Pay discrimination, compensation, and entrepreneurship

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Abstract

This paper studies how pay discrimination affects entrepreneurship. Exploiting the staggered adoption of U.S. state-level pay secrecy laws, we first find that compensation is reduced following the passage of these laws. We then show that the adoption of laws increases the probability of individuals becoming entrepreneurs. Moreover, the effect of laws' passage on entrepreneurship is more pronounced for individuals in states with greater pay discrimination. Our results together imply that a reduction in pay discrimination, as induced by the passage of pay secrecy law, increases entrepreneurship through decreased compensation. Further mechanism tests support the compensation channel.

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1. Introduction

During the past decades, there is a substantial wage discrimination in the workplace. For example, the women's median yearly earnings relative to the men's is between 73% and 77% from 2001 to 2009 (DeNavas et al., 2010). The U.S. Equal Employment Opportunity Commission reported that U.S. firms faced approximately 99,000 discrimination charges in 2010.[1] Prior literature shows that salary discrimination significantly affects productivity and social welfare (Marshall, 1974; Gunderson, 1989; Becker, 2010; Gao, Hsu, Zhang, 2020). What is less known, however, is how changes in pay discrimination affect the labor choice and what the underlying mechanism is. In this paper, we attempt to answer these questions. To do so, we examine the effect of pay discrimination on individuals' choice of becoming an entrepreneur. We focus on the entrepreneurial choice, since entrepreneurship is a key driver of economy growth (Chatterji and Seamans, 2012). Thus, our research offers implications on the economy.

Our study is articulated around two parts. *First*, we investigate the link between pay discrimination and worker compensation because this link is important in shedding light on the effect of pay discrimination on entrepreneurship. Theoretically, the effect of pay discrimination on worker compensation is ambiguous. On the one hand, a reduction in pay discrimination could result in an increase in worker compensation since decreased discrimination reflects that the wage of underpaid workers increases (Kim, 2015). On the other hand, a decrease in pay discrimination could reduce salaries due to a higher labor supply and competition. Gao et al. (2020) conjecture

[1] https://www.eeoc.gov/statistics/charge-statistics-charges-filed-eeoc-fy-1997-through-fy-2019.

that a reduction in pay discrimination attracts underpaid workers to move-in, leading to an increase in the labor supply and higher competition in the labor market. The increased labor supply and competition could result in a decrease in compensation (Borjas, 2003; Sachs, 2016; Monras, 2020).

After understanding the link between pay discrimination and compensation, we examine how pay discrimination affects individuals' choice of becoming an entrepreneur. Manso (2016) compares return and risk of self-employment with those of salaried workers. On average, the earnings of entrepreneurs are comparable to salaried workers with similar characteristics.[2] Moreover, even though individuals abandon self-employed, they can turn to be salaried workers, and the self-employed experience helps them earn more than their salaried counterparts. When the wage decreases, the value of working for a paid employment is reduced, making self-employment attractive to individuals. Thus, a reduction in compensation could lead to an increase in the probability of individuals becoming entrepreneurs. Specifically, salaried workers switch to be self-employed, and self-employed individuals continue their self-employment. Accordingly, we conjecture that, if worker's compensation decreases (increases) following a reduction in pay discrimination, we expect a higher (lower) entrepreneurship activity.

To examine whether and how pay discrimination affects individuals' choice of becoming an entrepreneur, we use the staggered adoption of state-level pay secrecy law to conduct the analysis. The passage of this law allows workers to share salary information with their colleagues. As underpaid individuals are able to discover the pay gap and subsequently take actions to reduce

[2] Specifically, self-employed individuals earn 5% less during the first couple of years, but earn 10% more than their salaried counterparts in the subsequent years.

it (Kim, 2015), the adoption of pay secrecy law reduces the pay discrimination. We focus on the recognition of this law because (1) it affects the compensation of workers which is a significant determinant of individuals' entrepreneurial choice, and (2) the staggered adoption of pay secrecy law across states generates a natural division of treated and control groups for us to implement a Difference-in-Differences (DID) design and identify the causal effect of pay discrimination on entrepreneurship. Moreover, the adoption of pay secrecy law seems to be not driven by economic consideration (Gao et al., 2020), which we confirm in later analysis.

As mentioned above, our empirical analyses consist of two parts: worker compensation and entrepreneurial choice analyses. We use Current Population Survey (CPS) to capture worker compensation and identify entrepreneur. The detailed labor information collected by CPS allows us to infer the causal effect of pay discrimination on entrepreneurship and understand the compensation channel. We conduct individual level analysis with data over 1976 to 2018.

First, we establish the link between pay discrimination and worker compensation. We begin our analysis by examining how a reduction in pay discrimination, as induced by the passage of pay secrecy law, affects compensation. We find that the adoption of pay secrecy law is significantly associated with a lower hourly wage. The hourly wage decreases by $1.02 dollars, a 6.85% reduction relative to the mean of the treatment group. This finding implies that the passage of law lowers compensation through decreased pay discrimination. We then confirm that the recognition of pay secrecy law reduces pay discrimination by showing that the wage gap between majority and

minority workers decreases following the adoption of law. Taken together, our first part analysis establishes the link between pay discrimination and worker compensation.

Next, we examine the effect of pay discrimination on the entrepreneurial choice. We find that the adoption of pay secrecy law is significantly associated with an increase in the probability of individuals becoming entrepreneurs. In the term of economic impact, the probability increases by 0.67%, a 6.7% rise relative to the mean before the adoption of law. The findings are consistent with our prediction that a decrease in compensation caused by lower pay discrimination makes individuals become entrepreneurs. To mitigate the concern of reverse causality, we follow Bertrand and Mullainathan (2003) and examine the dynamic changes of entrepreneurship around the adoption of pay secrecy law. We find that there are insignificant changes in entrepreneurship activity prior to the law's adoption. This finding verifies the parallel trends assumption, and addresses the reverse causality concern. We also show that the passage of pay secrecy law is not driven by ex-ante entrepreneurship or local economic factors. To strengthen the argument that the adoption of pay secrecy law affects entrepreneurship due to a reduction in pay discrimination rather than other factors, we examine how the law's passage affects entrepreneurial choice of individuals in states with different degrees of pay discrimination. We find that the passage of law has stronger effects on the entrepreneurial choice of individuals in states with larger pay discrimination. This finding helps us identify the causal effect of pay discrimination on entrepreneurship.

To shed light on the compensation channel, we examine how the relationship between pay discrimination and entrepreneurship varies in the cross-section. This analysis not only provides

insights on the channel through which the documented association operates, but also strengthens identification, as this relationship is unlikely to arise if the adoption of pay secrecy law simply reflects unobserved economic forces. The positive effect of the passage of pay secrecy law should be more pronounced in the individuals whose entrepreneurial choices are more affected by compensation decrease. We assess the conditioning effect in three types of individuals: 1) individuals with high compensation, 2) individuals with college degree, and 3) majority individuals. Following decreased compensation, the entrepreneurship opportunity is more attractive for individuals with higher compensation, since the higher compensation offers them required capital to capture entrepreneurship opportunity. Similarly, the entrepreneurial choices of individuals with college degree and majority individuals are also more affected by compensation reduction, as we show that they earn more, respectively. Moreover, the college degree provides human capital advantage for individuals to capture entrepreneurship opportunity (Robinson and Sexton, 1994). Accordingly, we expect that the positive association between the pay discrimination and entrepreneurship to be stronger in individuals with high compensation, with college degree and in the majority. The cross-sectional tests support our conjectures. More importantly, these results support the compensation channel, as they are difficult to reconcile with alternative explanations.

Finally, we discuss alternative interpretation for the effect of pay discrimination on entrepreneurship. First, Black and Strahan (2002) and Krishnan, Nandy and Puri (2015) show that higher credit supply increases entrepreneurial activity. Thus, it is possible that increased credit

supply occurring with the adoption of pay secrecy drives our results. Utilizing bank deregulation to capture increased credit supply, we find that our result is not driven by credit supply story. Next, our finding could be interpretated as the law's adoption reducing wage of low-income employees and resulting in lower labor cost for starting business. We find that the negative effect of law's adoption on wage is driven by high-income individuals rather than low-income ones, excluding the story of lower labor costs.

This paper contributes first to the emerging literature on pay discrimination. The discrimination in compensation occurs globally, attracting attentions of researchers and policy makers (Becker, 2010; Kim, 2015; Gao et al., 2020). While previous studies mainly discuss the effect of this discrimination on productivity, we focus on whether and how pay discrimination affects labor choice. We show that a decrease in pay discrimination leads to a rise in the probability of individuals becoming entrepreneurs. This result suggests that pay discrimination significantly affects labor choice. This paper is also in line with the consequences of compensation disclosure regulations. Specifically, our finding implies that an increase in pay transparency leads to a compensation decrease in the private sector, which complements the finding of Mas (2017) in the public sector.

This paper also contributes to the emerging literature on the factors that drive entry into entrepreneurship. For example, Jensen et al. (2014) show that Danish mortgage reform that increases credit leads to increased entry, while Gottlieb et al. (2018) show that extended job-

protected maternity leave in Canada is associated with a higher likelihood of entry. Our paper indicates that decreased compensation is an important driver of entrepreneurship entry.

Finally, this paper is also related to the link between compensation and labor choice. Mas (2017) shows that in the public sector, a reduction in compensation induces city officers to quit their jobs. Complementing this study, our results indicate that in the private sector, facing decreased compensation, workers leave jobs and start their own business.

2. Institutional background and data

2.1 Pay secrecy law

Pay secrecy includes rules, policies, and practices that prohibit employees from disclosing salaries to their colleagues (Gely and Bierman, 2003; Bierman and Gely, 2004; Edwards, 2005). The earliest legal protection on pay secrecy matters comes from the National Labor Relations Act (NLRA) enacted in 1935. Section 7 of this Act protects non-supervisory employees from employer retaliation when they discuss their wages as part of a concerted activity to improve salary (U.S. Department of Labor, 2014). However, the NLRA does not address the pay transparency issue since it does not provide the rights for employees to discuss wages with their colleagues in any situation. For example, the 2010 survey of Institute for Women's Policy Research shows that 61% of private sector workers are either formally forbidden or informally discouraged from discussing wages with their colleagues.

In an attempt to eliminate pay secrecy rules that allow firms to discriminate against their employees based on gender, race, and other factors, several states have adopted laws since the

1980s. Known as "pay secrecy laws", these laws forbid employers from using contrasts or policies to deprive the right of employees to disclose their salaries. The political motivation for states adopting "pay secrecy laws" is to close the wage gap (Kim, 2015). For example, feminism activists and legislators claim that once pay is no longer a secret, women are able to discover the gender pay gap and subsequently take actions to reduce it. Thus, we utilize the passage of pay secrecy law as a proxy for a reduction in pay discrimination. Moreover, the findings in Gao et al. (2020) indicate that the passage of pay secrecy laws are not driven by local economic factors.

We exploit the variation across states in the timing of recognizing pay secrecy law to conduct our empirical analyses. The identification of the law follows Kim (2015) and Gao et al. (2020). Table 1 summarizes the year when each state adopted pay secrecy law. Michigan and California passed the law in 1982 and 1984, respectively. Other seven states adopted the pay secrecy law between 2000 and 2014.

2.2. CPS data

Following prior literature, we use CPS dataset to capture employee wage and identify entrepreneurship.[3] Our sample period is from 1976 to 2018. The Basic Monthly CPS is a sample representative of the household-based population of U.S. Household members are interviewed in four consecutive months, left out of the sample for the following eight months, and then re-surveyed in each of the following four months. In addition to the Basic Monthly CPS, supplements to the CPS are frequently fielded. One of the supplements, Annual Social Economic Supplement

[3] See Kim (2015) and Gao et al. (2020) for employee wage and Chatterji and Seamans (2012), Burtch, Carnahan and Greenwood (2018), Lin and Tai (2020) and Zandberg (2020) for entrepreneurial activity.

(ASEC), contains labor force information of individuals. We use this supplement to conduct our analysis. Compared with Longitudinal Business Database which provides entrepreneurship information at the establishment level, ASEC allows us to shed light on the effect of pay secrecy law on individuals' labor choice and the underlying mechanism.

Following Kim (2015) and Gao et al. (2020), we use hourly wage to capture the salary of workers. The hourly wage is calculated as the annual wage divided by the product of the usual hours worked per week and the number of weeks in the year. The wage is adjusted in 2000 dollars. Then, we follow Chatterji and Seamans (2012), Burtch, Carnahan and Greenwood (2018) and Zandberg (2020) to identify entrepreneurship. Specifically, we use self-employment to recognize entrepreneurship. Our individual controls include age, marital status, race, education attachment, and gender. Appendix A reports detailed description of individual-level variables used in this paper. Finally, continuous variables are winsorized at 1% and 99% levels.

In this paper, we follow Chatterji and Seamans (2012) and Zandberg (2020), and conduct analysis at the individual level. We build our sample as follows. We keep non-farm individuals between 18 and 80 years of age. Then, we exclude unemployed workers. The final sample incorporates 3,050,570 individual and year level observations. Panel A of Table 2 reports the summary statistics based on the full sample. The hourly wage has a mean at $14.26. This number is similar to a mean at $14.30 based on annual hourly earnings from FRED during the same period (from 1976 to 2018), which indicates that our sample is representative of the entire population in the U.S. Next, we find that 10% individuals are entrepreneurs. Finally, 24% of individuals are

married, 25% have completed college education, and 54% are male. Panel B of Table 2 presents the descriptive statistics separately for treatment and control groups in the one year before the adoption of pay secrecy law. We find that treatment and control individuals have similar probability of becoming entrepreneurs, while the hourly wage is slightly higher in treatment group than in control group.

3. Pay discrimination and compensation

In this section, we investigate how changes in pay discrimination affect worker compensation. Specifically, we examine how the adoption of pay secrecy law affects salary by conducting a staggered difference-in-differences analysis. Next, we confirm that the passage of pay secrecy law results in lower pay discrimination.

3.1. Pay secrecy law and worker compensation

To investigate how the passage of pay secrecy law affects worker compensation, we adopt a staggered difference-in-differences design by utilizing a weighted lease square (WLS) regression. CPS provides a weight for each individual. The weight indicates how many persons in the U.S. population are represented by a given person in a sample. Using the weight in a WLS regression generates a sample that represents the entire population in a given year (Zandberg, 2020). Our WLS regression model is:

$$y_{i,s,t} = \beta * Pay\ secrecy_{s,t} + CONTROLS_{i,s,t} + \psi_s + \omega_t + \epsilon_{i,s,t} \qquad (1)$$

Where $y_{i,s,t}$ is the natural logarithm of hourly wage of individual i in state s and year t.[4] Parameter β captures the difference-in-differences estimate of the passage of pay secrecy law on the hourly wage. Following Kim (2015) and Gao et al. (2020), $CONTROLS_{i,s,t}$ includes individual and state level control variables. Individual-level controls include age (*Age*), marital status (*Married*), educational attainment (*College*), gender (*Male*), race (*Race*) and annual work time (*LN(Work)*). State-level control variables are unemployment rate (*Unemp*), personal income per capita in log amount (*LN(Income_per_cap)*), population level in log amount (*LN(Pop)*) and GDP in log amount (*LN(GDP)*). We also include state fixed effects ψ_s, and year fixed effects ω_t. We cluster standard errors by state for significance tests.

Table 3 reports the WLS regression result based on Equation (1). In column (1), we find that after the adoption of pay secrecy law, the hourly wage decreases significantly. Specifically, the coefficient of *Pay Secrecy* is -0.032 (*t*-value= -3.44). In term of economic impact, the dollar amount of hourly wage decreases about $1.02 following the passage of pay secrecy law. This $1.02 dollar decrease is a 6.85% reduction relative to the mean of the treatment group at $14.87. These results are consistent with the argument that a reduction in wage discrimination induced by the passage of pay secrecy law attracts underpaid workers to move in and increases the labor supply and competition, leading to a lower overall salary. Moreover, our finding complements the finding of Max (2017) in the public sector in which the 2010 California mandate that requires cities to disclose municipal salaries leads to about a 7% compensation decline.

[4] All nominal prices are deflated using the CPI in 2000.

Since the employee salary may also vary across industries or occupations, we additionally incorporate industry and occupation fixed effects in columns (2) and (3) of Table 3, respectively. Following Gao et al. (2020), the industry and occupation are defined by using the first two-digit of industry and occupation codes, respectively. In columns (2) and (3), we find similar results as the one in column (1). These findings indicate that our results are not driven by potential difference in compensation across industries or occupations.

3.2. Pay secrecy law and pay discrimination

In this subsection, we verify that the adoption of pay secrecy law reduces the pay discrimination. Following Gao et al. (2020), we use the wage difference between majority and minority workers to capture pay discrimination. The majority group consists of white males, and the minority group includes the remaining people (not a while male). If the pay discrimination decreases following the passage of pay secrecy law, we should observe a reduction in the wage gap between majority and minority workers at the same time.

Table 4 reports the result of estimation Equation (1) after interacting *Pay secrecy* and *Minority. Minority* is an indicator set to one if the individual is not white male and zero otherwise. In column (1), we find that the coefficient of *Minority* is -0.209 (*t*-value=-29.30). This finding shows that the compensation of minority workers is substantially lower than that of the majority, which confirms the pay discrimination between both workers. Moreover, the term *Pay secrecy*Minority* is significantly positive at 0.042 (*t*-value=2.57). This finding suggests that the pay discrimination significantly decreases following the adoption of pay secrecy law, consistent

with the findings of Kim (2015) and Gao et al. (2020). More specifically, our results imply that the recognition of pay secrecy law mitigates 20.10% of the payment gap. In column (2), we additionally control for state*year fixed effect and find similar results. Overall, the findings in Table 4 establish the link between the adoption of pay secrecy law and pay discrimination. Taken together, Tables 3 and 4 imply that a decrease in pay discrimination, as induced by the passage of pay secrecy law, leads to lower compensation.

4. Pay discrimination and entrepreneurship

Previous results indicate that worker compensation decreases significantly following a reduction in pay discrimination. We build upon this finding and examine the effect of pay discrimination on entrepreneurship. Specifically, we first examine how the adoption of pay secrecy law affects entrepreneurship by conducting a staggered difference-in-differences analysis. Second, we mitigate endogeneity concerns. Third, we conduct robustness analyses. Fourth, we investigate the underlying mechanism. Fifth, we examine the alternative story of our primary result. Finally, we conduct an additional analysis to have a deeper understanding of how pay discrimination affects entrepreneurship.

4.1. Main results

To examine how the passage of pay secrecy law affects entrepreneurship, we adopt a difference-in-differences design. Our WLS regression model is

$$y_{i,s,t} = \beta * Pay\ secrecy_{s,t} + CONTROLS_{i,s,t} + \psi_s + \omega_t + \epsilon_{i,s,t} \qquad (2)$$

where $y_{i,s,t}$ is an indicator of whether the person is an entrepreneur. We use self-employment to recognize entrepreneurship. Following Chatterji and Seamans (2012) and Zandberg (2020), we exclude working time from *CONTROLS* in entrepreneurship analysis. Other controls follow the ones in Equation (1). Since lower pay discrimination is associated with decreased worker compensation, our argument predicts that a decrease in pay discrimination leads to increased entrepreneurship.

Column (1) of Table 5 reports the result based on Equation (2). We find that the coefficient of *Pay secrecy* is significant at 0.0067 (*t*-value =2.97). This finding suggests that after the adoption of pay secrecy law, the probability of a person becoming an entrepreneur significantly increases. In term of economic impact, this probability increases by 0.67%, a 6.7% rise relative to the mean for the treatment group at 10%. This result is consistent with our argument that a reduction in pay discrimination leads to an average lower salary, pushing more individuals to become entrepreneur. Since state-level controls may be affected by the adoption of pay secrecy law, including these controls might bias the effect of law's adoption on entrepreneurship activity. To mitigate this concern, we exclude state-level controls in column (2) as a robustness check, and find similar results.[5]

4.2. Endogeneity concerns

[5] In untabulated tables, we also exclude individual-level controls. Our results still hold.

In this subsection, we conduct several analyses to mitigate endogeneity concerns. First, we verify the parallel trends assumption by examining the dynamic effect of pay discrimination on entrepreneurship. Then, we analyze the determinants of state passing the pay secrecy law.

4.2.1. Dynamic effect of pay discrimination

The validity of our difference-in-differences approach is based on the parallel trends assumption. To test this assumption, we follow Bertrand and Mullainathan (2003), and investigate the dynamic effect of the passage of the pay secrecy law on entrepreneurship. To do this, we examine the timing of changes in entrepreneurship relative to the timing of the recognition of pay secrecy law. Specifically, we follow Bertrand and Mullainathan (2003), and replace the *Pay secrecy* in Equation (1) by the following indicator variables: *Year -1* is an indicator set to one if the state will pass the law next year and zero otherwise; *Year 0* is an indicator set to one if the state passes the law in the current year and zero otherwise; *Year 1* is an indicator set to one if the state passed the law one year ago and zero otherwise; *Year 2+* is an indicator set to one if the state passed the law two or more years ago and zero otherwise.

Column (1) of Table 6 reports the dynamic effect of the recognition of pay secrecy law on entrepreneurial activity. We find that *Year -1* plays an insignificant role in explaining the probability of individuals becoming entrepreneurs. This finding indicates that there is no trend of rising entrepreneurship before the enactment of the pay secrecy law, which confirms the parallel trends assumption. Moreover, Table 6 shows that the effect of pay secrecy law emerges two years after law's adoption.

Since worker compensation is the key mechanism underlying our result, we also examine the dynamic effect of pay secrecy law on worker compensation in column (2). Similar to our results in column (1), we find insignificant wage trends before the passage of pay secrecy law. Furthermore, the results indicate that the effect of pay secrecy law on hourly wage appears one year after the passage, which is earlier than the effect on entrepreneurship. This leading effect on employee compensation also supports our argument that lower work income driven by a reduction in pay discrimination push individuals to become entrepreneur. Overall, the findings in Table 6 suggest that our results do not suffer from reverse causality concerns that higher entrepreneurship drives states passing pay secrecy law. These results also confirm the appropriateness of our difference-in-differences approach and help us infer the causal effect of pay secrecy law's recognition on entrepreneurial activity.

4.2.2. Determinants of passing the pay secrecy law

One endogeneity concern that could affect the interpretation of our results is that changes in entrepreneurship and passage of pay secrecy law could be spuriously correlated with underlying economic conditions. To mitigate the concern that local economic conditions drive the adoption of pay secrecy law, we examine the determinants of states passing the law. Following Serfling (2016), we estimate a Cox proportional hazard model, where a failure event represents the passage of pay secrecy law. The sample spans the period 1976 to 2018. States are excluded from the sample after they adopt the law. All independent variables are measured as of year t-1 relative to the law's adoption in year t.

Table 7 reports the results. In column (1), we find that the coefficient of *State entrepreneurship* is insignificant. Our results indicate that the entrepreneurship does not significantly influence the passage of pay secrecy law, consistent with the finding in Table 6. We also find that local economic conditions play an insignificant role in explaining the adoption of pay secrecy law. In column (2), we also test whether worker compensation affects the recognition of pay secrecy law. We find that the effect of compensation is insignificant. Overall, the findings in Table 7 confirm that the passage of pay secrecy law is not driven by ex-ante entrepreneurship or local economic conditions.

4.3. Robustness check

In this subsection, we conduct two analyses as robustness checks. First, we use incorporated self-employment to define entrepreneurship and reexamine the effect of pay secrecy law on entrepreneurship. Second, we confirm that the passage of pay secrecy law affects entrepreneurship through a reduction in pay discrimination.

4.3.1 Incorporated self-employment

As self-employment could be taken by people who can not find a salary job, self-employment may be a noisy measure for entrepreneurship. To mitigate this concern, we follow Levine and Rubinstein (2019) and use incorporated self-employment as an alternative measure of entrepreneurship. Since business legal form (incorporated versus un-incorporated) is available in CPS from 1988, the sample period for this robustness analysis is from 1988 to 2018. Table 8 presents results. We find that following law's adoption, the probability of individuals being

incorporated self-employed significantly increases, which is consistent with the finding shown in Table 5. This finding addresses the concern that the effect of pay secrecy law on entrepreneurship is driven by individuals who can not find a wage job. To further address this concern, we also examine the effect of pay secrecy law on the probability of unemployment. In untabulated tables, we find that the unemployment rate decreases following the passage of law. This finding indicates that our result is not driven by the law's adoption driving employees out of the labor market and forcing them to be entrepreneurs.

4.3.2 The role of state-level payment discrimination

We follow Gao et al. (2020) and confirm that the passage of pay secrecy law affects entrepreneurship through a reduction in pay discrimination. If a rise in entrepreneurship following the passage of pay secrecy law is caused by a decrease in pay discrimination, the effect of pay secrecy law on entrepreneurship should be stronger in states with larger ex ante pay discrimination. To test this conjecture, we need a proxy for the ex-ante payment discrimination. Following Gao et al. (2020), we focus on the pay discrimination between majority and minority workers. Specifically, we measure pay discrimination by estimating the following WLS regression for all individuals in 1981 for each state:

$$LN(Hourly\ wage)_{i,s} = \beta_1 * Majority_{i,s} + \beta_2 * LN(AGE)_{i,s}$$
$$+\beta_3 * COLLEGE_{i,s} + \beta_4 * LN(WORK)_{i,s} + \epsilon_{i,s} \quad (3)$$

We use the coefficient β_1 to capture the severity of pay discrimination in state *s* in 1981. Year 1981 is the one year before the first state adopting a pay secrecy law. We choose year 1981, because

this choice helps us mitigate endogeneity concern that the passage of pay secrecy law affects ex post pay discrimination.

Column (1) of Table 9 shows the results of estimation Equation 2 after interacting *Pay Secrecy* and the estimated variable *Pay discrimination* ($\beta_1$in Equation 3). We find that the term *Pay secrecy*Pay discrimination* plays a significantly positive role in explaining entrepreneurship. This finding indicates that the effect of pay secrecy law on the probability of individuals becoming entrepreneurs is stronger for individuals in states with larger discrimination. In column (2), we use an alternative way to capture pay discrimination. Specifically, we sort states based on β_1. *High pay discrimination* is an indicator set to one if the state is in the top tercile and zero otherwise. Column (2) shows that the interaction between *Pay secrecy* and *High pay discrimination* is significantly positive, which is consistent with the finding in column (1). Overall, the findings in Table 9 confirm that the recognition of pay secrecy law affects entrepreneurship through a reduction in wage discrimination. Moreover, evidence from these tests helps alleviate concerns that our results are driven by omitted variables because it is quite unlikely that an omitted variable is correlated with the interaction terms (Claessens and Laeven, 2003; Raddatz, 2006).

4.4. Mechanism

Our primary result suggests that reduced pay discrimination leads to increased entrepreneurship through lower compensation. In this subsection, we examine the compensation channel by conducting cross-sectional analyses through the perspectives of compensation, college degree and majority.

4.4.1 Compensation

The compensation channel argues that reduced compensation decreases the value of working for an employer, relatively increasing the value of entrepreneurship. This entrepreneurship opportunity is more valuable for individuals with higher compensation, since the high compensation provides those individuals required capital to capture this entrepreneurship opportunity.[6] Thus, the compensation channel predicts that the effect of pay discrimination on the entrepreneurship is stronger for individuals with higher compensation.

We test this conjecture and report the results in Table 10. In column (1), we find that the coefficient of *Pay secrecy*LN (Wage)* is significantly positive at 0.0134 (*t*-value=2.31). This result shows that the positive effect of the adoption of pay secrecy law on entrepreneurship is stronger for individuals with higher compensation, consistent with the compensation channel. Column (2) turns to the results with an additional control of state*year fixed effect. This control captures unobserved time-varying state-level factors and helps us infer the causal effect of passage of pay secrecy law on entrepreneurship. We find that our results are robust to controlling for state*year fixed effect. This finding indicates that our results do not seem to be driven by unobserved time-varying state-level factors.

Next, the compensation channel also implies that facing decreased compensation, highly paid workers are more likely to quit jobs and start their business. To further support the compensation channel, we examine individuals' transition decision. We expect that the effect of

[6] Hurst and Lusardi (2004) note that "the most frequently cited obstacle to new business formation is the inability of would-be entrepreneurs to acquire the capital necessary to start a business".

the adoption of pay secrecy law on the probability of employees transitioning from employees to entrepreneurs is more pronounced for individuals with higher salary. To test our conjecture, we replace $Entrepreneur_{i,s,t}$ in Equation (2) by $Switch_{i,s,t}$. $Switch_{i,s,t}$ is an indicator set to one if the person *i* in state *s* switches from paid employment in year *t-1* to self-employment in year *t* and zero otherwise.

Table 11 reports individuals' transition results. In column (1), we find that the term *Pay secrecy*Ln (Wage)* shows a significantly positive association with *Switch*. This finding indicates that following the passage of pay secrecy law, individuals with higher compensation are more likely to leave jobs and start their businesses, consistent with our prediction. This finding further supports the compensation channel. Moreover, our findings are also consistent with the notion that many startups are founded by workers who leave paid employment (Bhide, 2000; Babina, 2020).

4.4.2 College degree

To provide more evidence on the compensation channel, we investigate the effect of college degree on the association between the adoption of pay secrecy law and entrepreneurship. The reduction in compensation affects individuals with college degree more due to two reasons. First, Table 3 shows that individuals with college degree earn more than their counterparts do. Second, the high education level provides human capital advantage for those individuals to capture entrepreneurship opportunity (Robinson and Sexton, 1994). Thus, the compensation channel predicts that rises in entrepreneurship are stronger for individuals with college degree. Table 12 reports the result. We find that the coefficient of interaction *Pay secrecy*College* is significantly

positive. This finding shows that following the passage of pay secrecy law, increases in the probability of individuals choosing to be entrepreneurs are stronger for individuals with college degree, which is consistent with our conjecture.

4.4.3 Majority versus minority

Finally, we turn to the effect of majority on the relation between pay secrecy law's adoption and individuals' entrepreneurial choice. Table 4 shows that majority workers earn more relative to the minority. Thus, the compensation channel expects that the positive effect of law's recognition on the entrepreneurship is more pronounced for the majority. We present regression results in Table 13. The result shows that the interaction *Pay secrecy*Majority* indeed shows a significantly positive association with *Entrepreneur*. The finding indicates that the passage of pay secrecy law has stronger effect on the probability of the majority becoming entrepreneurs. This finding provides additional support for the compensation channel.

4.5. Alternative story

Our primary result shows that entrepreneurship increases following decreased pay discrimination. Further analyses imply that reduced pay discrimination lowers compensation, relatively increasing the value of entrepreneurship and pushing individuals to be entrepreneurs. In this part, we examine alternative interpretations of our result: improved credit supply and low labor costs.

4.5.1 Improved credit supply

Black and Strahan (2002) and Krishnan, Nandy and Puri (2015) suggest that a rise in credit

supply mitigates individuals' liquidity constraint, leading to increased entrepreneurship. It is possible that our results are driven by higher credit supply occurring with the passage of pay secrecy law. In this subsection, we examine this alternative story. Following Krishnan, Nandy and Puri (2015), and Célerier and Matray (2019), we use bank deregulation index constructed by Rice and Strahan (2010) to capture the rise in credit supply. *Dereg* is the deregulation index that captures each dimension of state-level branching restrictions.

Panel A of Table 14 reports the effect of the passage of pay secrecy law on the entrepreneurship after controlling for *Dereg*. We find that the role of *Pay secrecy* in explaining *Entrepreneur* is still significant after controlling for *Dereg*. This finding indicates that our results are not driven by higher credit supply occurring with lower pay discrimination. We also find that *Dereg* shows a significant and positive association with *Entrepreneur*. This finding suggests that higher credit supply increases entrepreneurial activity, consistent with the findings documented in the literature.

4.5.2 Low labor costs

Another alternative explanation of our findings is that the adoption of pay secrecy law reduces the wage of low-income individuals, leading to lower cost of doing business. To test this interpretation, we split the full sample into quintiles based on wage. Then, we examine the effect of law's adoption on wages across quintiles, and represent results in Panel B of Table 14. In column (4), we find that the law's adoption shows significantly negative effects on hourly wage, suggesting that the negative effect of law mainly affects high-income individuals rather than low-income

individuals. This finding excludes the story that our result is driven by lower labor cost.

4.6 Additional analysis

Finally, we conduct an additional analysis to examine how changes in pay discrimination affect the quality of entrepreneurship. To capture the quality of entrepreneurship, we utilize the aggregate number of growth outcome (*Growth*) constructed by Andrews et al. (2017). A startup realizes its growth outcome if it achieves IPO or is acquired at a meaningful positive valuation within 6 years of registration. Thus, a large number of growth outcome indicates more startups with high quality. The sample period for this analysis is from 1988 to 2016.

Table 15 presents the effect of law's adoption on the number of startups that achieve their growth outcome. We find that *pay secrecy* shows a significantly positive association with *Growth*. The results indicate that following the adoption of pay secrecy, the number of startups that achieve their growth outcome significantly increases. This finding suggests that lower pay discrimination raises also the quality of entrepreneurship.

5. Conclusion

In this paper, we examine the effect of pay discrimination on entrepreneurship. Our analysis starts with the link between pay discrimination and compensation, given the importance of this link in shedding light on how changes in pay discrimination affects entrepreneurship. Exploiting the staggered adoption of pay secrecy law, we find that worker compensation decreases following law's adoption, and confirm that the passage of law is associated with lower pay discrimination. This result supports the prediction that a reduction in pay discrimination leads to lower

compensation.

After understanding the effect of pay discrimination on compensation, we turn to examine how pay discrimination affects entrepreneurship. We find that the probability of individuals becoming entrepreneurs increases following the adoption of pay secrecy law by using a DID analysis. This effect does not pick up before the law's adoption. Thus, the DID result allows us to infer the causal effect of pay discrimination on entrepreneurship. We also find that the passage of pay secrecy law is not significantly affected by ex-ante entrepreneurship or local economic condition. Our findings together suggest that a reduction in pay discrimination results in increased entrepreneurship through lower compensation. Then, we support the compensation channel through a variety of cross-sectional analyses. Finally, we show that the effect of pay discrimination on entrepreneurial choice is robust for alterative interpretations of increased credit supply and lower labor costs. In an additional analysis we find that the law raised also the quality of entrepreneurship.

Overall, this study links pay discrimination with labor choice. While previous studies focus on the effect on pay discrimination on labor productivity, this paper sheds light on the consequence of pay discrimination from a new perspective. As pay discrimination occurs pervasively in the workplace, a good understanding of pay discrimination is important. This paper contributes also to the growing literature on determinants of the entry into entrepreneurship and suggests that the change in compensation is a key driver.

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Table 1. States legislating pay secrecy laws

This table reports year when each state adopted the pay secrecy law. Data come from Gao et al. (2020).

State	Pass year
Michigan	1982
California	1984
Illinois	2003
Vermont	2005
Maine	2009
Colorado	2009
Louisiana	2013
New Jersey	2013
Minnesota	2014

Table 2. Summary statistics

This table reports summary statistics in the individual level. Panel A presents summary statistics of variables in the full sample. Panel B reports statistics of treatment and control groups in one year before the adoption of pay secrecy law (year t-1). Treatment group incorporates individuals in states that adopt pay secrecy law in year t, while control group consists of individuals in state that do not adopt in year t. *Wage* is adjusted using the CPI in 2000. Continuous variables are winsorized at 1% and 99% levels.

Panel A: full sample

	N	MEAN	STD	P25	P50	P75
Individual characteristics						
Wage (hourly)	3,050,570	14.26	9.73	7.39	12.24	19.32
Entrepreneur	3,050,570	0.10	0.30	0.00	0.00	0.00
Age	3,050,570	40.45	13.22	30.00	40.00	50.00
Married	3,050,570	0.24	0.43	0.00	0.00	0.00
College	3,050,570	0.25	0.44	0.00	0.00	1.00
Male	3,050,570	0.54	0.50	0.00	1.00	1.00
Race	3,050,570	1.39	1.27	1.00	1.00	1.00
Work hour	3,050,570	1,951	686	1,768	2,080	2,080
State-level variables						
Pay secrecy	3,050,570	0.17	0.37	0.00	0.00	0.00
Unemp	3,050,570	6.18	1.99	4.78	5.81	7.26
Ln(Income_per_cap)	3,050,570	10.18	0.55	9.82	10.29	10.62
Ln(pop)	3,050,570	15.95	0.90	15.39	16.00	16.69
Ln(GDP)	3,050,570	12.47	1.15	11.71	12.53	13.24

Panel B: treatment versus control

	Treat (mean)	Control (mean)
Hourly wage	14.87	14.11
Entrepreneur	0.10	0.10
Age	40.10	40.75
Married	0.24	0.22
College	85.93	85.10
Male	0.54	0.53
Race	1.40	1.45

Table 3. Pay secrecy law and hourly wage

This table reports the effect of the passage of pay secrecy law on hourly wage. Dependent variable is the natural logarithm of hourly wage. All models incorporate state and year fixed effects. We additionally control occupation fixed effect in column (2) and industry fixed effect in column (3). Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	LN (Wage)	LN (Wage)	LN (Wage)
	(1)	(2)	(3)
Pay Secrecy	-0.0322***	-0.0269***	-0.0231***
	(-3.44)	(-3.15)	(-2.87)
Age	-0.0013***	-0.0015***	-0.0013***
	(-4.88)	(-5.67)	(-5.07)
Married	-0.1766***	-0.1435***	-0.1463***
	(-25.29)	(-27.83)	(-31.71)
College	0.4479***	0.2755***	0.3949***
	(71.90)	(61.32)	(79.71)
Male	0.1443***	0.1667***	0.1600***
	(17.92)	(26.12)	(24.58)
Race	-0.0039	-0.0039**	-0.0069***
	(-1.47)	(-2.45)	(-3.72)
LN(Work)	0.1261***	0.0817***	0.0921***
	(27.31)	(18.88)	(24.36)
Unemp	0.0019	0.0033*	0.0037**
	(0.86)	(1.70)	(2.03)
LN(Income_per_cap)	0.4426***	0.4403***	0.3616***
	(4.38)	(4.52)	(4.33)
LN(Pop)	0.2194**	0.1999**	0.1033
	(2.49)	(2.64)	(1.22)
LN(GDP)	-0.1101	-0.0832	-0.0246
	(-1.56)	(-1.39)	(-0.37)
Constant	-4.7271***	-4.3746***	-2.8796**
	(-3.37)	(-3.40)	(-2.30)
State fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Occupation fixed effect	No	Yes	No
Industry fixed effect	No	No	Yes
N	3,050,570	3,050,570	3,050,570
R^2	0.0921	0.1499	0.1724

Table 4. Pay secrecy law and wage gap

This table shows the effect of the adoption of pay secrecy law on wage gap. Following Gao et al. (2020), we focus on the wage gap between majority and minority workers. *Minority* is an indicator set to one if an individual is not white male and zero otherwise. Column (1) incorporates state and year fixed effects, and we additionally include year*state fixed effect in column (2). Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	LN (Wage)	LN (Wage)
	(1)	(2)
Pay secrecy	-0.0994***	
	(-5.32)	
Minority	-0.2090***	-0.2082***
	(-29.30)	(-28.19)
Pay secrecy * Minority	0.0417**	0.0478***
	(2.57)	(2.70)
Age	-0.0018***	-0.0018***
	(-5.32)	(-5.38)
Married	-0.1921***	-0.1926***
	(-25.36)	(-24.99)
College	0.4197***	0.4216***
	(86.43)	(87.93)
LN(Work)	0.1380***	0.1379***
	(26.68)	(26.81)
Unemp	0.0014	
	(0.35)	
LN(Income_per_cap)	0.8088***	
	(4.22)	
LN(Pop)	0.6655***	
	(4.66)	
LN(GDP)	-0.4095***	
	(-3.28)	
Constant	-9.5123***	1.7262***
	(-4.12)	(42.90)
State fixed effect	Yes	No
Year fixed effect	Yes	No
State*year fixed effect	No	Yes
N	3,050,570	3,050,570
R^2	0.3040	0.3066

Table 5. Pay secrecy law and entrepreneurship

This table reports the effect of the adoption of pay secrecy law on the probability of individual being an entrepreneur. Dependent variable, *Entrepreneur*, is an indicator set to one if the individual is self-employed and zero otherwise. All models incorporate state and year fixed effects. Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Entrepreneur	Entrepreneur
	(1)	(2)
Pay secrecy	0.0067***	0.0068***
	(2.97)	(3.08)
Age	0.0033***	0.0033***
	(22.85)	(22.83)
Married	-0.0217***	-0.0217***
	(-21.63)	(-21.77)
College	0.0203***	0.0204***
	(7.54)	(7.52)
Male	0.0555***	0.0555***
	(30.96)	(30.89)
Race	-0.0038***	-0.0038***
	(-9.81)	(-9.72)
Unemp	0.0013**	
	(2.08)	
LN(Income_per_cap)	-0.0355	
	(-1.27)	
LN(Pop)	-0.0381*	
	(-1.69)	
LN(GDP)	0.0419**	
	(2.24)	
State fixed effect	Yes	
Year fixed effect	Yes	
Constant	0.3695	-0.0767***
	(1.00)	(-13.33)
N	3,050,570	3,050,570
R^2	0.0412	0.0412

Table 6. Dynamic effect of pay secrecy law

This table shows the dynamic effect of recognition of pay secrecy law on hourly wage and entrepreneurship. Dependent variables are entrepreneur indicator in column (1), and natural logarithm of hourly wage in column (2). Following Bertrand and Mullainathan (2003), we decompose the passage of pay secrecy law into separate time periods: *Year -1* is a dummy that takes the value of one in the one year before the passage and is zero otherwise; *Year 0* is a dummy that takes the value of one in the year of the passage and is zero otherwise; *Year 1* is a dummy that takes a value of one in the year after the passage and is zero otherwise. Finally, *Year 2*$^{+}$ is a dummy that takes the value of one for the second year after the passage and thereafter and is zero otherwise. All models incorporate state and year fixed effects and cluster standard errors by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Entrepreneur	LN (Wage)
	(1)	(2)
Year -1	-0.0014	0.0035
	(-0.40)	(0.23)
Year 0	-0.0001	-0.0020
	(-0.02)	(-0.14)
Year 1	0.0024	-0.0157**
	(0.77)	(-2.14)
Year 2+	0.0079***	-0.0375***
	(3.08)	(-3.58)
Age	0.0033***	-0.0013***
	(22.85)	(-4.88)
Married	-0.0217***	-0.1766***
	(-21.64)	(-25.30)
College	0.0203***	0.4479***
	(7.54)	(71.95)
Male	0.0555***	0.1444***
	(30.96)	(17.94)
Race	-0.0038***	-0.0039
	(-9.81)	(-1.46)
LN(Work)		0.1261***
		(27.32)
Unemp	0.0014**	0.0018
	(2.21)	(0.79)
LN(Income_per_cap)	-0.0308	0.4230***
	(-1.11)	(4.21)
LN(Pop)	-0.0365	0.2124**
	(-1.62)	(2.40)
LN(GDP)	0.0400**	-0.1022
	(2.15)	(-1.48)
Constant	0.3162	-4.5001***

	(0.86)	(-3.17)
State fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
N	3,050,570	3,050,570
R^2	0.0412	0.0921

Table 7. Determinants of pay secrecy law adoption

This table reports results from a Cox proportional hazard model examining the hazard of a state adopting the pay secrecy law. A "failure event" is the adoption of the pay secrecy law in a given state. States are excluded from the sample after they adopt this law. Explanatory variables are measured as of year t − 1. Standard errors are clustered at the state level. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

	(1)	(2)
State entrepreneurship	-21.6710	
	(-0.70)	
State wage		-0.2593
		(-1.32)
State college	14.1951	18.8765
	(0.96)	(1.37)
State white	5.6777	4.7517
	(1.00)	(0.79)
State male	2.4543	7.5722
	(0.15)	(0.45)
Unemp	0.2042	0.3221
	(0.85)	(1.12)
LN(Pop)	4.0125	5.1018
	(1.29)	(1.54)
LN(GDP)	-3.5062	-4.5360
	(-1.08)	(-1.32)
LN(Income_per_cap)	2.9098	6.7944
	(0.60)	(1.12)
Year fixed effect	Yes	Yes
N	2,067	2,067
Pseudo R^2	0.1384	0.1481

Table 8. Pay secrecy law and incorporated entrepreneurship

This table reports the effect of the adoption of pay secrecy law on the probability of individual being incorporated self-employed. Dependent variable, *Incorporate*, is an indicator set to one if the individual is incorporated self-employed and zero otherwise. The sample period is from 1988 to 2018. All models incorporate state and year fixed effects. Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Incorporate
Pay secrecy	0.0048**
	(2.11)
Age	0.0035***
	(27.58)
Married	-0.0256***
	(-19.45)
College	0.0175***
	(5.55)
Male	0.0562***
	(26.21)
Race	-0.0038***
	(-5.13)
Unemp	0.0009
	(1.62)
LN(Income_per_cap)	-0.0664***
	(-3.06)
LN(Pop)	-0.0199
	(-0.96)
LN(GDP)	0.0249
	(1.48)
State fixed effect	Yes
Year fixed effect	Yes
N	2,317,862
R^2	0.0413

Table 9. Role of pay discrimination

This table reports the effect of the passage of pay secrecy law on the probability of individuals being an entrepreneur with different levels of pay discrimination. In column (1), *Pay discrimination* is obtained from Equation (3), and *High pay discrimination* in column (2) is an indicator set to one if the pay discrimination is the top tercile group and zero otherwise. All models incorporate state and year fixed effects and cluster standard errors by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Entrepreneur	Entrepreneur
	(1)	(2)
Pay secrecy	-0.0016	-0.0072
	(-0.89)	(-1.36)
Pay secrecy*Pay Discrimination	0.0329***	
	(6.58)	
Pay secrecy*High Pay Discrimination		0.0054***
		(2.86)
Age	0.0033***	0.0033***
	(23.28)	(23.28)
Married	-0.0060***	-0.0060***
	(-23.65)	(-23.67)
College	0.0190***	0.0190***
	(6.78)	(6.78)
Male	0.0538***	0.0538***
	(30.74)	(30.75)
Race	-0.0039***	-0.0038***
	(-10.14)	(-10.14)
Unemp	0.0014**	0.0014**
	(2.23)	(2.26)
LN(Income_per_cap)	-0.0288	-0.0318
	(-1.05)	(-1.12)
LN(Pop)	-0.0358	-0.0367
	(-1.60)	(-1.59)
LN(GDP)	0.0395**	0.0412**
	(2.14)	(2.10)
Constant	0.3113	0.3335
	(0.85)	(0.89)
State fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
N	3,050,570	3,050,570
R^2	0.0421	0.0421

Table 10. Role of compensation

This table reports the effect of the adoption of pay secrecy law on the probability of individuals being an entrepreneur with different levels of compensation. Column (1) incorporates state and year fixed effects, and we additionally include year*state fixed effect in column (2). Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Entrepreneur	Entrepreneur
	(1)	(2)
Pay secrecy	-0.0336**	
	(-2.47)	
Pay secrecy*Ln(Wage)	0.0134**	0.0135**
	(2.31)	(2.31)
Ln(Wage)	-0.2055***	-0.2055***
	(-61.38)	(-61.48)
Age	0.0032***	0.0032***
	(37.34)	(37.29)
Married	-0.0139***	-0.0139***
	(-29.78)	(-29.78)
College	0.1110***	0.1108***
	(31.59)	(31.50)
Male	0.0880***	0.0880***
	(39.58)	(39.69)
Race	-0.0048***	-0.0047***
	(-5.48)	(-5.38)
Unemp	0.0019***	
	(4.89)	
LN(Income_per_cap)	0.0615***	
	(3.84)	
LN(Pop)	-0.0010	
	(-0.08)	
LN(GDP)	0.0243**	
	(2.34)	
Constant	-0.3682*	0.4425***
	(-1.78)	(66.12)
State fixed effect	Yes	No
Year fixed effect	Yes	No
State*year fixed effect	No	Yes
N	3,050,570	3,050,570
R^2	0.3778	0.3787

Table 11. Switch to entrepreneurship analysis

This table shows how the compensation affects the association between the recognition of pay secrecy law and the probability of individuals switching to entrepreneur. Dependent variable, *SWITCH*, is an indicator set to one if an individual switches from employee to self-employed and zero otherwise. Column (1) incorporates state and year fixed effects, and we additionally include year*state fixed effect in column (2). Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Switch	Switch
	(1)	(2)
Pay secrecy	-0.0038	
	(-1.57)	
Pay secrecy*LN(Wage)	0.0015**	0.0016**
	(2.13)	(2.11)
LN(Wage)	-0.0017***	-0.0017***
	(-5.50)	(-5.45)
Age	0.0001***	0.0001***
	(14.76)	(14.72)
Married	-0.0006***	-0.0006***
	(-8.28)	(-8.27)
College	0.0047***	0.0047***
	(12.13)	(12.11)
Male	0.0045***	0.0045***
	(16.33)	(16.47)
Race	-0.0003***	-0.0003***
	(-2.93)	(-2.91)
Unemp	0.0002	
	(1.65)	
LN(Income_per_cap)	-0.0014	
	(-0.37)	
LN(Pop)	-0.0074**	
	(-2.62)	
LN(GDP)	0.0047*	
	(1.89)	
Constant	0.0826	0.0077***
	(1.57)	(7.77)
State fixed effect	Yes	No
Year fixed effect	Yes	No
State*year fixed effect	No	Yes
N	2,728,716	2,728,716
R^2	0.0021	0.0032

Table 12. Role of college

This table reports the effect of the adoption of pay secrecy law on the entrepreneurial choice of individuals with and without college degree. *College* is an indicator set to one if the individual completes college degree and zero otherwise. Column (1) incorporates state and year fixed effects, and we additionally include year*state fixed effect in column (2). Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Entrepreneur	Entrepreneur
	(1)	(2)
Pay secrecy	0.0035	
	(1.30)	
Pay secrecy*College	0.0142**	0.0137**
	(2.23)	(2.17)
College	0.0154***	0.0151***
	(3.16)	(3.05)
Age	0.0033***	0.0033***
	(11.31)	(11.41)
Married	-0.0234***	-0.0234***
	(-31.14)	(-31.02)
Male	0.0557***	0.0557***
	(10.29)	(10.30)
Race	-0.0041***	-0.0042***
	(-3.81)	(-3.84)
Unemp	0.0013***	
	(3.02)	
LN(Income_per_cap)	-0.0520***	
	(-3.01)	
LN(Pop)	-0.0349**	
	(-2.44)	
LN(GDP)	0.0427***	
	(3.77)	
Constant	0.4635*	-0.0534***
	(1.93)	(-7.09)
State fixed effect	Yes	No
Year fixed effect	Yes	No
State*year fixed effect	No	Yes
N	3,050,570	3,050,570
R^2	0.0417	0.0433

Table 13. Role of majority

This table reports the effect of the passage of pay secrecy law on the entrepreneurship of majority and minority workers. Following Gao et al. (2020), *Majority* is an indicator set to one if an individual is a white male and zero otherwise. Column (1) incorporates state and year fixed effects, and we additionally include year*state fixed effect in column (2). Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Entrepreneur	Entrepreneur
	(1)	(2)
Pay secrecy	0.0015	
	(0.28)	
Pay secrecy*Majority	0.0099*	0.0115**
	(1.81)	(2.20)
Majority	0.0379***	0.0380***
	(8.21)	(8.03)
Age	0.0032***	0.0032***
	(14.35)	(14.44)
Married	-0.0065***	-0.0065***
	(-22.17)	(-22.32)
College	0.0146***	0.0143***
	(3.97)	(3.76)
Unemp	0.0015***	
	(2.96)	
LN(Income_per_cap)	-0.0389	
	(-1.46)	
LN(Pop)	-0.0370*	
	(-1.82)	
LN(GDP)	0.0492**	
	(2.49)	
Constant	0.3131	-0.0450***
	(0.97)	(-6.56)
State fixed effect	Yes	No
Year fixed effect	Yes	No
State*year fixed effect	No	Yes
N	3,050,570	3,050,570
R^2	0.0369	0.0383

Table 14. Alternative story: Panel A:bank deregulation

This table reports the effect of pay secrecy law on entrepreneurship after controlling bank deregulation. *Dereg* is the bank deregulation index constructed by Rice and Strahan (2010). All models incorporate state and year fixed effects. Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Entrepreneur
Pay secrecy	0.0061**
	(2.44)
Dereg	0.0020**
	(2.01)
Age	0.0033***
	(22.85)
Married	-0.0217***
	(-21.65)
College	0.0203***
	(7.51)
Male	0.0555***
	(30.98)
Race	-0.0038***
	(-9.74)
Unemp	0.0013**
	(2.12)
LN(Income_per_cap)	-0.0262
	(-0.95)
LN(Pop)	-0.0249
	(-0.96)
LN(GDP)	0.0336
	(1.64)
Constant	0.1704
	(0.43)
State fixed effect	Yes
Year fixed effect	Yes
N	3050570
R^2	0.0412

Table 14. Alternative story: Panel B: subsample analysis

This table reports the effect of the passage of pay secrecy law on hourly wage across subsamples. We assign the full sample into quintile groups based on hourly wage. Column (1) (column (5)) is the bottom (top) quintile. Dependent variable is the natural logarithm of hourly wage. All models incorporate state and year fixed effects. Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Group	1	2	3	4	5
Dependent variable	LN (Wage)	LN (Wage)	LN (Wage)	LN (Wage)	LN (Wage)
	(1)	(2)	(3)	(4)	(5)
Pay secrecy	0.0231*	-0.0027	-0.0005	-0.0032***	0.0052
	(1.76)	(-1.38)	(-0.58)	(-3.38)	(0.79)
Age	-0.0111***	0.0001***	0.0002***	0.0005***	0.0034***
	(-18.45)	(4.19)	(7.27)	(19.71)	(41.99)
Married	0.2676***	-0.0123***	-0.0086***	-0.0091***	-0.0384***
	(40.37)	(-18.38)	(-14.88)	(-15.81)	(-12.83)
College	-0.3554***	0.0174***	0.0194***	0.0244***	0.1601***
	(-19.54)	(19.60)	(32.46)	(33.43)	(44.60)
Male	-0.3427***	0.0067***	0.0106***	0.0165***	0.1347***
	(-28.11)	(7.61)	(13.28)	(33.83)	(62.82)
Race	0.0254***	-0.0007	-0.0008***	-0.0006***	-0.0018**
	(5.04)	(-1.42)	(-4.74)	(-4.99)	(-2.25)
LN(Work)	-0.0433***	0.0178***	0.0066***	-0.0007*	-0.1932***
	(-8.76)	(34.29)	(13.81)	(-1.72)	(-53.29)
Unemp	-0.0076***	0.0002	0.0001	0.0009***	0.0012
	(-2.83)	(0.82)	(0.44)	(3.69)	(1.07)
LN(Income_per_cap)	-0.3069**	0.0480***	0.0285***	0.0329***	0.0327
	(-2.33)	(4.37)	(3.41)	(3.02)	(1.03)
LN(Pop)	-0.0173	0.0163*	0.0106*	-0.0024	-0.0703**
	(-0.18)	(1.80)	(1.92)	(-0.30)	(-2.54)
LN(GDP)	-0.0803	-0.0139*	-0.0068	0.0033	0.0834***
	(-0.94)	(-1.87)	(-1.23)	(0.40)	(3.19)
Constant	5.7616***	1.5642***	2.1701***	2.5875***	4.4457***
	(3.35)	(9.86)	(21.26)	(18.95)	(10.14)
State fixed effect	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes
Cluster by state	Yes	Yes	Yes	Yes	Yes
N	610,311	610,174	610,271	609,866	609,948
R^2	0.2246	0.3544	0.4833	0.4559	0.1746

Table 15. Growth outcome

This table reports the effect of the adoption of pay secrecy law on the growth outcome of startup. Dependent variable, *Growth*, is the number of startups that achieve IPO or are acquired at a meaningful positive valuation within 6 years of registration. All models incorporate state and year fixed effects. Standard errors are clustered by state. t-statistics are in parentheses. Significance is indicated at the 10% (*), 5% (**), and 1% (***) levels.

Dependent variable	Growth
Pay secrecy	2.5470**
	(2.38)
Unemp	0.6560
	(1.31)
LN(Income_per_cap)	-3.3704
	(-0.27)
LN(Pop)	1.2013
	(0.19)
LN(GDP)	6.5308
	(1.38)
State fixed effect	Yes
Year fixed effect	Yes
N	1,444
R^2	0.8722

Appendix. Variable description

Variable	Description
Individual characteristics	
Wage (Hourly)	Annual wage divided by annual working hours, adjusted to 2000 dollar
Entrepreneur	An indicator set to one if the person is entrepreneur and zero otherwise
Age	Age of person
Married	An indicator set to one if the person is married
College	an indicator set to one if the person has completed college education
Male	An indicator set to one if the person is a male
Race	The race of the person
Work	Number of working weeks in a calendar year times usual working hours per week
Minority	An indicator set to one if the person is not a while male
State characteristics	
Pay secrecy	An indicator set to one if the state has adopted pay secrecy laws in given year, and zero otherwise
Unemp	The unemployment rate of a state
Income_per_cap	Annual personal income per capita in a given state
Pop	Population of a given state
GDP	Annual GDP of a given state
Pay Discrimination	Pay difference between whiles and others
High Pay Discrimination	An indicator variable that takes the value of one if the pay difference between white males and others calculated in 1981 is in the top tercile of all the firms, and zero otherwise
State entrepreneurship	The fraction of self-employed persons in each state
State wage	The average hourly wage in each state.
State college	The fraction of persons with college degree in each state.
State white	The fraction of white individuals in each state.
State male	The fraction of males in each state.