroeconomic trend proxied by the year fixed effects, 23.6% as important as industry-specific technology factors, product market conditions, and labor market conditions proxied by the NAICS 4-digit fixed effects, and 178.8% as important as local product market conditions, labor market conditions, and institutional environments proxied by the province fixed effects. Overall, the results in Table 3 Panel A suggest that the owner's cultural heritage has an economically significant influence on within-firm pay inequality.

Panels B and C present results obtained using alternative ANOVA specifications. The F-tests of the joint significance of the owners' country of origin fixed effects are highly significant in all panels. In terms of economic significance, the contribution of the owners' country of origin fixed effects to the variance of within-firm pay inequality is 140.20 when we include year-by-industry interacted fixed effects, year-by-province interacted fixed effects, and province-by-industry interacted fixed effects in Panel B, and it is 107.8 when we additionally include firm characteristics and owner characteristics as continuous control variables in Panel C. The results further suggest that there is a robust association between the owner's cultural heritage and within-firm pay inequality that is both statistically and economically significant.

Taken together, we conclude that our results so far suggest that culture has statistically and economically significant influence on within-firm pay inequality. The results are robust across various specifications with different fixed effects and using different sets of control variables.

5. Individualism and within-firm pay inequality

The analysis so far suggests a significant and robust association between within-firm pay inequality and the owner's cultural heritage proxied by the country of origins fixed effects. An important step in our analysis is to show how the estimated country of origin fixed effects from Equation (1) are related to key dimensions of culture. We focus on individualism, a widely used and arguably most relevant cultural dimension for within-firm pay inequality. As discussed in Section 2, we hypothesize that individualism is positively associated with within-firm pay inequality because individualistic owners emphasize monetary incentives, individual achievement, and individual accountability, and emphasize less on group harmony

and equal pay. To visually show the relationship, we plot each country's within-firm pay inequality relative to the U.S. against the country's individualism relative to the U.S. in Figure 1, where the former is measured by the estimated owners' country of origin fixed effects from Column 2 in Table 2. Consistent with our hypothesis, the figure shows a clear positive relationship between the country's within-firm pay inequality we estimate and the country's individualism.

To formally test the existence of the relationship between individualism and within-firm pay inequality, we regress the estimated owners' country of origins fixed effects from Table 2 on Hofstede's individualism measure. To facilitate comparison, we normalize all the variables to have a standard deviation of one. Table 4 Panel A presents the results. Column 1 shows that a country's individualism is positively associated with the pay inequality of firms owned by immigrants in Canada from the country. The coefficient is economically significant. One standard deviation in individualism is associated with a 0.018 increase in within-firm pay inequality, which is 85.8% of the standard deviation of within-firm pay inequality across all source countries in our sample or 33.9% of the difference in pay inequality between firms owned by Chinese immigrants and firms owned by American immigrants. Column 1 also shows that the adjusted R^2 is 52.9%, indicating that individualism alone explains more than half of the variations in within-firm pay inequality across source countries.

In Column 2 of Table 4, we include three other Hofstede (1980, 2001) cultural dimensions and a measure of trust to control for the impact of other important cultural values. In Column 3, we additionally include the logarithm of GDP per capita to control for the differences associated with different levels of economic development, for example, the difference in management skills, across owners' source countries. We also include the share of the shadow economy in each country to control for the propensity of its migrants to employ underground labor in Canada. Since the taxes of the underground labor are not reported, they will not appear in our database and may thus bias our baseline results. In Column 4, we further include variables capturing legal origins and the rule of law to control for the impact of the source country's legal environment. Similarly, we include the employment law index and the union law index to control for the source country's laws related to labor in Column 5. In Column 6, we include the average score from management questions of World Management Survey (WMS) to control for differences in management practices across countries.[10] The positive relation between individualism and within-firm pay inequality is very robust to all alternative specifications we consider. Importantly, individualism is the only variable that

[10] There are 35 counties in total from the full WMS sample, and the intersection with our sample is only 27 counties. The positive relation between individualism and within-firm pay inequality is robust to controlling for differences in management practices focused separately on operations, monitoring, and talent.

consistently shows a positive and statistically significant association with within-firm pay inequality across all specifications we consider.

As an alternative approach, we test the existence of the relationship between individualism and within-firm pay inequality in Table 4 Panel B. In particular, we replace the owners' country of origins fixed effects in Table 2 with Hofstede's measure of individualism at the country level. We find quantitatively similar results as that implied from Table 3: One standard deviation increase in individualism is associated with a 0.019 increase in within-firm pay inequality. In addition, similar to the results in Table 2, pay inequality within firms owned by Chinese immigrants is 0.058 smaller than that of firms owned by U.S. immigrants, equivalent to 15.7% of the average pay inequality of firms owned by U.S. immigrants.

Taken together, we find that that there is a positive, and statistically and economically significant association between individualism and within-firm pay inequality. Individualism alone can explain more than half of the variations of within-firm pay inequality across owners' countries of origins. The positive association between individualism and within-firm pay inequality is consistent with our hypothesis that individualistic owners are less inequality averse and tend to use monetary incentives to motivate employees.

6. Change in firms' owners analysis

One potential concern with our baseline results is that the owners' countries of origins may be systematically correlated with firms' unobservable production technologies, which influences the composition of employee skills, and thereby the distribution of employee pay, leading to variations in within-firm pay inequality across owners' countries of origins. Since we find a positive association between individualism and within-firm pay inequality, for this alternative channel to explain our baseline result, individualistic owners must use production technologies that demand a higher dispersion of skills among employees. While it is not straightforward why individualism should be correlated with production technology choices in this particular way, to further identify the effect of culture and mitigate the omitted variables concern, we perform a differences-in-differences (DiD) analysis on a subsample of firms that experience a change in ownership. We define treated firms to be immigrant-owned firms that are taken over by immigrant owners from a different country. Control firms are immigrant-owned firms that are taken over by immigrant owners from the same country.

We first perform DiD analysis using all employees. Next, to control for compositional changes of employees on within-firm pay inequality, we perform the same analysis using a subsample of employee stayers, that is, employees who work for the firm before and after the ownership change and require firms with at least three employee stayers to ensure that within-firm statistics are meaningful.

Table 5 Panel A presents summary statistics for the treated and control firms in our DiD sample based on all employees. The top panel presents firm-level characteristics, and the bottom panel presents owner-level characteristics. The average within-firm pay inequality in the treated firms is 0.320, whereas it is 0.311 for the control group. In terms of size, treated firms are similar to control firms. The average treated firm has assets of $0.5 million, revenue of $1.086 million, capital-labor ratio of $71,000 compared to $0.618 million in assets, $1.088 in revenue, and $ 96,000 in capital-labor ratio for control firms. The average firm is similar in terms of other observable characteristics such as the number of employees and firm age since incorporation between treated and control groups. On average, there are 1.59 owners running a treated firm while 1.78 for a control firm. The average owner in the sample is 46 years old. On average, 24.3% of owners of treated firms hold a college degree or higher at the time of immigration, while it is 31.0% in the control firms. 24.6% of owners are female in the treated group, and 29.2% of owners are female in the control group.

6.A. Difference-in-differences analysis among all employees

We estimate the following regression using the period from three years before to three years after each ownership change event:

$$WFI_t^j = I(Post_{jt} \cdot Treated^j) \cdot \mu_1 + I(Post_{jt} \cdot Treated^j \cdot \Delta Culture_t^j) \cdot \mu_2 + X_t^j \cdot \mu_3 + Firm\ FE + Year\ FE + \xi_t^j. \quad (2)$$

The dependent variable, WFI_t^j, is the within-firm pay inequality at firm *j* in year *t*. $Post_{jt}$ is an indicator variable that is equal to one after a firm's ownership change, and zero otherwise. $Culture_t^j$ is proxied by the estimated owners' country of origin fixed effects from Table 2. $\Delta Culture_t^j$ is calculated as the difference in cultural value after the owner changes vs. before the owner changes. When a firm has multiple owners after the owner changes, the new owners may not come from the same country. In this case, we use the cultural value with the largest absolute value proxied by the estimated owners' country of origin fixed effects from Table 2, as the new cultural value after the owner changes. Specifically, $\Delta Culture_t^j$ is equal to one if there is an increase in owner's culture toward more within-firm pay inequality, and it is equal to negative one if there is a negative change in owner's culture toward less within-firm pay inequality. $\Delta Culture_t^j$ is equal to zero if there is no change in owner's culture, and it is thus equal to zero for our control group by construction. $Treated^j$ is an indicator variable that is equal to one if the firm was taken over by owners from a country that is different from a country of prior owners. Our coefficient of interest is μ_2, which is expected to be positive if owner's cultural heritage has a causal effect on within-firm pay

inequality. Year fixed effects are included to control for macroeconomic conditions. The key improvement of the DiD compared to our baseline analysis is the inclusion of firm fixed effects to control for each firm's unobservable, time-invariant characteristics and market conditions. Vector X_t^j includes the same set of time-varying firm-level and owner-level control variables as in Table 2. Table 5 Panel B presents the estimates of Equation (4). The estimate of μ_2 is positive and significant at the 5% level, implying an increase in within-firm pay inequality in firms taken over by immigrant owners from a country with higher within-firm inequality.

A concern with our DiD analysis is the possibility that the occurrence of ownership changes is not random. For example, ownership changes might be caused by deteriorating firm performance, which may affect within-firm pay inequality through changes in the way how firms share economic rents with employees. To address such concerns, we perform tests to examine the parallel-trends assumption required for the validity of the DiD estimator. Specifically, we replace $Post_t$ by Pre_{-3}, Pre_{-2}, *Event year*, $Post_{+1}$, $Post_{+2}$, and $Post_{+3}$. These are indicator variables equal to 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. Pre_{-1} is omitted and serves as a base group before any effect from owner changes might take place.

We report the coefficients on the interaction term $Treated^j \cdot \Delta Culture_t^j$ and the event indicators for the three years before and after an ownership change event in Panel C, and we plot the coefficients in Figure 2 Panel A. We find that the estimated coefficients are all close to zero and statistically insignificant before the event year. In other words, we show that there are no differential trends in the within-firm pay inequality between treated and control firms prior to ownership changes in our sample. After the event year, the estimated coefficients become positive and statistically significant. These results support the parallel trend assumption for our DiD analysis and are inconsistent with the conjecture that omitted variables drive both changes in culture and changes in within-firm pay inequality in our sample. In summary, the results in Table 6 corroborate our baseline findings and suggest that owners' culture causally affects within-firm pay inequality.

6.B. Difference-in-differences analysis among employee stayers

One may argue that ownership changes can be associated with changes in production technology which can affect our inference about a firm's pay inequality through two channels. First, it may lead the firm to demand a different composition of employee skills. To the extent that employee pay is set in line with skills, it will affect pay inequality within firms. Since a firm typically changes the composition of its

employee skills through hiring and firing, this channel is predominantly associated with changes in employee composition. Second, changes in production technology may have heterogeneous effects on the marginal productivity of specific skills possessed by existing employees. To the extent that each employee's pay is related to their marginal productivity, within-firm pay inequality will change accordingly.

To mitigate the effect of changes in production technology associated with ownership changes, we repeat the DiD analysis on a subsample of employees who work in the firm both before and after the ownership change. Specifically, we re-compute the within-firm pay inequality using employee stayers. In this way, we effectively shut down the channel through which changes in employee composition affect within-firm pay.

Table 6 Panel A presents summary statistics for the treated and control firms in the subsample of employee stayers. The average within-firm pay inequality in the treated firms is 0.337, whereas it is 0.312 for the control group. The average treated firm has assets of $0.819 million, capital-labor ratio of $55,000, revenue of $1.8 million compared to $1 million in assets, $90,000 in capital-labor ratio, and $1.951 million in revenue. The average age of both treated and control firms is the same at age 9 years since incorporation and the number of employees is also the same at 14. On average, there are 1.14 owners running the treated firm while 1.82 for the control group. Owners of treated firms on average own 1.79 business while it is 2.15 for owners of control firms. On average, 23.2% of owners in treated and 26.1% of owners in control groups hold a college degree or higher at the time of immigration. 23.2% of owners are female in the treated group, and 29.6% of owners are female in the control group. The average owner is similar in terms of other observable characteristics such as age, skill and education level.

Table 6 Panel B reports the results. We find quantitatively similar effects as in Table 6, indicating that owners' culture affects within-firm pay inequality by changing the pay of existing employees. In Table 6 Panel C, we test the parallel trends assumption of the DiD analysis in the sample of employee stayers. The additional filter of employee stayer substantially reduces the sample size, and we are thus only able to examine employees who stay in the same firm for two years, instead of three years as in Table 6, before and after the ownership change takes place. We plot the associated coefficients in Figure 2 Panel B. Similar to the results in Table 6, the coefficients on the interaction term $Treated^j \cdot \Delta Culture_t^j$ and the event indicators for the years before the ownership change are close to zero and statistically insignificant, while the coefficients become positive and statistically significant after the event year. These results support the parallel trend assumption for our DiD analysis and provide further evidence that is consistent with owners' culture causally affecting within-firm pay inequality.

6.C. Difference-in-differences analysis among employee stayers: Subsample analysis

We perform two additional tests to help further establish the causal effect of culture on within-firm pay inequality. First, we repeat the DiD analysis from the prior section using the subsample of firms from the Restaurant Accommodation and Food Services. This is a labor-intensive industry with a production technology that is largely standardized and thus comparable across firms and owners, which aids our identification assumptions behind our DiD analysis. As a result, the presence of confounding effects from potential changes in production technology associated with ownership changes is minimal. Table 7 Panel A presents the results. Across different specifications, we continue to find positive and statistically significant coefficients of $Post_{jt} \cdot Treated^{j} \cdot \Delta Culture_{t}^{j}$ with magnitudes that are close to those reported in Tables 5 and 6.

Last, following Smith et al. (2019), we repeat the DiD analysis using a subsample of firms in which ownership changes are caused by the death of owners. Since death events are plausibly exogenous and uncorrelated with factors that might affect a firm's pay setting, the effect we measure in this setting is likely to be causal. We report the sign and statistical significance of the coefficients in Table 7 Panel B.[11] We find qualitatively similar results to those reported in Tables 5 and 6, that is, within-firm pay inequality increases if a firm's owners change to ones with cultures that are associated with higher inequality. In Internet Appendix Table IA4, we repeat the analysis using a subsample of ownership changes associated with the premature death of owners, which we define to be deaths at the age of 60 or younger. This analysis yields analogous findings to those reported in Table 7 Panel B. Overall, the subsample DiD analyses that we present in this section provide further evidence that is consistent with owners' culture causally affecting within-firm pay inequality.

6.D. Difference-in-differences analysis among employee stayers: Individualism

Our analysis so far confirms the causal effect of owners' culture on within-firm pay inequality. Given our focus on individualism, we perform a similar analysis as in Table 7 Panel B above by replacing $\Delta Culture_{t}^{j}$ in the regression specification with $\Delta Individualism_{t}^{j}$, which is constructed analogously. $\Delta Culture_{t}^{j}$ takes values +1, 0, -1 according to the sign of the change in Hofstede individualism scores due to changes in owners' countries in owner turnover events. We present the results in Table 8. Consistent with the results above, we find positive coefficients of the triple interaction term, $Post_{jt} \cdot Treated^{j} \cdot$

[11] Due to the small number of observations used in the regression, the exact magnitudes of the coefficients are suppressed by Statistics Canada.

$\Delta Individualism_t^j$, which is consistent with an increase in within-firm pay inequality when more individualistic owners take over the firm. Quantitatively, the magnitude of each coefficient in Table 8 is about 60% of the magnitude of the corresponding coefficient in Table 6 Panel B, which is consistent with individualism being a key determinant of pay inequality culture in Table 4 Panel A.

7. Individualism and within-firm pay inequality: Economic mechanisms

In this section, we examine channels through which the individualism of the firms' owners can influence the within-firm pay inequality.

7.A. Pay compression

Individualistic owners put more emphasis on monetary incentives, individual achievement and, individual accountability, but less on group harmony and pay equality. As a result, they may rely more on pay-for-performance compensation, leading to higher pay for higher ability employees who are likely to perform well. In other words, individualism may reduce pay compression, a phenomenon that firms tend to pay employees similarly regardless of the differences in their abilities. To test this channel, we estimate the following employee-firm-year level regression:

$$y_t^{i,j} = High\_ability_t^{i,j} \cdot \alpha_1 + High_{ability}{}_t^{i,j} \cdot \text{IDV}^j \cdot \alpha_2 + Ability_{pre}^{i,j} \cdot \alpha_3 + X_t^j \cdot \alpha_4 + Industry\ FE + Province\ FE + Year\ FE + \epsilon_t^{i,j}. \quad (3)$$

The dependent variable, $y_t^{i,j}$, is the log earnings of worker i in firm j in year t. Variable IDV^j stands for Hofstede's measure of individualism for a country if firm j's owners immigrated from that country. Variable $Ability_{pre}^{i,j}$ is the worker i's ability in firm j, proxied by her wage one year prior to joining firm j. $High\_ability_{pre}^{i,j}$ is an indicator variable that equals to one if worker i's ability ranked above the median in firm j at time t.[12]

Pay compression implies a smaller effect of the relative (ranking of) employee ability within a firm on employee pay, $y_t^{i,j}$, that is, a small α_1. If individualism reduces pay compression within firms, or equivalently, increases the association between relative employee ability and pay, we should expect a positive α_2, which is our coefficient of key interest. To adequately control for the impact of employee

[12] To have a precise and meaningful measure of ability rank, for this regression, we require firms included in the sample to have non-missing ability measure for every employee and require firms to have at least 10 employees.

ability on current wage, we include both the ability measure. $Ability_{pre}^{i,j}$, and the within-firm ability rank measure, $High\_ability_{t}^{i,j}$, in the regression.

Table 9 Panel A reposts the results. In Column 1, the estimate of α_2 is positive and statistically significant, indicating that high-ability employees have significantly higher relative pay in firms owned by more individualistic owners. In Columns 2, 3, and 4, we include the same set of variables X_t^j and fixed effects as in Table 2 to control for the effect of technological, economic, and institutional conditions on pay setting in firms. We show that the results are robust to using these alternative specifications.

7.B. Selection on employee ability

Individualism of firms' owners can affect within-firm earnings inequality through the selection on employee ability. To examine this mechanism, we focus on a subsample of newly hired employees and regress the variance of their abilities on the individualism of their firm owners' country of origins:

$$Var\left(Ability_{pre}^{i,j}\right) = \text{IDV}^j \cdot \gamma_1 + X_t^j \cdot \gamma_2 + Industry\ FE + Province\ FE + Year\ FE + \xi_j^t. \quad (4)$$

The dependent variable, $Var\left(Ability_{pre}^{i,j}\right)$, measures the variance of new hires' abilities in firm *j*, where the ability of worker *i*, $Ability_{pre}^{i,j}$ is measured by her wage one year prior to joining firm *j* in year *t*. Variable IDV^j stands for Hofstede's measure of individualism for a country if firm *j*'s owners immigrated from that country. Coefficient γ_1 of IDV^j is the main coefficient of interest, and it is expected to be positive if individualistic owners select groups of employees with more dispersed employee ability.[13]

Table 9 Panel B reports the results. In Column 1, we find a higher variance of employee ability in firms owned by more individualistic owners. In Columns 2, 3, and 4, we include the same set of variables X_t^j and fixed effects as in Table 2 to control for the technological, economic, and institutional conditions that may affect pay setting in firms. In all these specifications, we find similar results, which suggest that there is a robust relation between owners' individualism and the dispersion of employee ability.

Overall, we find empirical support for both channels. Consistent with individualistic owners putting more emphasis on monetary incentives, individual achievement, and individual accountability, but less on group harmony and pay equality, the pay compression is smaller in individualist-owned firms. We also find that individualistic owners hire new employees with more dispersed abilities.

[13] The sample used to estimate this regression is the same as the one used for Equation (2).

8. Conclusion

We examine the impact of culture on within-firm pay inequality by analyzing employee earnings in firms that are wholly owned by immigrants in Canada. We find that the culture that immigrant owners bring from their source countries has an economically significant influence on the pay inequality within their firms. Relative to firms owned by U.S. immigrants, firms owned by immigrants from most other countries have significantly smaller pay inequality. Consistent with the argument that individualistic owners emphasize monetary incentives, individual achievement, and individual accountability, while they focus less on group harmony and equal pay, individualism is associated with higher within-firm pay inequality. Our evidence suggests that individualism is a key driver of within-firm pay inequality. We conduct a series of analyses showing that the impact of culture on within-firm pay inequality is likely to be causal. In the difference-in-differences setting, we find an increase in within-firm pay inequality after the firm was taken over by immigrant owners from a more individualistic country. Overall, our findings suggest that informal institutions such as culture may be important drivers of income inequality more broadly. For this reason, the role of informal institutions should be considered in designing firms' management practices, as well as in designing public policies aimed at reducing income inequality or lessening of its impacts.

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Appendix A: Variable definitions

Variable	Definition
# owners	Number of immigrant owners in a firm.
# workers	Number of workers of a firm.
% college degrees	# owners of a firm that hold college or up degree / total # owners of a firm.
% female owners	# female owners of a firm / total # owners of a firm.
% married owners	# married owners of a firm / total # owners of a firm.
Worker ability	A worker's previous wage one year prior to joining the firm.
Assets	Total of all current, capital, long-term assets, and assets held in trust.
Average # business owned	Average number of businesses owned by a firm's owners.
Average age of owner	Average age of a firm's owners.
Average education	Average education level of a firm's owners based on years of schooling recorded by IMDB at the time of landing.
Average skill	Average skill level of a firm's owners based on skill level recorded by IMDB at the time of landing.
Average of WMS scores	Average of all management questions from World Management Survey.
Capital-labor ratio	Total assets / # workers.
Country of origin	Country of origin as record in IMDB.
Culture	Cultural value proxied by the estimated owners' country of origin fixed effects from Table 3.
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.
Employee stayers	Employees that stay in the firm both before and after owner changes.
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, Djankov, Laporta, López-de-Silanes and Shleifer (2004).
Event year	Indicator variable that equals to 1 if the firm's owners has changed in the current year.
Firm age	Year minus a firm's birth year in which the individual started the business or the business can distinctly be identified.
GDP per capita	The logarithm of each country's average GDP per capita before 2005. GDP per capita is in 2020 U.S. dollars from World Bank.
Has managerial skill	Indicator variable that equals to 1 if at least one owner has managerial skill.
Has multiple owners	Indicator variable that equals to 1 if a firm has multiple owners.

Has professional skill	Indicator variable that equals to 1 if at least one owner has professional skill.
Has technical skill	Indicator variable that equals to 1 if at least one owner has technical skill.
High ability	Indicator variable that equals to 1 if a worker's ability is ranked above the median.
Individualism	Defined by Hofstede (2001).
Industry	NAICS 4-digit industry classification.
Legal origin: Common law	Indicator variable that equals to 1 if the country's legal origin is English common law following the classification in La Porta, Lopez-de-Silanes, and Shleifer (2008).
Masculinity	Defined by Hofstede (2001).
NAICS	North American Classification System (NAICS) code for business.
New hires	Workers who joined the firm at a given year.
Post	Indicator variable that equals to1 after a firm's change in owner.
$Post_{+1}$	Indicator variable that equals to 1 if the firm's owners have changed in 1 year before.
$Post_{+2}$	Indicator variable that equals to 1 if the firm's owners have changed in 2 years before.
$Post_{+3}$	Indicator variable that equals to 1 if the firm's owners have changed in 3 years before.
Power distance	Defined by Hofstede (2001).
Pre_{-2}	Indicator variable that equals to 1 if the firm's owners will change in 2 years.
Pre_{-3}	Indicator variable that equals to 1 if the firm's owners will change in 3 years.
Premature death	Die at the age of 60 or younger.
Province	Province from the business's filing address.
Revenues	Non-farm total revenue. The sum of all revenue amounts reported (items 8000 to 8250).
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.
Share of shadow economy	The estimated share of shadow economy relative to GDP for each country from Schneider, Buehn, and Montenegro (2010).
Landing duration	Year minus the landing year.
Treated	Indicator variable that equals to 1 if the firm was taken over by owners from a different country and it is zero if the firm was taken over by owners from the same country.
Trust	The fraction of people in a country that choose "most people 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?" from World Value Survey.
Uncertainty avoidance	Defined by Hofstede (2001).
Collective relations laws index	Measures the protection of collective relations laws as the average of: (1) Labor union power and (2) Collective disputes. Source: Botero, Djankov, Laporta, López-de-Silanes and Shleifer (2004).
Within-firm pay inequality	Variance of a firm's employees' log earnings.

Δ Culture	Categorical variables that takes the value of 0 if there is no change in owner's culture; 1 if there is an increase in owner's culture toward more within-firm pay inequality; -1 if there is a negative change in owner's culture toward less within-firm pay inequality. Culture value proxied by the estimated owners' country of origin fixed effects from Table 3.
Δ Individualism	Categorical variables that takes the value of 0 if there is no change in owner's culture; 1 if there is an increase in owner's culture toward more within-firm pay inequality; -1 if there is a negative change in owner's culture toward less within-firm pay inequality. Culture value proxied by the Hofstede individualism associated with owner's country.

Figure 1. Individualism and within-firm inequality: Role of the owners' country of origin

This figure plots the within-firm pay inequality by immigrant owners' country of origin measured using estimated coefficients of the country fixed effects from Column 2 in Table 2 Panel A against that country's Hofstede individualism relative to the U.S. The size of the circles in the figure represents the number of observations of the corresponding country in our sample. The dark line describes the slope from the univariate regression of the owners' country of origin fixed effects on Hofstede individualism, where the regression is weighted by each country's number of observations in our sample.

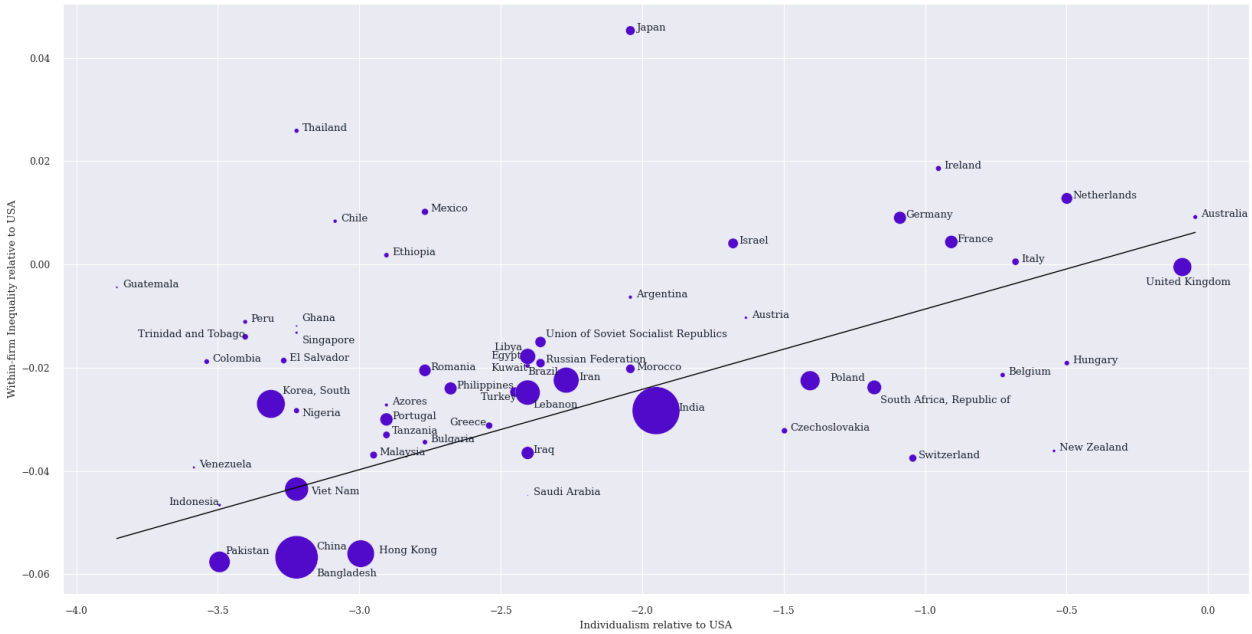
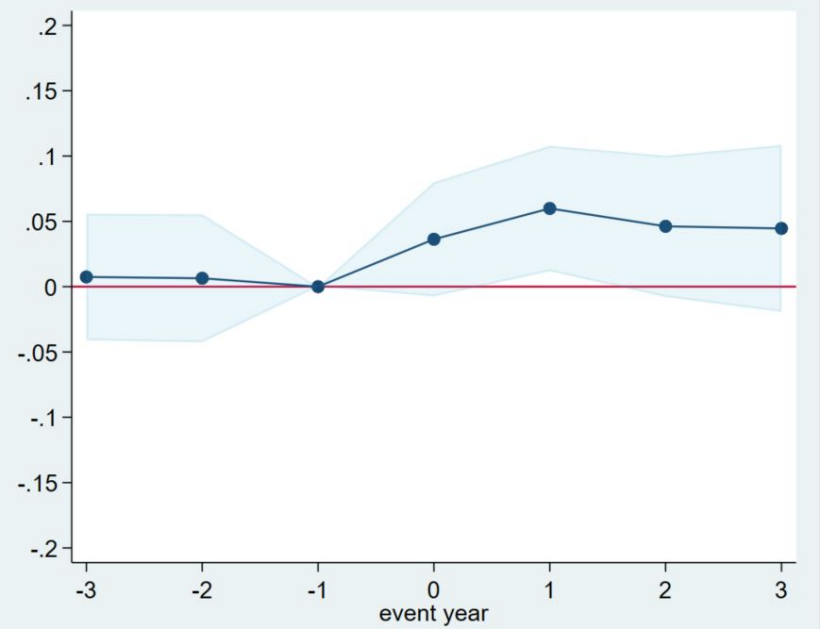


Figure 2. Timing of the effect of a change in the owners' country of origin on within-firm pay inequality

This figure plots coefficients related to the timing of the effect of a change in the owners' country of origin on within-firm pay inequality from Tables 6 and 7. The blue solid line in Panel A and B show the year-by-year coefficient in the difference-in-differences analysis among all employees from Table 6 and among employee stayers from Table 7, respectively. *Pre-1* is omitted as the benchmark group. The shaded area represents the 95% confidence intervals.

Panel A: All employees



Panel B: Employee stayers

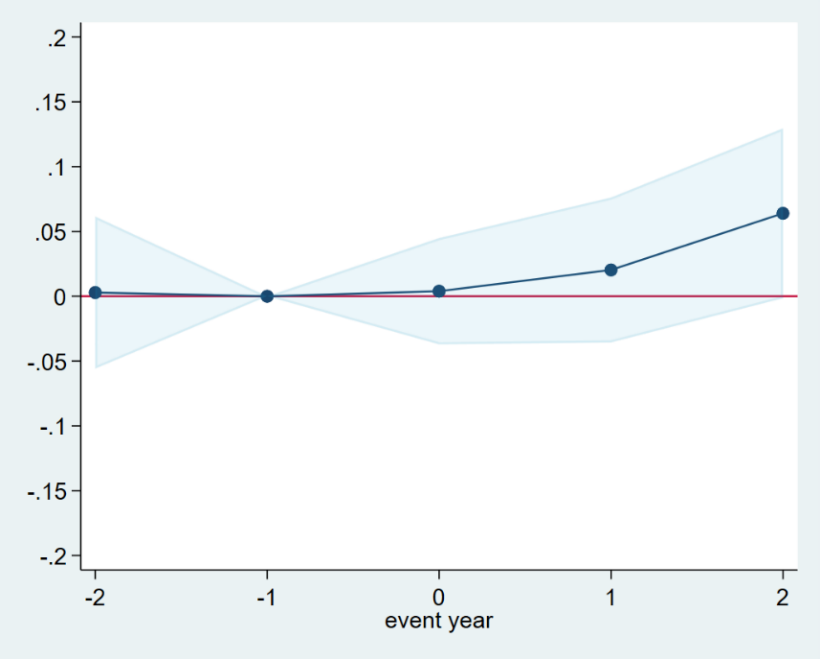


Table 1. Descriptive statistics

This table presents the summary statistics of our sample. The sample consists of 353,100 firm-year observations over the period 2001 – 2017. Panel A tabulates summary statistics of firm and owner characteristics. Panel B presents sample composition by a firm's owners' country of origin. Note that due to space constraints, we only report country-of-origin groups with at least 800 unique firms. 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.[14] Appendix A defines the variables. Observation numbers are rounded to the closet hundreds. Full tables are available upon request.

Panel A: Summary statistics of key variables

Firm characteristics	N	Mean	STD	P10	P25	Median	P75	P90
Within-firm pay inequality								
# employees								
Assets (in 000's)								
Capital-labor ratio (in 000's)								
Revenue (in 000's)								
Firm age (years)								
Owner characteristics								
Has multiple owners								
# owners								
% college degrees								
Average skill								
Average education								
Average age (years)								
Average # business owned								
Time since landing (years)								
% female owners								

[14] https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000501

Panel B: Sample composition by owners' country of origin (# unique firms > 800)

Nation	N	# unique firms	Within-firm pay inequality			Landing duration (in years)	
			Mean	STD	Z-score	Mean	STD
Afghanistan					-1.9		
China					-1.7		
Egypt					1.5		
France					-0.1		
Germany					1.1		
Hong Kong					-0.8		
India					-0.4		
Iran					-0.1		
Iraq					-1.0		
Korea, South					-0.7		
Lebanon					-1.0		
Pakistan					-1.6		
Philippines					-0.2		
Poland					0.2		
Portugal					-0.5		
Romania					0.2		
Republic of South Africa					1.5		
Sri Lanka					-0.6		
Taiwan					-1.4		
United Kingdom					1.3		
United States					1.2		
Viet Nam					-1.6		

Table 2. Owners' country of origin and within-firm pay inequality

This table examines the relationship between owners' country of origins and within-firm pay inequality. *Within-firm pay inequality* is measured as the variance of a firm's employees' log earnings. Panel A presents the regression results between within-firm pay inequality and a firm's owners' country-of-origin group. Due to space constraints, this table only reports country-of-origin groups with at least 800 unique firms. All variables are defined in Appendix A. Standard errors are clustered at the firm level. Panel B reports the correlation coefficients of the estimated owners' country of origin fixed effects across specifications 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. ***, **, * in both panels correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Observation numbers are rounded to the closet hundreds.

Panel A: Coefficients of selected owners' countries of origin (# unique firms > 800)

	(1)	(2)	(3)	(4)
	Within-firm pay inequality			
Afghanistan	-0.0564***	-0.0447***	-0.0381***	-0.0356***
	(0.011)	(0.0109)	(0.0109)	(0.0109)
China	-0.0621***	-0.0567***	-0.0455***	-0.0445***
	(0.0091)	(0.0009)	(0.0090)	(0.0090)
Egypt	-0.0202*	-0.0178	-0.0073	-0.0088
	(0.0115)	(0.0114)	(0.0113)	(0.0113)
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)
Hong Kong	-0.0607***	-0.0560***	-0.0473***	-0.0440***
	(0.0097)	(0.0096)	(0.0096)	(0.0097)
India	-0.0310***	-0.0283***	-0.0177**	-0.0185**
	(0.0091)	(0.0009)	(0.0090)	(0.0090)
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)
Korea, South	-0.0288***	-0.0270***	-0.0079	-0.0087
	(0.0094)	(0.0093)	(0.0093)	(0.0093)
Lebanon	-0.0299***	-0.0248***	-0.0196**	-0.0170*
	(0.0095)	(0.0094)	(0.0094)	(0.0094)
Pakistan	-0.0671***	-0.0576***	-0.0472***	-0.0487***
	(0.0095)	(0.0094)	(0.0094)	(0.0094)
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)
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)
Taiwan	-0.0709***	-0.0683***	-0.0529***	-0.0506***
	(0.0105)	(0.0104)	(0.0104)	(0.0104)
United Kingdom	0.0012	-0.0005	0.0038	0.0063
	(0.0108)	(0.0107)	(0.0107)	(0.0108)
Viet Nam	-0.0501***	-0.0435***	-0.0350***	-0.0291***
	(0.0096)	(0.0095)	(0.0095)	(0.0096)
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)
Has multiple owners			-0.0328***	-0.0332***
			(0.0016)	(0.0016)
Average owner skill				-0.0020***
				(0.0004)
Average owner education				0.0039***
				(0.0005)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.036	0.043	0.047	0.047

Panel B: Correlations of coefficients of owners' countries of origin across different specifications

	Coefficient (1)	Coefficient (2)	Coefficient (3)	Coefficient (4)
Coefficient (1)	1.000			
Coefficient (2)	0.970***	1.000		
Coefficient (3)	0.942***	0.984***	1.000	
Coefficient (4)	0.949***	0.983***	0.993***	1.000

Table 3. ANOVA analysis of the determinants of within-firm pay inequality

This table presents the analysis of variance (ANOVA) to decompose the variance of within-firm pay inequality into variations associated with each independent variable based on Table 2. Panel A only includes group-level factors. Panel B includes group-level factors with interaction fixed effects. Panel C includes group-level factors and other continuous covariates included in Table 2. All variables are defined in Appendix A.

Panel A: Group-level factors

	Partial sum of squares	Degree of freedom	F	Prob > F
Owner's country 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

Panel B: Group-level factors with more detailed fixed effects

	Partial sum of squares	Degree of freedom	F	Prob > F
Owner's country of origin FEs	140.20	85	18.19	0.00
Year × Industry FEs	478.93	4,719	1.12	0.00
Year × Province FEs	31.48	207	1.68	0.00
Province × Industry FEs	294.92	1,373	2.37	0.00

Panel C: Group-level factors and continuous covariates

	Partial sum of squares	Degree of freedom	F	Prob > F
Owner's country of origin FEs	107.80	85	14.08	0.00
Year FEs	173.64	16	120.45	0.00
Industry FEs	446.28	311	15.93	0.00
Province FEs	60.31	12	55.78	0.00
Log (# employees)	14.84	1	164.70	0.00
Log (Capital-labor ratio)	28.88	1	320.57	0.00
Log (Revenue)	55.15	1	612.17	0.00
Log (Firm age)	0.04	1	0.39	0.53
Log (Firm age)^2	0.00	1	0.04	0.83
Has multiple owners	75.82	1	841.54	0.00
Average owner skill	4.35	1	48.26	0.00
Average owner education	13.02	1	144.46	0.00

Table 4. Individualism and within-firm pay inequality

This table examines the relation between Hofstede's individualism and within-firm pay inequality. Panel A presents country-level regression results of within-firm pay inequality on individualism, where the dependent variable is measured using the estimated owners' country of origin fixed effects from Table 2 Panel A. To facilitate comparison, we normalize all the variables to have a standard deviation of one. Panel B presents the firm-year-level regression results of within-firm pay inequality on individualism. *Within-firm pay inequality* is measured as the variance of a firm's employees' log earnings. Compared to the baseline specification in Table 2, we replace the owners' country of origins fixed effects with Hofstede individualism for each of the firm owner's country of origin. 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. Variables in both panels are defined in Appendix A. Standard errors are clustered at the firm level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Observation numbers are rounded to the closet hundreds.

Panel A: Within-firm pay inequality estimated using owners' country of origin fixed effects and individualism

	(1)	(2)	(3)	(4)	(5)	(6)
	Within-firm pay inequality estimated using owners' country of origin fixed effects					
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)	
Avarege of WMS scores						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: Within-firm pay inequality and individualism

	(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)
Log (# employees)		0.0318***	0.0146***	0.0147***
		(0.0011)	(0.0017)	(0.0017)
Log (Capital-labor ratio)		0.0166***	0.0099***	0.0097***
		(0.0008)	(0.0009)	(0.0009)
Log (Revenue)			0.0200***	0.0200***
			(0.0013)	(0.0013)
Log (Firm age)			0.0037	0.0036
			(0.0050)	(0.0050)
Log (Firm age)^2			-0.0007	-0.0005
			(0.0014)	(0.0014)
Has multiple owners			-0.0309***	-0.0318***
			(0.0017)	(0.0017)
Average owner skill				-0.0016***
				(0.0005)
Average owner education				0.0041***
				(0.0005)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.034	0.041	0.045	0.046

Table 5. Effect of a change in the owners' country of origin on within-firm pay inequality: Difference-in-differences analysis among all employees

This table presents difference-in-differences analysis on the effect of a change in the owners' country of origin on within-firm pay inequality among all employees. Panel A tabulates summary statistics of firm and owner characteristics in the treated and control firms. The sample consists of 17,800 firm-year observations over the period 2001 – 2017. Panel B presents difference-in-differences regression results that compare the evolution of within-firm pay inequality around owner turnover events when there is a change in the owners' country of origin relative to owner turnover events without such changes. The dependent variable, *Within-firm pay inequality*, is measured as the variance of a firm's employees' log earnings. *Treated* is an indicator variable that equals to one if the firm was taken over by owners from a different country. *Post* is an indicator variable that is equal to one after a firm's change in owner, and zero otherwise. Δ *Culture* stands for the change in the owner's culture caused by the owner change, which equals to 1 if there is an increase in owner's culture toward more within-firm pay inequality, and -1 if there is a negative change in owner's culture toward less within-firm pay inequality. *Culture* is proxied by the estimated owners' country of origin fixed effects from Table 2, and a higher value of *Culture* indicates a country with higher within-firm pay inequality. Panel C 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 equal to 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. Pre_{-1} is omitted and treated as our base group. 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. Appendix A defines the variables. Standard errors are clustered at the firm level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Observation numbers are rounded to the closet hundreds. Full tables are available upon request.

Panel A: Summary statistics of the difference-in-differences sample of all employees

Firm characteristics	Mean	STD	N	Mean	STD	N	Mean	STD
	All			**Control**			**Treated**	
Within-firm pay inequality								
# employees								
Assets (in 000's)								
Capital-labor ratio (in 000's)								
Revenue (in 000's)								
Firm age (years)								
Owners characteristics								
Has multiple owners								
# owners								
% college degrees								
Average skill								
Average education								
Average age (years)								
Average # business owned								
% female owners								

Panel B: Difference-in-differences result among all employees

	(1)	(2)	(3)	(4)
	Within-firm pay inequality among all employees			
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)
Log (# employees)		0.0520***	0.0611***	0.0616***
		(0.0091)	(0.0109)	(0.0109)
Log (Capital-labor ratio)		-0.0009	0.0022	0.0030
		(0.0053)	(0.0057)	(0.0057)
Log (Revenue)			-0.0051	-0.0058
			(0.0100)	(0.0100)
Log (Firm age)			-0.0189	-0.0166
			(0.0168)	(0.0168)
Log (Firm age)^2			0.0125	0.0119
			(0.0132)	(0.0133)
Has multiple owners			-0.0243***	-0.0249***
			(0.0060)	(0.0060)
Average owner skill				-0.0032
				(0.0029)
Average owner education				0.0039
				(0.0044)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.289	0.291	0.288	0.287

Panel C: Difference-in-differences parallel trends test among all employees

	(1)	(2)	(3)	(4)
	Within-firm pay inequality among all employees			
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*	0.0230	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 controls, has multiple owner indicator	No	No	Yes	Yes
Owner skill and education controls	No	No	No	Yes
Adj. R-sq	0.288	0.290	0.287	0.287

Table 6. Effect of a change in the owners' country of origin on within-firm pay inequality: Difference-in-differences analysis among employee stayers

This table presents difference-in-differences analysis among employee stayers. Employee stayers are defined as those employees who work at the firm both before and after an owner turnover event. Panel A tabulates summary statistics of firm and owner characteristics in the treated and control firms. The sample consists of 4,000 firm-year observations over the period 2001 – 2017. Panel B presents difference-in-differences regression results on the subsample of employee stayers that compare the evolution of within-pay inequality around owner turnover events when there is a change in the owners' country of origin relative to owner turnover events without such changes. The dependent variable, *Within-firm pay inequality*, is measured as the variance of a firm's employees' log earnings. *Treated* is an indicator variable that equals to one if the firm was taken over by owners from a different country. *Post* is an indicator variable that is equal to one after a firm's change in owner, and zero otherwise. Δ *Culture* stands for the change in the owner's culture caused by the owner change, which equals to 1 if there is an increase in owner's culture toward more within-firm pay inequality, and -1 if there is a negative change in owner's culture toward less within-firm pay inequality. *Culture* is proxied by the estimated owners' country of origin fixed effects from Table 2, and a higher value of *Culture* indicates a country with higher within-firm pay inequality. Panel C presents regression results that validate parallel trend assumption of the difference-in-differences analysis in Panel B. Specifically, Pre_{-2}, *Event year*, $Post_{+1}$, $Post_{+2}$ are indicator variables equal to one if the firm's owners will change in 2 years, has changed in the current year, changed in 1 year before, and changed in 2 years before, respectively. Pre_{-1} is omitted and treated as our base group before any effect from owner changes might take place. All financial variables are winsorized at 1% and 99%. All dollar values are converted to 2002 real values using consumer price index from Statistics Canada. Appendix A defines the variables. Standard errors are clustered at the firm level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Observation numbers are rounded to the closet hundreds. Full tables are available upon request.

Panel A: Summary statistics of the difference-in-differences sample of employee stayers

Firm characteristics	Mean	STD	N	Mean	STD	N	Mean	STD
	All			**Control**			**Treated**	
Within-firm pay inequality								
# employees								
Assets (in 000's)								
Capital-labor ratio (in 000's)								
Revenue (in 000's)								
Firm age (years)								
Owners characteristics								
Has multiple owners								
# owners								
% college degrees								
Average skill								
Average education								
Average age (years)								
Average # business owned								
% female owners								

Panel B: difference-in-differences result among employee stayers

	(1)	(2)	(3)	(4)
	Within-firm pay inequality among employee 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)
Log (# employees)		0.0006	0.0308	0.0326*
		(0.0179)	(0.0190)	(0.0191)
Log (Capital-labor ratio)		-0.0369***	-0.0253**	-0.0242**
		(0.0105)	(0.0110)	(0.0110)
Log (Revenue)			-0.0486***	-0.0483***
			(0.0168)	(0.0169)
Log (Firm age)			-0.0660**	-0.0636*
			(0.0328)	(0.0329)
Log (Firm age)^2			0.0172	0.0154
			(0.0205)	(0.0206)
Has multiple owners			0.0125	0.0125
			(0.0081)	(0.0081)
Average owner skill				0.0025
				(0.0043)
Average owner education				-0.0012
				(0.0080)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.413	0.415	0.413	0.414

Panel C: Difference-in-differences parallel trends test among employee stayers

	(1)	(2)	(3)	(4)
	Within-firm pay inequality among employee stayers			
Pre_{-2} × Treated × Δ Culture	0.0029	0.0067	0.0081	0.0078
	(0.0299)	(0.0302)	(0.0315)	(0.0314)
Event year × Treated × Δ Culture	0.0039	0.0094	0.0176	0.0179
	(0.0209)	(0.0209)	(0.0221)	(0.0221)
$Post_{+1}$ × Treated × Δ Culture	0.0203	0.0247	0.0339	0.0342
	(0.0285)	(0.0294)	(0.0308)	(0.0310)
$Post_{+2}$ × Treated × Δ Culture	0.0640*	0.0658*	0.0730**	0.0732**
	(0.0334)	(0.0337)	(0.0347)	(0.0348)
Industry, Province, Year FEs	Yes	Yes	Yes	Yes
Firm size, Capital-labor ratio	No	Yes	Yes	Yes
Revenue, firm age controls, has multiple owner indicator	No	No	Yes	Yes
Owner skill and education controls	No	No	No	Yes
Adj. R-sq	0.415	0.418	0.416	0.416

Table 7. Difference-in-differences analysis among employee stayers: Subsample analysis

This table presents subsample difference-in-differences analysis on employee stayers. Employee stayers are defined as those employees who work at the firm both before and after an owner turnover event. Panel A presents the difference-in-differences regression results on the subsample of firms operating in Restaurant Accommodation and Food Services. Panel B presents difference-in-differences regression results on a subsample of firms in which owner turnover events were caused by the death of prior owners. In both panels, we compare the evolution of within-pay inequality around owner turnover events when there is a change in the owners' country of origin relative to owner turnover events without such changes. The dependent variable, *Within-firm pay inequality*, is measured as the variance of a firm's employees' log earnings. *Treated* is an indicator variable that equals to one if the firm was taken over by owners from a different country. *Post* is an indicator variable that is equal to one after a firm's change in owner, and zero otherwise. Δ *Culture* stands for the change in the owner's culture caused by the owner change, which equals to 1 if there is an increase in owner's culture toward more within-firm pay inequality, and -1 if there is a negative change in owner's culture toward less within-firm pay inequality. *Culture* is proxied by the estimated owners' country of origin fixed effects from Table 2, and a higher value of *Culture* indicates a country with higher within-firm pay inequality. 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. Appendix A defines the variables. Standard errors are clustered at the firm level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Observation numbers are rounded to the closet hundreds.

Panel A: Subsample of the 'Accommodation and Food Services' sector (NAICS 72)

	(1)	(2)	(3)	(4)
	Within-firm pay inequality among employee stayers			
Post × Treated	0.0133	0.0152	0.0109	0.00720
	(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)
Log (# employees)		0.0209	0.0518	0.0486
		(0.0333)	(0.0388)	(0.0385)
Log (Capital-labor ratio)		-0.0094	0.0044	0.0031
		(0.0175)	(0.0196)	(0.0194)
Log (Revenue)			-0.0752	-0.0702
			(0.0475)	(0.0474)
Log (Firm age)			-0.0011	-0.0043
			(0.0482)	(0.0467)
Log (Firm age)^2			0.0201	0.0209
			(0.0416)	(0.0405)
Has multiple owners			0.0095	0.0101
			(0.0159)	(0.0159)
Average owner skill				0.0095
				(0.0068)
Average owner education				-0.0103
				(0.0144)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.407	0.407	0.407	0.406

Panel B: Subsample of owners' deaths

Note: Coefficients suppressed by Statistics Canada

	(1)	(2)	(3)	(4)
	Within-firm pay inequality among employee stayers			
Post × Treated	+	−	−	−
Post × Treated × Δ Culture	+	+	+	+
	**	**	*	*
Log (# employees)		−	+	+
Log (Capital-labor ratio)		−	−	−
Log (Revenue)			−	−
			***	***
Log (Firm age)			−	−
Log (Firm age)^2			+	+
Has multiple owners			−	−
Average owner skill				+
Average owner education				−
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes

Table 8. Difference-in-differences analysis among employee stayers: Individualism

This table presents the subsample difference-in-differences analysis on employee stayers using Hofstede's individualism as the culture measure. 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 employees' log earnings. *Treated* is an indicator variable that equals to one if the firm was taken over by owners from a different country. *Post* is an indicator variable that is equal to one after a firm's change in owner, and zero otherwise. Δ*Individualism* stands for the change in the owner's culture caused by the owner change, which equals to 1 if there is an increase in the owner's culture toward higher individualism, and -1 if there is a negative change in the owner's culture toward less individualism. 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. Appendix A defines the variables. Standard errors are clustered at the firm level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Observation numbers are rounded to the closet hundreds.

	(1)	(2)	(3)	(4)
	Within-firm pay inequality among employee stayers			
Post × Treated	-0.0020	0.0050	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)
Log (# employees)		-0.0015	0.0300	0.0317*
		(0.0180)	(0.0191)	(0.0192)
Log (Capital-labor ratio)		-0.0383***	-0.0260**	-0.0249**
		(0.0105)	(0.0110)	(0.0110)
Log (Revenue)			-0.0492***	-0.0491***
			(0.0169)	(0.0170)
Log (Firm age)			-0.0639*	-0.0613*
			(0.0330)	(0.0331)
Log (Firm age)^2			0.0162	0.0144
			(0.0207)	(0.0207)
Has multiple owners			0.0081	0.0080
			(0.0079)	(0.0080)
Average owner skill				0.0019
				(0.0043)
Average owner education				-0.0004
				(0.0080)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.412	0.414	0.412	0.413

Table 9. Individualism and within-firm pay inequality: Economic mechanisms

This table examines the mechanisms through which individualism affects within-firm pay inequality. Individualism in both panels is measured using the Hofstede individualism for each of the firm owner's country of origin. Panel A examines how pay compression within firms varies with individualism. The analysis is at individual employee level. The dependent variable is the logarithm of earnings of an employee in each year. *High ability* is an indicator variable that takes the value of one if an employee's *ability* ranked above the median in the firm at a given year, where *ability* is proxied by a worker's wage prior to joining the firm. Panel B examines how selection on employee ability varies with Hofstede individualism based on a subsample of newly hired employees. The dependent variable is the *Variance of new hires' ability* in each firm-year, where *ability* is defined in the same way as Panel A. All financial variables are winsorized at 1% and 99%. 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. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Observation numbers are rounded to the closet hundreds.

Panel A: Pay compression

	(1)	(2)	(3)	(4)
	Log (Earnings)			
High ability × Individualism	0.2096***	0.2097***	0.2045***	0.2044***
	(0.0541)	(0.0541)	(0.0543)	(0.0543)
High ability	0.0443	0.0446	0.0464	0.0464
	(0.0288)	(0.0288)	(0.0290)	(0.0290)
Ability	0.3100***	0.3099***	0.3099***	0.3100***
	(0.0147)	(0.0146)	(0.0147)	(0.0147)
Log (# employees)		-0.1417***	-0.1876***	-0.1885***
		(0.0512)	(0.0539)	(0.0538)
Log (Capital-labor ratio)		0.0055	-0.0098	-0.0094
		(0.0232)	(0.0180)	(0.0180)
Log (Revenue)			0.0749	0.0715
			(0.0751)	(0.0756)
Log (Firm age)			-0.1748	-0.1711
			(0.1502)	(0.1518)
Log (Firm age)^2			-0.0137	-0.0132
			(0.1443)	(0.1455)
Has multiple owners			-0.0153	0.0737*
			(0.0633)	(0.0434)
Average owner skill				0.1439***
				(0.0478)
Average owner education				-0.0838
				(0.0625)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.534	0.534	0.534	0.534

Panel B: Selection on employee ability

	(1)	(2)	(3)	(4)
	Variance (New hires' ability)			
Individualism	0.0783***	0.0723***	0.0670***	0.0666***
	(0.0140)	(0.0140)	(0.0143)	(0.0143)
Log (# employees)		0.0228***	0.0098	0.0111
		(0.0049)	(0.0068)	(0.0068)
Log (Capital-labor ratio)		0.0110***	0.0068**	0.0067**
		(0.0023)	(0.0029)	(0.0029)
Log (Revenue)			0.0127***	0.0125***
			(0.0043)	(0.0043)
Log (Firm age)			0.0016	0.0011
			(0.0199)	(0.0200)
Log (Firm age)^2			-0.0000	0.0001
			(0.0059)	(0.0059)
Has multiple owners			-0.0145***	-0.0155***
			(0.0055)	(0.0055)
Average owner skill				-0.0010
				(0.0014)
Average owner education				0.0032**
				(0.0015)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.036	0.037	0.037	0.037

Internet Appendix for:

"Owner Culture and Pay Inequality within Firms"

Jan Bena, Guangli Lu, and Iris Wang

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Table IA1. Additional descriptive statistics

The sample consists of 353,100 firm-year observations over the period 2001 – 2017. Panel A reports correlations between our main inequality measure and alternative inequality measures: a measure that includes owners' earnings and the gap in log earnings between the 90th and 10th percentiles (excluding owners and including owners). 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. Appendix A defines the variables. Observation numbers are rounded to the closet hundreds. Full tables are available upon request.

Panel A: Correlation with alternative inequality measures

	Within-firm pay inequality	Within-firm pay inequality including firm owners	Gap in log earnings between the 90th and 10th percentile	Gap in log earnings between the 90th and 10th percentile including firm owners
Within-firm pay inequality	1.000			
Within-firm pay inequality including firm owners	0.705***	1.000		
Gap in log earnings between the 90th and 10th percentile	0.772***	0.554***	1.000	
Gap in log earnings between the 90th and 10th percentile including firm owners	0.648***	0.844***	0.775***	1.000

Panel B: Sample composition over time

Year	Frequency	Mean	Median
2001		0.337	0.262
2002		0.347	0.274
2003		0.340	0.264
2004		0.350	0.273
2005		0.350	0.272
2006		0.351	0.269
2007		0.345	0.268
2008		0.332	0.254
2009		0.330	0.254
2010		0.327	0.255
2011		0.309	0.240
2012		0.295	0.230
2013		0.292	0.225
2014		0.291	0.227
2015		0.292	0.228
2016		0.296	0.233
2017		0.294	0.230
Total	353,100	0.313	0.242

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

NAICS	Sector	N	# unique firms	Within-firm pay inequality		# employees		Revenues (in 000's)	
				Mean	STD	Mean	STD	Mean	STD
11	Agriculture, forestry, fishing and hunting								
21	Mining, quarrying, and oil and gas extraction								
22	Utilities								
23	Construction								
31	Manufacturing								
32	Manufacturing								
33	Manufacturing								
41	Wholesale trade								
44	Retail trade								
45	Retail trade								
48	Transportation and warehousing								
49	Transportation and warehousing								
51	Information and cultural industries								
52	Finance and insurance								
53	Real estate and rental and leasing								
54	Professional, scientific and technical services								
55	Management of companies and enterprises								
56	Administrative and support, waste management and remediation services								
62	Health care and social assistance								
71	Arts, entertainment and recreation								

72	Accommodation and food services
81	Other services (except public administration)
91	Public administration

Table IA2. Sample composition by owners' country of origin

The sample consists of 353,100 firm-year observations over the period 2001 – 2017. This table presents sample composition by a firm's owners' country of origin. Details of the sample and variables construction are provided in Section 3. Appendix A defines the variables. Observation numbers are rounded to the closet hundreds. Full tables are available upon request.

Nation	N	# unique firms	Within-firm pay inequality			Landing duration (in years)	
			Mean	STD	Z-score	Mean	STD
Afghanistan					-1.9		
Albania					-0.5		
Algeria					-1.8		
Argentina					0.4		
Australia					1.8		
Austria					0.7		
Azores					-0.4		
Bangladesh					-2.3		
Belarus					1.2		
Belgium					-0.2		
Bosnia and Herzegovina					0.1		
Brazil					0.0		
Bulgaria					-0.8		
Cambodia					-1.5		
Chile					0.2		
China					-1.7		
Colombia					-0.4		
Cuba					0.7		
Czechoslovakia					0.3		
Egypt					1.5		
El Salvador					-0.3		
Ethiopia					-0.4		
Fiji					0.2		
France					-0.1		
Germany					1.1		
Ghana					0.2		
Greece					-1.1		
Guatemala					0.2		
Guyana					0.2		
Hong Kong					-0.8		
Hungary					0.5		
India					-0.4		
Indonesia					-0.4		
Iran					-0.1		
Iraq					-1.0		
Ireland					2.2		

Israel	0.8
Italy	0.5
Jamaica	-0.1
Japan	1.6
Jordan	-0.5
Kazakhstan	-0.9
Kenya	0.6
Korea, South	-0.7
Kuwait	-0.2
Laos	-0.2
Lebanon	-1.0
Libya	1.4
Macao	-1.3
Malaysia	-0.1
Mauritius	0.8
Mexico	0.5
Moldova	-0.4
Morocco	-0.8
Netherlands	1.1
New Zealand	0.3
Nigeria	1.2
Pakistan	-1.6
Peru	-0.3
Philippines	-0.2
Poland	0.2
Portugal	-0.5
Romania	0.2
Russian Federation	0.1
Saudi Arabia	-0.2
Singapore	0.5
Republic of South Africa	1.5
Sri Lanka	-0.6
Sudan	0.0
Switzerland	-0.7
Syria	-0.3
Taiwan	-1.4
Tanzania	0.9
Thailand	0.2
Trinidad and Tobago	0.0
Tunisia	-1.4
Turkey	-0.9
Uganda	2.9
Ukraine	0.4
Union of Soviet Socialist	0.5
United Kingdom	1.3

United States	1.2
Venezuela	-1.2
Viet Nam	-1.6
Yugoslavia	0.3
Zimbabwe	2.3

Table IA3. Owners' country of origin and within-firm pay inequality

This table presents the regression results between within-firm pay inequality and a firm's owners' country-of-origin group. *Within-firm pay inequality* is measured as the variance of a firm's employees' log earnings. 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. ***, **, * in both panels correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Observation numbers are rounded to the closet hundreds.

	(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)
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)
Has multiple owners			-0.0328***	-0.0332***
			(0.0016)	(0.0016)
Average owner skill				-0.0020***
				(0.0004)
Average owner education				0.0039***
				(0.0005)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.036	0.043	0.047	0.047

Table IA3. Owners' country of origin and within-firm pay inequality: Robustness analysis

This table presents additional regression results that examine the relationship between owners' country of origin and within-firm pay inequality. *Within-firm pay inequality* is measured as the variance of a firm's employees' log earnings. Panel A presents the regression results between within-firm pay inequality and a firm's owners' country-of-origin group when we include interacted fixed effects. Panel B presents the regression results between within-firm pay inequality and a firm's owners' country-of-origin group in firms with at least four employees. Panel C presents the regression results between within-firm pay inequality and a firm's owners' country-of-origin group when we include additional control variables. Due to space constraints, this table only reports country-of-origin groups with at least 800 unique 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. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Observation numbers are rounded to the closet hundreds.

Panel A: Interacted fixed effects (# unique firms > 800)

	(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)
Log (# employees)		0.0317***	0.0150***	0.0151***
		(0.0011)	(0.0016)	(0.0016)
Log (Capital-labor ratio)		0.0162***	0.0095***	0.0095***
		(0.0008)	(0.0009)	(0.0009)
Log (Revenue)			0.0196***	0.0195***
			(0.0013)	(0.0013)
Log (Firm age)			0.0060	0.0061
			(0.0048)	(0.0048)
Log (Firm age)^2			-0.0011	-0.0010
			(0.0014)	(0.0014)
Has multiple owners			-0.0327***	-0.0331***
			(0.0016)	(0.0016)
Average owner skill				-0.0020***
				(0.0004)
Average owner education				0.0038***
				(0.0005)
Industry × Year FEs	Yes	Yes	Yes	Yes
Province × Year FEs	Yes	Yes	Yes	Yes
Industry × Province FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.042	0.049	0.053	0.053
Correlation with Table 3	0.9863	0.9859	0.9865	0.9868

Panel B: Firms with at least four employees (# unique firms > 800)

	(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)
Log (# employees)		0.0301***	0.0138***	0.0139***
		(0.0011)	(0.0017)	(0.0017)
Log (Capital-labor ratio)		0.0164***	0.0107***	0.0106***
		(0.0008)	(0.0009)	(0.0009)
Log (Revenue)			0.0176***	0.0176***
			(0.0013)	(0.0013)
Log (Firm age)			0.0069	0.0073
			(0.0047)	(0.0047)
Log (Firm age)^2			-0.0018	-0.0018
			(0.0013)	(0.0013)
Has multiple owners			-0.0335***	-0.0338***
			(0.0016)	(0.0016)
Average owner skill				-0.0015***
				(0.0004)
Average owner education				0.0035***
				(0.0005)
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Adj. R-sq	0.050	0.058	0.063	0.064
Correlation with Table 3	0.9402	0.9389	0.9326	0.9293

Panel C: Additional control variables (# unique firms > 800)

	(1)	(2)	(3)
		Within-firm pay inequality	
Afghanistan	-0.0359***	-0.0349***	-0.0322***
	(0.0109)	(0.0112)	(0.0113)
China	-0.0446***	-0.0441***	-0.0430***
	(0.0090)	(0.0093)	(0.0093)
Egypt	-0.0098	-0.00583	-0.0074
	(0.0113)	(0.0116)	(0.0116)
France	0.0171	0.0206*	0.0212*
	(0.0113)	(0.0115)	(0.0116)
Germany	0.0118	0.0109	0.0128
	(0.0124)	(0.0128)	(0.0128)
Hong Kong	-0.0439***	-0.0460***	-0.0426***
	(0.0096)	(0.0099)	(0.0099)
India	-0.0184**	-0.0168*	-0.0172*
	(0.0090)	(0.0093)	(0.0093)
Iran	-0.0134	-0.0113	-0.0102
	(0.0095)	(0.0098)	(0.0098)
Iraq	-0.0278***	-0.0253**	-0.0242**
	(0.0107)	(0.0110)	(0.0110)
Korea, South	-0.0072	-0.0060	-0.0065
	(0.0093)	(0.0096)	(0.0096)
Lebanon	-0.0175*	-0.0173*	-0.0147
	(0.0094)	(0.0097)	(0.0097)
Pakistan	-0.0482***	-0.0458***	-0.0471***
	(0.0094)	(0.0097)	(0.0097)
Philippines	-0.0126	-0.0108	-0.0121
	(0.0122)	(0.0125)	(0.0125)
Poland	-0.0151	-0.0138	-0.0128
	(0.0103)	(0.0106)	(0.0106)
Portugal	-0.0202*	-0.0206*	-0.0120
	(0.0117)	(0.0119)	(0.0120)
Romania	-0.0121	-0.0103	-0.0087
	(0.0115)	(0.0118)	(0.0118)
Republic of South Africa	-0.0189	-0.0184	-0.0174
	(0.0130)	(0.0133)	(0.0133)
Sri Lanka	-0.0155	-0.0156	-0.0129
	(0.0110)	(0.0114)	(0.0114)
Taiwan	-0.0495***	-0.0521***	-0.0496***
	(0.0104)	(0.0107)	(0.0107)
United Kingdom	0.0066	0.0066	0.0089
	(0.0107)	(0.0110)	(0.0111)
Viet Nam	-0.0323***	-0.0336***	-0.0275***
	(0.0096)	(0.0098)	(0.0099)
Log (# employees)	0.0147***	0.0139***	0.0140***

	(0.0016)	(0.0017)	(0.0017)
Log (Capital-labor ratio)	0.0099***	0.0095***	0.0094***
	(0.0009)	(0.0009)	(0.0009)
Log (Revenue)	0.0197***	0.0199***	0.0199***
	(0.0012)	(0.0013)	(0.0013)
Log (Firm age)	0.0020	0.0017	0.0021
	(0.0048)	(0.0049)	(0.0049)
Log (Firm age)^2	-0.0002	-0.0000	-0.0000
	(0.0014)	(0.0014)	(0.0014)
Has multiple owners	-0.0321***	-0.0353***	-0.0355***
	(0.0017)	(0.0017)	(0.0017)
Has technical skill	-0.0003		
	(0.0021)		
Has managerial skill	-0.0069***		
	(0.0025)		
Has professional skill	-0.0024		
	(0.0027)		
% college degrees	0.0125***		
	(0.0023)		
% female owners		0.0131***	0.0118***
		(0.0023)	(0.0024)
% married owners		0.0104***	0.0096***
		(0.0021)	(0.0021)
Average owner age		-0.0001	-0.0001
		(0.0001)	(0.0001)
Average number of business		0.0015***	0.0015***
		(0.0004)	(0.0004)
Average owner skill			-0.0016***
			(0.0005)
Average owner education			0.0037***
			(0.0005)
Industry FEs	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
Adj. R-sq	0.047	0.047	0.047
Correlation with Table 3 Model 1	0.9581	0.9432	0.9489

Table IA4. Owners' country of origin and within-firm pay inequality: Difference-in-differences using the premature death sample (Age at death < 60)

This table presents difference-in-differences regression results among employee stayers on a subsample of firms in which owner turnover events were caused by the premature death of prior owners. Employee stayers are defined as those employees who work at the firm both before and after an owner turnover event. We define premature death at the age of 60 or younger. We compare the evolution of within-pay inequality around owner turnover events when there is a change in the owners' country of origin relative to owner turnover events without such changes. The dependent variable, *Within-firm pay inequality*, is measured as the variance of a firm's employees' log earnings. *Treated* is an indicator variable that equals to one if the firm was taken over by owners from a different country. *Post* is an indicator variable that is equal to one after a firm's change in owner, and zero otherwise. Δ *Culture* stands for the change in the owner's culture caused by the owner change, which equals to 1 if there is an increase in owner's culture toward more within-firm pay inequality, and -1 if there is a negative change in owner's culture toward less within-firm pay inequality. *Culture* is proxied by the estimated owners' country of origin fixed effects from Table 2, and a higher value of *Culture* indicates a country with higher within-firm pay inequality. 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. Appendix A defines the variables. Standard errors are clustered at the firm level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Note: Coefficients suppressed by Statistics Canada

	(1)	(2)	(3)	(4)
	Within-firm pay inequality among employee stayers			
Post × Treated	+	−	−	−
Post × Treated × Δ Culture	+	+	+	+
	**	**		*
Log (# employees)		−	+	+
Log (Capital-labor ratio)		−	−	−
Log (Revenue)			−	−
			**	***
Log (Firm age)			−	−
Log (Firm age)^2			+	+
Has multiple owners			−	−
Average owner skill				+
Average owner education				−
Industry FEs	Yes	Yes	Yes	Yes
Province FEs	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes