

# An empirical analysis of entrepreneurship in Mexico

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## Abstract

In this paper, we investigate the determinants of entrepreneurship in a developing country. To this end, we use the Mexican census data. Results show negative sign on the entrepreneur–employee women differential which implies that individuals choose self-employed status even though they are predicted to earn less than they could as employees.

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## 1. Introduction

Entrepreneurship is a relevant topic for different types of economies both for developed and for those that are developing. Its importance lies in the effects perhaps that entrepreneurs have on job creation, business environment and identifying new opportunities. But what determines an individual to be an entrepreneur? The framework of occupational choice models provides a tool to analyze the determinants of self-employment through the analysis of the expected utilities of earnings of entrepreneurs / employees.

The study of entrepreneurship in developing countries has been getting increasing attention in academic research. For some developing economies, patterns of entrepreneurship can take place in formal or informal economy.

The main objective of this paper is to investigate the determinants of the decision to be an entrepreneur or employee in Mexico. To achieve this, we use individual census data from 2010.

The motivation for this analysis has two parts. Firstly, this is the first empirical study on this issue for Mexico using micro data. Secondly, we have a unique set of data associated with the informal economy that allows us to analyze the effect of the informal economy in the decision to become an entrepreneur or employee.

The paper is organized as follows. In next section, we present the theoretical background standing behind our hypothesis. In section 3 gives a description of the census data used and the econometric methods applied to data analysis. We provide the results in section 4 and section 5 shows the conclusions.

## 2. Theoretical background

Research questions about entrepreneurship in economics have focused on the one hand on the determinants in a macroeconomic level (Acs and Audretsch 1988; Eeckhout and Jovanovic 2012; Evans and Jovanovic 1989; Kihlstrom and Laffont 1978). Studies results have shown that entrepreneurial activity has positive effects in employment creation, productivity, innovations and positive regional spillovers (Praag and Versloot 2007). On the other hand, in a microeconomic level there are papers which have analyzed, using the model of occupational choice, why an individual decides to be an entrepreneur or an employee, these studies focused on the role of the entrepreneurs to employee earnings differential have found empirical evidence suggesting that the probability of being entrepreneur depends positively of the expected entrepreneur to employee earnings differential (Dolton and Makepeace 2004; Evans and Leighton 1989; Rees and Shah 1986). Analysis of self-employed has provided support for a rational self-employed-employee choice

based on expected utility (Blanchflower and Oswald 1998; Congregado et al. 2014; Evans and Leighton 1989).

Occupational choice models has been framework for studying how an individual in the labor market decide whether to become entrepreneur or an employee (Ben-Shahar 2002; Earle and Sakova 2000; Eeckhout and Jovanovic 2012; Evans and Leighton 1989; Inci 2013; LeMaire and Schjerning 2007; Lucas 1978; Naudé 2009; Parker 1996). One of the researches more developed in the framework of occupational choice model is to measure the importance of restrictions on financial resources in the probability of being an entrepreneur. Evans and Jovanovic (1989) find that changes from wage employment to entrepreneur have more probability of the individual disposes of more assets. Similar line of research is considered by Evans and Leighton (1989), Evans and Jovanovic (1989), Blanchflower and Oswald (1990), Praag and Ophem (1995) and Holtz-Eakin et al. (1994) find empirical support for liquidity constraints.

Related to demographic variables, Holtz-Eakin et al. (1994) argue that age may be correlated with attitudes to risk and with other non-pecuniary aspects of entrepreneurship. Apprenticeship or former experience are found to be factors with a strong positive effect on individuals' propensity towards to be entrepreneur (Goedhuys and Sleuwaegen 2000). In the same way, results obtained by Levesque and Minniti (2006) find empirical evidence that young people are more likely to create new businesses than older ones. In contrast, Evans and Leighton (1989) find that experience and age is moderately independent in the probability of switching to entrepreneurship.

One of the potential determinants of entrepreneurship that has received most attention is the role played by education. Empirical evidence shows that the higher education increases the probability of being an entrepreneur compared with those with lower levels of education (Rees and Shah 1986). However, Poschke (2013) using data from the National Longitudinal Survey of Youth (NLSY79) finds that entrepreneurship rates are highest for people with high or low levels of education. Same result in found by Bell and Blanchflower (2010) demonstrating that self-employment is highest for individuals at the tails of the education distribution. When Taylor (1996) analyses the British Household Panel Study (BHPS), he observes too the effect of education in the entrepreneurship but this effect is relatively little.

The differences in the determinants of entrepreneurship between men and women have been studied. There is empirical evidence that the number of women has increased in recent decades, this has drawn the attention of researchers to find possible causes (Budig 2006a; Devine 1994a; Devine 1994b). From UK evidence, Cowling and Hayward (2000) find that when labor market conditions become more

severe, women tend to move from unemployment to self-employment. In the same line of research, Cowling and Taylor (2001) put attention in labour market transitions and using British Household Panel Survey (BHPS) they show that women entrepreneurs (without employees) have more education than male. This was less evident for job creating women, although a formal education effect was still apparent. Furthermore, Cowling and Taylor (2001) find that proportionately, three times as many male self-employed in 1991 had gone on to become job creating self-employed by 1995.

Strong gender effects on both entrepreneurial self-efficacy and intentions at the lower and higher secondary school level have been observed by Wilson et al. (2007) through interactions of gender with entrepreneurial self-efficacy and entrepreneurial career intentions. As we mentioned before, the human capital have a positive effect for female entrepreneurs (Budig 2006a; Coleman 2000; Coleman 2004). However, Dolton and Makepeace (1986) find that individual with a university degree, male earnings increase for married men, but for females no such effect was apparent. Research shows that women fertility has a strong impact upon women's propensity to switch from wage employment to self-employment. (Boden 1996).

Finally, a few papers have looked at the entrepreneurship from the illegal economy angle (Aidis and van Praag, 2007; Bennett 2010; Maloney, 2004) (Aidis and Van Praag 2007; Bennett 2010; Maloney 2004). The major conclusion stemming from this research is that illegal entrepreneurship experience serves as a source of entrepreneurial skills, which are fully transferable to legal businesses. Aidis and van Praag (2007) find that having previous illegal entrepreneurship experience augments significantly productivity of workers. Furthermore, Maloney (2004) shows that specifically for countries like Mexico working in an informal economy provides fair earnings opportunity and diminishes to some extent the negative effect of gender for female entrepreneurs. No less importantly, Bennett (2010) demonstrates that informal entrepreneurship "may be a stepping stone without which legality would never be achieved."

Informal economy is often characterized by not-for-growth orientation and thus dominated by small atomic enterprises with low investment and low return levels. In the same vein, Getz and Carlsen (2000) observe that specifically in the tourism sector, individuals invest mainly in small, no-growth oriented entrepreneurial endeavors, which often include family members and oscillate at the edge of informal economy. However, this is mostly true for highly developed economies and applies to a lesser extent to countries like Mexico.<sup>4</sup>

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<sup>4</sup> In our case large companies would be yet one more form of entrepreneurship and thus their presence in our sample should not bias our results in any significant way.

The informal economy plays an important role in developing countries allowing, as we mentioned above, for creation of jobs where otherwise no employment existed (Thomas et al. 2011; Williams and Nadin 2010).

In this paper we expect to find several stylized facts. Firstly, as Poschke (2013) and Bell and Blanchflower (2010), we expect a U-shaped relationship between the probability of being entrepreneur and education (**H1**). Following the direction of Boden (1996) and Parker (2008; 2009) we expect to find relevant differences between male and female with clearly disadvantaged position of women (**H2**). Finally, we introduce private health insurance as a proxy of personal assets. We expect to find a positive relationship between individuals who can afford private health and entrepreneurship (**H3**). Finally, due to we can observe those individuals working in the informal economy, we expect to see a positive relationship between the informal business arrangement and entrepreneurship (**H4**).

The following section explains in detail our modeling strategy and provides information of data used.

### 3. Methods and data

We use census data from INEGI. The model presented is estimated using cross-sectional data from the 2010. Census data categorizes individuals with a job as self-employed or as employee. We define entrepreneur (self-employed) considering as entrepreneurs only those individuals who are business owners with at least one employee in their companies (Blanchflower and Oswald 1990; Evans and Jovanovic 1989; Kirzner 1973; Knight 1921; Schumpeter 1950). We consider that is useful to distinguish self-employed who work alone from self-employed employers because they represent genuine entrepreneurship taking risks probably being entrepreneurs voluntarily (Earle and Sakova 2000). Our model is close to the models of choice of employment of Lucas (1978) and Kihlstrom and Laffont (1978) considering only one dimension of heterogeneity, considering as entrepreneurs who are more capable and less risk aversion<sup>5</sup>.

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<sup>5</sup> There is empirical evidence related to heterogeneous models in which entrepreneurial skills and abilities are included in the context of occupational choice Jovanovic, B. (1994). "Firm formation with heterogeneous management and labor skills." *Small Business Economics*, 6(3), 185-191. ROY, A. D. (1951). "SOME THOUGHTS ON THE DISTRIBUTION OF EARNINGS." *Oxford Economic Papers*, 3(2), 135-146. Cagetti, M., and De Nardi, M. (2006). "Entrepreneurship, frictions, and wealth." *Journal of political Economy*, 114(5), 835-870. (Roy 1951 , Jovanovic , 2006, Cagetti and De Nardi ; 2006). Furthermore, based on developments of the Lucas' Lucas, R. E. (1978). "On the Size and Distribution of Business

The model presented below is based on the representation of an employment status decision.

Let  $u_{i,s/e} = u_s^e - u_e^e$  (1) represent the utility of an individual "i" who decides whether to enterprise or search for a gainful employment. Let  $u_s^e$  be the expected utility from enterprising, while  $u_e^e$  be the expected utility from a gainful employment. We can denote the difference between these utilities as  $I_i^*$ , which is a latent variable that indicates the choice of individual  $i$  to become an entrepreneur or employee.

We observe that:

$$I_i = 1 \quad \text{if } I_i^* > 0$$

$$I_i = 0 \quad \text{otherwise}$$

Individual "i" will chose an alternative  $I_i = 1$  (enterprise) if his/her expected utility from this alternative is  $u_{i,s/e} = u_s^e - u_e^e > 0$ , and gainful employment otherwise (in this case  $I_i = 0$ ).

From  $u_{i,s/e} = u_s^e - u_e^e$  we can observe that:

$$u_s^e = E(w_s | X) = \text{Pr ob}(\alpha_1 \ln w_s + \beta_1 X + \varepsilon_s)$$

and

$$u_e^e = E(w_e | X) = \text{Pr ob}(\alpha_2 \ln w_e + \beta_2 X + \varepsilon_e)$$

Hence, individual "i" chooses to enterprise if:

$$u_{i,s/e} = \text{Pr ob}[\delta_1 (\ln w_s - \ln w_e) + \sigma_2 X + \varepsilon] > 0 \quad (3)$$

Where:

$I_i^*$  is a latent variable that indicates the choice of individual  $i$  to become an entrepreneur or employee.

$w_{ij}$  is the wage of individual  $i$ .

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Firms." *Bell Journal of Economics*, 9, 508-523. model research on occupational choice points out towards the heterogeneity of agents which should be embedded in the empirical analyses.

$\ln w_{ij}$  is the natural logarithm of the wages that individual  $i$  expects if he chooses employment status " $j$ ".

$X_i$  is a vector of individual characteristics that is thought to influence individual wage.

$\delta_1, \delta_2$  are vectors of parameters to be estimated.

$\varepsilon_i$  is the disturbance term.

Using expected utilities, the model describes the behavior of an agent with two regression equations and a criterion function. We assume individuals have two choices in the labor market, to become an entrepreneur or employee. This decision is described by the following equation:

$$I_i^* = \delta_1(\ln w_{1i} - \ln w_{2i}) + \sigma_2 X_i + \varepsilon_i$$

$$\ln w_{si} = X_i \beta_1 + \varepsilon_{si}$$

$$\ln w_{ei} = X_i \beta_2 + \varepsilon_{ei}$$

In decision models, the assumption often made is that the decision to become an entrepreneur or paid employed is endogenous to wages (LINK con la fórmula de arriba). The unobserved characteristics that influence the probability of choosing paid employment or self-employment may also influence wages that an individual gets once he is employed. To correct for selection bias in estimates of wages, we use simultaneous ML estimation (Lokshin and Sajaia 2004). The endogenous switching model described above can be estimated by structural probit method (Maddala 1983).

Model estimation uses data with individuals with a job that can be classified either as self-employed or as employee. We limit the age of our sample to the official working age in Mexico, which is between 15 and 67 years of age. The wages concept is after-tax wage per month. These were calculated from individual reported in the census data, transformed to wage per hour by using the reported information on average hours worked per week.

This paper uses as explanatory variables for the wage equations which include basic demographic variables such as gender, dummy for female allows to capture the fact that they earn less than males; age, age squared (Dunn and Holtz-Eakin 2000a; Evans and Leighton 1989; Holtz-Eakin et al. 1994; Unger et al. 2011). Experience (Gill 1988), experience squared, marital status (Holtz-Eakin et al. 1994) and religion are also included in wage equations. As a proxy of human capital we

consider education levels, according with human capital theory the variables related with personal qualities have been included in the wage equations (De Wit and Van Winden 1989; Dunn and Holtz-Eakin 2000b; Robinson and Sexton 1994; Unger et al. 2011).

We consider sector dummies in the wage equations (Bates 1995; De Wit and Van Winden 1989; Taylor 1996), sectors are introduced along with eleven other sector controls with wholesale and retail as the reference sector. But sector dummies are not included in the structural equation because we wanted to capture the probability of being an entrepreneur regardless of the sector to do so. Ethnicity (Bates 1995; Taylor 1996) as a dummy for indigenous people is included in the wage equation but not in the equations we use to explain the enterprise choice.

Three variables for house renting/ownership status, with ownership as the reference category and a proxy for liquid capital through dummy on private health insurance are considered in choice equation but not included in wage equations (REF).

We also introduce observed information on working in an informal economy (Aidis and Van Praag 2007; Bennett 2010; Maloney 2004). Variable informal economy is constructed on the basis of filter question included in the original census questionnaire which asks whether an individual worked last week and if so what was their major labor activity. In another question, INEGI (Mexican Central Statistical Office) asks whether an individual possessed a gainful employment last week. All those individuals who reported any type of job in the first question and at the same time claimed to be unemployed in the filter question are classified as working in the informal economy. This is a truly unique data, which allows us not only to see the determinants of entrepreneurship in the legal economy but also its informal counterpart. For this reason two structural equations were built, one includes the informal economy and the other not.

Table 1 presents summarize definitions of all explanatory variables used in our analysis.

[Table 1 about here]

Our analysis contains three stages. Firstly we estimate the reduced form probit equation. Second step is to specify wage equations for both employees and entrepreneurs which are used to predict the income of each state. Finally we estimate two structural probits using the difference in predicted wages. To see the effect of the informal economy, one of the models includes informal economy variable and the other does not.

Finally, Table 2 depicts the basic descriptive statistics for all explanatory variables.

[Table 2 about here]

In our sample we observe immediately that self-employment is more prevalent amongst males than females as creators of employment.

Next section discusses the estimation results of the reduced. Thereafter we will discuss the estimation results of the earnings equations and structural form equations. For each estimated equation the results are shown with and without informal economy.

## 4. Empirical results

The estimations results of the reduced form probit are presented in Table 3 where the dependent variable concerns the probability to become entrepreneur. The effect of age and marital status is positive in the probability to become entrepreneur. Having no education negatively influences on the probability of being an entrepreneur, except in women where the coefficient is not significant. The probability of being entrepreneur has a positive and significant relationship with education levels. Levels of studies, primary, lower secondary, higher secondary and university are significant and positive for the entire sample. Our results coincide with Rees and Shah (1986) and Gill (1988) for paid-employment. All sectors included in the analysis, except arts and sports, have a negative and significant effect in the probability of being an entrepreneur for total and men globally with respect to wholesale and retail sector. In the tourism sector only women are negatively affected in their probability of being entrepreneurs. The result for men is not significant.

[Table 3 about here]

Table 4 shows the estimation results of the earnings functions. In the total sample, experience has a significant negative effect on earnings of employees and maintains the same sign for earnings of women employed as the results found by de De Wit and Van Winden (1989).

Age is significant in the total sample but negatively related with entrepreneur's earnings and positive for employee earnings. Male earnings show the same behavior but when the values are estimated for women, age is significant and positive for employees but for entrepreneurs the coefficient is not significant.

As Taylor (1996) shows, the employee wage equation reveals the positive effect of marital status for the whole sample but in the case of entrepreneurs the coefficient is not significant.

As expected, the explanatory variables in the employee and self-employment earnings equations are related to human capital, in our case study levels are significant and show a positive relationship for each level of education. This result coincides with those reported by Gill (1988) for the UK, when he analyses self-employment wage equation. When we analyzed separately men and women, in the case of earnings of entrepreneurs (men and women) lower secondary is no longer significant. This result contrasts with Robinson and Sexton (1994) who find that for earnings, education is more important for entrepreneurs to employees.

The dummies that consider economic sectors show that the effects of all sectors are positively significant in earnings for both employees and entrepreneurs except Mining, water, gas and electricity supply sector in earnings of women entrepreneurs. Maybe is because commonly the Mining sector is a sector of male employment. The earnings of employed men are negatively related to the agricultural sector. Except for the sectors of construction and transport, Taylor (1996) found the same positive effect on wages when he analyzes sectors.

The income of both entrepreneurs and employees show that the fact of being indigenous has a negative and significant effect on their income unlike the results found by Fujii and Hawley (1991). Being Protestant influence negatively earnings of women entrepreneurs.

[Table 4 about here]

When informal economy is included in the earnings equations (Table 5) the results show the same levels of significance and the same signs in causal relations. However, the effect of informal economy on the earnings of entrepreneurs (total and women) is significantly negative. In return is significantly positive for earnings of employees (total, male and female). Maloney (2004) shows that specifically for countries like Mexico working in an informal economy provides fair earnings opportunity and diminishes to some extent the negative effect of gender for female entrepreneurs.

[Table 5 about here]

In the structural probit we observe that the positive and highly significant effect of the difference in predicted log wages indicates that the probability of being entrepreneur increases as expected entrepreneur wages increase relative to

employee wages (for the total sample and male). Like Taylor (1996) and Dolton and Makepeace (1990), this study finds that the coefficient of wage differentials for entrepreneurs/employees is positive and statistically significant. Rees and Shah (1986) find that the coefficient of the earnings difference term is positive too, although its significance is not strikingly high.

The probability of being an entrepreneur for the total sample is increased by 2.10% when considering wage differentials. Wage differentials have a greater effect on the probability of being an entrepreneur for men, increasing in 3.80%.

For the female on the contrary the effect is negative and highly significant (decreasing in 1.60%). This suggests two types of considerations regarding the female sample results; first it may be that the predicted wages do not adequately represent expected utilities of women over the life of the two types of work. On the other hand, it may be that the type of female entrepreneurship in a developing country is by necessity due to the difficulty of finding gainful employment in the labor market for women. This evidence makes us accept **H2**.

The welfare proxy indicates that the probability of being an entrepreneur is influenced positively by 5.40% at the total, 4.00% for women and 6.00% for men. This suggests that the level of wealth of individuals who can afford private health insurance favors entrepreneurship, therefore **H3** is accepted.

The returns from education are strongly evident; the effect of more education is to increase the probability of being entrepreneur. The results show that the probability of being an entrepreneur for the total sample increases progressively with levels of study: when passing from low secondary to higher secondary at a 0.20% and 1.10% respectively. Having additionally the university contributes positively by 3.80% in the probability of being an entrepreneur. A curious fact is when we observe to women that the low secondary coefficient is barely significant (at 10%), and that their probability of being entrepreneur increases far less than men with higher secondary (0.50% versus 1.60% for men) and university (0.90% versus 6.50% for men). We reject **H1**.

For female entrepreneurs the human capital plays an important role here mitigating the negative gender status (Budig 2006a; Coleman 2000; Coleman 2004). Recent empirical research on female entrepreneurship points towards a narrowing gender gap in start-up creation (Budig 2006b).

In the case of men with lower secondary completed increase by 0.30% the probability of being entrepreneur, 1.60% with higher secondary and by 6.50% when we consider university education. The data coincide with those found by Fujii and Hawley (1991) when they analyzed a sample of male heads of household's entrepreneurs.

Being married increases the probability of being an entrepreneur in a percentage of 1.00% (0.70% for female and 0.80% for male). Being Protestant increases the likelihood of being an entrepreneur for the total sample at 0.50% (0.20% for female and 0.50% for male) and the non-believer parameter is not significant. Living at home in another situation reduces the probability of being an entrepreneur at 0.80%. For men this variable reduces the probability of being an entrepreneur by 1.10%. Research suggests that home ownership is positively related to entrepreneurship in a short run (Blanchflower and Oswald 2013; Munch et al. 2006; Oswald 1999).

By sector of activity, we observe that nearly all of them are significant and generate a decrease in the probability of being an entrepreneur, such as agriculture (-0.60%), mining (-2.00%), construction (-1.40%), manufacturing (-1.70%), transportation (-1.80%), business activities (-1.90%), education (-2.90%), health (-2.00%) and administration (-2.10%). Moreover the decrease is higher in all the cases for the male than for the female, being especially striking in the mining (-1.10% female versus -2.50% male) and in the business activities (-0.80% female versus -2.20% male). The transportation parameter for the female is not significant.

The exceptions are arts & sports that significantly increase the probability of being entrepreneur (1.60%), especially for male (3.30% versus 0.60% for female, even if the female parameter is only significant at 10% confidence), and tourism that has a not significant parameter.

[Table 6 about here]

Observing further the results in Table 7, when the informal economy is included within the structural form equation does not significantly modify the results. The informal economy parameter is significant and increases the likelihood of being entrepreneur at 6.00% (total sample), 2.40% (female) and 2.20% (male). The difference in predicted wages shows the same positive relationship in the probability of being entrepreneur in the total sample (2.10%) and for men (3.80%). The negative effect observed in the female sample (-1.30%) is inferior to the observed parameter without the informal economy (-1.60%) and its significance level is also inferior (5% significance versus 1% without the informal economy); therefore **H4** is accepted.

[Table 7 about here]

The next section concludes our research and provides some policy implications that stem from it.

## 5. Conclusions

The aim of this paper is to shed light on the largely understudied topic of entrepreneurship in developing country.

The negative coefficient on the entrepreneur–employee women differential implies that individuals choose self-employed status even though they are predicted to earn less than they could as employees. Our point of view of this result is that many women entrepreneurs maybe cannot enter into labor market for jobs as employees and they decide become entrepreneurs out of necessity.

In an economy where practically more than 50% of the economic activity is informal some displaced women workers and new entrants may be forced to find a way in a residual sector of self-employment.

The evidence presented here shows that there are clear, and identifiable, differences between male and female entrepreneurs in terms of their respective endowments of human capital and their effects in the probability of being entrepreneur.

Hence, becoming entrepreneur seems to be the best option for higher educated persons but also for individuals who have received low levels of formal education.

Limitations: Unfortunately the census data are not specific enough information about the status parent's employment.

## 6. References

- Acs, Z. J., and Audretsch, D. B. (1988). "Innovation in Large and Small Firms: An Empirical Analysis." *The American Economic Review*, 78(4), 678-690.
- Aidis, R., and Van Praag, M. (2007). "Illegal entrepreneurship experience: Does it make a difference for business performance and motivation?" *Journal of Business Venturing*, 22(2), 283-310.
- Bates, T. (1995). "Self-employment entry across industry groups." *Journal of Business Venturing*, 10(2), 143-156.
- Bell, D. N. F., and Blanchflower, D. G. (2010). *Youth Unemployment: Déjà Vu?*, Institute for the Study of Labor (IZA).
- Ben-Shahar, D. (2002). "Theoretical and Empirical Analysis of the Multiperiod Pricing Pattern in the Real Estate Market." *Journal of Housing Economics*, 11(2), 95-107.
- Bennett, J. (2010). "Informal firms in developing countries: entrepreneurial stepping stone or consolation prize?" *Small Business Economics*, 34(1), 53-63.
- Blanchflower, D., and Oswald, A. J. (1990). "What Makes an Entrepreneur? Evidence on Inheritance and Capital Constraints." *National Bureau of Economic Research Working Paper Series*, No. 3252.
- Blanchflower, D., and Oswald, A. J. (2013). "Does High Home-Ownership Impair the Labor Market." *Peterson Institute for International Economics Working Papers*, 13(3).
- Blanchflower, D. G., and Oswald, A. J. (1998). "What Makes an Entrepreneur?" *Journal of Labor Economics*, 16(1), 26-60.
- Boden, R. J. (1996). "Gender and self-employment selection: An empirical assessment." *The Journal of Socio-Economics*, 25(6), 671-682.
- Budig, M. J. (2006a). "Gender, self-employment, and earnings." *Gender & Society*, 20(6), 725-753.
- Budig, M. J. (2006b). "Intersections on the road to self-employment: Gender, family and occupational class." *Social Forces*, 84(4), 2223-2239.
- Cagetti, M., and De Nardi, M. (2006). "Entrepreneurship, frictions, and wealth." *Journal of political Economy*, 114(5), 835-870.
- Coleman, S. (2000). "Access to capital and terms of credit: A comparison of men- and women-owned small businesses." *Journal of Small Business Management*, 38(3).
- Coleman, S. (2004). "Access to debt capital for women- and minority-owned small firms: does educational attainment have an impact?" *Journal of Developmental Entrepreneurship*, 9(2), 127-143.
- Congregado, E., Millán, J. M., and Román, C. (2014). "The emergence of new entrepreneurs in Europe." *International Economics*, 138, 28-48.
- Cowling, M., and Hayward, R. (2000). *Out of unemployment*: Research Centre for Industrial Strategy.
- Cowling, M., and Taylor, M. (2001). "Entrepreneurial women and men: two different species?" *Small Business Economics*, 16(3), 167-175.

- De Wit, G., and Van Winden, F. A. (1989). "An empirical analysis of self-employment in the Netherlands." *Small Business Economics*, 1(4), 263-272.
- Devine, T. J. (1994a). "Changes in wage-and-salary returns to skill and the recent rise in female self-employment." *The American Economic Review*, 84(2), 108-113.
- Devine, T. J. (1994b). "Characteristics of self-employed women in the United States." *Monthly Labor Review*, 117, 20.
- Dolton, P., and Makepeace, G. (2004). "Computer Use and Earnings in Britain." *The Economic Journal*, 114(494), C117-C129.
- Dunn, T., and Holtz-Eakin, D. (2000a). *Financial capital, human capital, and the transition to self-employment: Evidence from intergenerational links*. National bureau of economic research.
- Dunn, T., and Holtz-Eakin, D. (2000b). "Financial Capital, Human Capital, and the Transition to Self-Employment: Evidence from Intergenerational Links." *Journal of Labor Economics*, 18(2), 282-305.
- Earle, J. S., and Sakova, Z. (2000). "Business start-ups or disguised unemployment? Evidence on the character of self-employment from transition economies." *Labour economics*, 7(5), 575-601.
- Eeckhout, J., and Jovanovic, B. (2012). "Occupational choice and development." *Journal of Economic Theory*, 147(2), 657-683.
- Evans, D. S., and Jovanovic, B. (1989). "An Estimated Model of Entrepreneurial Choice under Liquidity Constraints." *Journal of Political Economy*, 97(4), 808-827.
- Evans, D. S., and Leighton, L. S. (1989). "Some Empirical Aspects of Entrepreneurship." *The American Economic Review*, 79(3), 519-535.
- Fujii, E. T., and Hawley, C. B. (1991). "Empirical aspects of self-employment." *Economics Letters*, 36(3), 323-329.
- Getz, D., and Carlsen, J. (2000). "Characteristics and goals of family and owner-operated businesses in the rural tourism and hospitality sectors." *Tourism Management*, 21(6), 547-560.
- Gill, A. M. (1988). "Choice of employment status and the wages of employees and the self-employed: Some further evidence." *Journal of Applied Econometrics*, 3(3), 229-234.
- Goedhuys, M., and Sleuwaegen, L. (2000). "Entrepreneurship and growth of entrepreneurial firms in Cote d'Ivoire." *The Journal of Development Studies*, 36(3), 123-145.
- Holtz-Eakin, D., Joulfaian, D., and Rosen, H. S. (1994). "Entrepreneurial Decisions and Liquidity Constraints." *The RAND Journal of Economics*, 25(2), 334-347.
- Inci, E. (2013). "Occupational choice and the quality of entrepreneurs." *Journal of Economic Behavior & Organization*, 92, 1-21.
- Jovanovic, B. (1994). "Firm formation with heterogeneous management and labor skills." *Small Business Economics*, 6(3), 185-191.

- Kihlstrom, R., and Laffont, J.-J. (1978). "A General Equilibrium Theory of Firm Formation Based on Risk-Aversion." *Journal of Political Economy*, 87, 719-748.
- Kirzner, I. M. (1973). *Competition and entrepreneurship*, Chicago: Chicago University Press.
- Knight, F. (1921). *Risk, Uncertainty, and Profit*, New York: Houghton Mifflin.
- LeMaire, D., and Schjerning, B. (2007). "Earnings, uncertainty, and the self-employment choice." *document de travail, Centre for Economic and Business Research*.
- Levesque, M., and Minniti, M. (2006). "The effect of aging on entrepreneurial behavior." *Journal of Business Venturing*, 21(2), 177-194.
- Lokshin, M., and Sajaia, Z. (2004). "Maximum likelihood estimation of endogenous switching regression models." *Stata Journal*, 4, 282-289.
- Lucas, R. E. (1978). "On the Size and Distribution of Business Firms." *Bell Journal of Economics*, 9, 508-523.
- Maloney, W. F. (2004). "Informality Revisited." *World Development*, 32(7), 1159-1178.
- Munch, J. R., Rosholm, M., and Svarer, M. (2006). "Are Homeowners Really More Unemployed?" *Economic Journal*, 116(514), 991-1013.
- Naudé, W. (2009). "Entrepreneurship, developing countries, and development economics: new approaches and insights." *Small Business Economics*, 34(1), 1-12.
- Oswald, A. (1999). "The Housing Market and Europe's Unemployment: A Non-technical Paper\*". City: Warwick University Warwick.
- Parker, S. C. (1996). "A Time Series Model of Self-employment under Uncertainty." *Economica*, 63(251), 459-475.
- Parker, S. C. (2008). "Entrepreneurship among married couples in the United States: A simultaneous probit approach." *Labour Economics*, 15(3), 459-481.
- Parker, S. C. (2009). *The Economics of Entrepreneurship*, Cambridge Cambridge University Press.
- Poschke, M. (2013). "Who becomes an entrepreneur? Labor market prospects and occupational choice." *Journal of Economic Dynamics and Control*, 37(3), 693-710.
- Praag, C. M., and Versloot, P. (2007). "What is the value of entrepreneurship? A review of recent research." *Small Business Economics*, 29(4), 351-382.
- Praag, C. v., and Ophem, H. V. (1995). "Determinants of willingness and opportunity to start as an entrepreneur." *Kyklos*, 48(4), 513-540.
- Rees, H., and Shah, A. (1986). "An empirical analysis of self-employment in the UK." *Journal of applied econometrics*, 1(1), 95-108.
- Robinson, P. B., and Sexton, E. A. (1994). "The effect of education and experience on self-employment success." *Journal of business Venturing*, 9(2), 141-156.
- ROY, A. D. (1951). "SOME THOUGHTS ON THE DISTRIBUTION OF EARNINGS." *Oxford Economic Papers*, 3(2), 135-146.

- Schumpeter, J. (1950). *Capitalism, Socialism, and Democracy*, New York: Harper and Row.
- Taylor, M. P. (1996). "Earnings, independence or unemployment: why become self-employed?" *Oxford Bulletin of Economics and Statistics*, 58(2), 253-266.
- Thomas, R., Shaw, G., and Page, S. J. (2011). "Understanding small firms in tourism: A perspective on research trends and challenges." *Tourism Management*, 32(5), 963-976.
- Unger, J. M., Rauch, A., Frese, M., and Rosenbusch, N. (2011). "Human capital and entrepreneurial success: A meta-analytical review." *Journal of Business Venturing*, 26(3), 341-358.
- Williams, C. C., and Nadin, S. (2010). "Entrepreneurship and Informal Economy: An Overview." *Journal of Developmental Entrepreneurship*, 15(04), 361-378.

**Table 1.** Variable definitions

Variable	Definition
Female	Female (d)
lnwages	Natural logarithm of wages
Age	Age
Age <sup>2</sup>	Age square
Experience	Age-Education-6
Experience <sup>2</sup>	Experience square
Married	Married (d)
Informal economy (IE)	Informal economy (d)
Basic	(d)
Primary	Primary education (d)
Lower secondary	Grade lower secondary education (d)
Higher secondary	Grade higher secondary education (d)
Tertiary	Degree (masters and doctorates included) (d)
Ownership	Ownership (d)
Renting	Pay rent form home (d)
Other arrangement	They live at home in another situation (d)
Agriculture	Sector: Agriculture (d)
Mining, water, gas and electricity supply	Sector: Mining, water, gas and electricity supply (d)
Construction	Sector: Construction (d)
Manufacturing	Sector: Manufacturing (d)
Wholesale & retail	Sector: Wholesale & retail (d)
Transportation and mail	Sector: Transportation and mail (d)
Business activities	Sector: Business activities (d)
Education	Sector: Education (d)
Health & welfare	Sector: Health & welfare (d)
Arts & sports	Sector: Arts & sports (d)
Administration	Sector: Administration (d)
Tourism	Sector: Tourism (d)
Private h. insurance	Private health insurance (d)
Catholic	Religion: Catholic (d)
Protestant	Religion: Protestant (d)
Non-Believer	Does not follow any religion (d)
Indigenous	Indigenous people (d)
Wage difference	Wage difference

(d) indicates a dummy variable.

**Table 2.** Descriptive statistics for the working sample

Variable	Obs	Mean	Std. Dev.	Min	Max
Entrepreneur	545144	0.034	0.180	0	1
lnwages	545144	3.178	0.734	-0.855	9.993
female	545144	0.305	0.460	0	1
Experience	545144	18.999	12.940	0	59
Experience ^2	545144	528.420	631.767	0	3481
Age	545144	34.535	11.634	15	66
Age^2	545144	1328.030	881.406	225	4356
Married	545144	0.642	0.480	0	1
Informal economy (IE)	545144	0.013	0.113	0	1
Basic	545144	0.034	0.182	0	1
Primary	545144	0.270	0.444	0	1
Lower secondary	545144	0.325	0.468	0	1
Higher secondary	545144	0.196	0.397	0	1
Tertiary	545144	0.175	0.380	0	1
Agriculture	545144	0.134	0.340	0	1
Mining, water, gas and electricity supply	545144	0.017	0.129	0	1
Construction	545144	0.123	0.328	0	1
Manufacturing	545144	0.170	0.376	0	1
Wholesale & retail	545144	0.133	0.340	0	1
Transportation and mail	545144	0.045	0.207	0	1
Business activities	545144	0.065	0.247	0	1
Education	545144	0.086	0.280	0	1
Health & welfare	545144	0.033	0.178	0	1
Arts & sports	545144	0.004	0.067	0	1
Administration	545144	0.141	0.348	0	1
Tourism	545144	0.049	0.215	0	1
Ownership	545144	0.790	0.407	0	1
Renting	545144	0.127	0.332	0	1
Other arrangement	545144	0.084	0.277	0	1
Private h. insurance	545144	0.019	0.136	0	1

Catholic	545144	0.877	0.328	0	1
Protestant	545144	0.079	0.270	0	1
Non-Believer	545144	0.044	0.204	0	1
Indigenous	545144	0.084	0.278	0	1

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**Table 3. Reduced form probit results**

	Informal economy not included			Informal economy included		
	Total	Female	Male	Total	Female	Male
Female	-0.131*** (0.009)			-0.150*** (0.009)		
Experience	-0.002 (0.002)	-0.010*** (0.004)	-0.002 (0.002)	-0.002 (0.002)	-0.010** (0.004)	-0.002 (0.002)
Experience^2	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)
Age	0.055*** (0.004)	0.056*** (0.008)	0.058*** (0.004)	0.058*** (0.004)	0.060*** (0.008)	0.059*** (0.004)
Age^2	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)
Married	0.181*** (0.009)	0.308*** (0.016)	0.120*** (0.011)	0.178*** (0.009)	0.285*** (0.016)	0.121*** (0.011)
No studies	-0.098*** (0.024)	-0.017 (0.055)	-0.123*** (0.027)	-0.097*** (0.024)	-0.009 (0.055)	-0.123*** (0.027)
Low secondary	0.063*** (0.012)	0.045* (0.027)	0.067*** (0.014)	0.064*** (0.012)	0.054** (0.027)	0.067*** (0.014)
Higher secondary	0.204*** (0.016)	0.140*** (0.033)	0.224*** (0.018)	0.205*** (0.016)	0.157*** (0.033)	0.223*** (0.018)
Tertiary	0.442*** (0.020)	0.341*** (0.041)	0.482*** (0.023)	0.439*** (0.020)	0.349*** (0.041)	0.480*** (0.023)
Agriculture	-0.390*** (0.014)	-0.632*** (0.053)	-0.308*** (0.015)	-0.384*** (0.014)	-0.631*** (0.054)	-0.308*** (0.015)
Mining, water, gas and electricity supply	-1.044*** (0.041)	-1.310*** (0.177)	-0.973*** (0.043)	-1.034*** (0.041)	-1.264*** (0.177)	-0.971*** (0.043)
Construction	-0.330*** (0.013)	-0.489*** (0.067)	-0.258*** (0.014)	-0.321*** (0.013)	-0.445*** (0.067)	-0.257*** (0.014)
Manufacturing	-0.389***	-0.542***	-0.323***	-0.380***	-0.511***	-0.322***

Transportation and mail	(0.012) -0.541***	(0.023) -0.635***	(0.014) -0.476***	(0.012) -0.532***	(0.024) -0.598***	(0.014) -0.474***
Business activities	(0.019) -0.516***	(0.075) -0.707***	(0.020) -0.428***	(0.019) -0.506***	(0.076) -0.675***	(0.020) -0.427***
Education	(0.016) -1.607***	(0.030) -1.546***	(0.019) -1.701***	(0.016) -1.589***	(0.030) -1.503***	(0.019) -1.698***
Health & welfare	(0.026) -0.847***	(0.037) -0.958***	(0.039) -0.762***	(0.027) -0.829***	(0.037) -0.916***	(0.039) -0.759***
Arts & sports	(0.024) 0.234***	(0.034) 0.079	(0.036) 0.296***	(0.024) 0.222***	(0.034) 0.050	(0.036) 0.292***
Administration	(0.037) -0.585***	(0.080) -0.930***	(0.042) -0.446***	(0.037) -0.576***	(0.080) -0.901***	(0.042) -0.444***
Tourism	(0.013) 0.011	(0.025) -0.073***	(0.015) 0.011	(0.013) 0.014	(0.025) -0.054**	(0.015) 0.011
Protestant	(0.015) 0.087***	(0.023) 0.122***	(0.021) 0.078***	(0.015) 0.087***	(0.023) 0.126***	(0.021) 0.077***
Non-believer	(0.013) 0.022	(0.025) 0.070*	(0.015) 0.011	(0.013) 0.023	(0.025) 0.080**	(0.015) 0.011
Indigenous	(0.017) -0.054***	(0.040) 0.104***	(0.019) -0.076***	(0.017) -0.057***	(0.040) 0.088**	(0.019) -0.076***
Informal economy	(0.015) -0.018*	(0.035) -0.019	(0.016) -0.020*	(0.015) 0.517***	(0.036) 0.696***	(0.016) 0.187***
Renting	(0.010) -0.219***	(0.021) -0.128***	(0.012) -0.243***	(0.023) -0.015	(0.031) -0.008	(0.039) -0.019
Other arrangement	(0.015) 0.666***	(0.032) 0.685***	(0.017) 0.658***	(0.010) -0.218***	(0.021) -0.129***	(0.012) -0.242***
Private insurance	(0.017) 0.666***	(0.034) 0.685***	(0.020) 0.658***	(0.015) 0.665***	(0.032) 0.684***	(0.017) 0.658***
Observations	545144	166083	379061	(0.017)	(0.034)	(0.020)

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table 4. Earnings equations (without informal economy)**

Variables	Total		Female		Male	
	Entrepreneurs	Employees	Entrepreneurs	Employees	Entrepreneurs	Employees
Female	-0.009 (0.018)	-0.053*** (0.002)				
Experience	0.001 (0.004)	-0.004*** (0.001)	0.004 (0.008)	-0.009*** (0.001)	0.000 (0.004)	-0.001 (0.001)
Experience^2	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Age	-0.021*** (0.007)	0.010*** (0.001)	-0.013 (0.017)	0.016*** (0.002)	-0.023*** (0.008)	0.008*** (0.001)
Age^2	0.000*** (0.000)	0.000*** (0.000)	0.000 (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Married	-0.019 (0.019)	0.065*** (0.002)	-0.007 (0.039)	0.126*** (0.003)	-0.022 (0.022)	0.030*** (0.002)
No studies	0.098** (0.048)	0.104*** (0.005)	0.022 (0.110)	0.137*** (0.012)	0.118** (0.054)	0.083*** (0.006)
Low secondary	0.044* (0.025)	0.012*** (0.003)	0.054 (0.057)	0.039*** (0.005)	0.037 (0.027)	0.008** (0.003)
Higher secondary	0.119*** (0.032)	0.132*** (0.004)	0.203*** (0.072)	0.160*** (0.007)	0.086** (0.035)	0.126*** (0.005)
Tertiary	0.332*** (0.042)	0.582*** (0.005)	0.434*** (0.092)	0.552*** (0.009)	0.284*** (0.047)	0.612*** (0.007)
Agriculture	0.181*** (0.028)	-0.010*** (0.003)	0.568*** (0.126)	0.093*** (0.010)	0.105*** (0.028)	-0.034*** (0.004)
Mining, water, gas and electricity supply	1.010*** (0.098)	0.355*** (0.007)	0.313 (0.487)	0.488*** (0.021)	0.995*** (0.099)	0.332*** (0.007)
Construction	0.374*** (0.026)	0.213*** (0.003)	0.657*** (0.144)	0.319*** (0.015)	0.309*** (0.027)	0.194*** (0.004)
Manufacturing	0.345***	0.091***	0.428***	0.042***	0.294***	0.111***

	(0.025)	(0.003)	(0.062)	(0.005)	(0.027)	(0.004)
Transportation and mail	0.505***	0.045***	1.319***	0.204***	0.410***	0.025***
	(0.041)	(0.005)	(0.170)	(0.015)	(0.041)	(0.005)
Business activities	0.680***	0.189***	0.794***	0.236***	0.618***	0.157***
	(0.033)	(0.004)	(0.082)	(0.006)	(0.035)	(0.005)
Education	1.212***	0.462***	1.133***	0.489***	1.252***	0.418***
	(0.080)	(0.004)	(0.148)	(0.006)	(0.108)	(0.006)
Health & welfare	0.723***	0.332***	0.779***	0.328***	0.652***	0.343***
	(0.055)	(0.005)	(0.105)	(0.007)	(0.070)	(0.009)
Arts & sports	0.614***	0.673***	0.461***	0.304***	0.628***	0.778***
	(0.062)	(0.013)	(0.143)	(0.026)	(0.068)	(0.015)
Administration	0.420***	0.146***	0.756***	0.212***	0.290***	0.099***
	(0.030)	(0.003)	(0.087)	(0.005)	(0.031)	(0.004)
Tourism	0.130***	0.055***	0.187***	0.051***	0.132***	0.071***
	(0.027)	(0.004)	(0.044)	(0.006)	(0.036)	(0.006)
Protestant	-0.034	-0.001	-0.090*	0.003	-0.012	-0.002
	(0.024)	(0.003)	(0.051)	(0.005)	(0.028)	(0.004)
Non-believer	0.042	0.030***	0.040	0.051***	0.038	0.024***
	(0.033)	(0.004)	(0.082)	(0.008)	(0.036)	(0.005)
Indigenous	-0.267***	-0.148***	-0.275***	-0.079***	-0.275***	-0.166***
	(0.030)	(0.003)	(0.075)	(0.006)	(0.032)	(0.003)
Observations	545144		166083		379061	

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table 5. Earnings equations (informal economy included)**

Variables	Total		Female		Male	
	Entrepreneurs	Employees	Entrepreneurs	Employees	Entrepreneurs	Employees
Female	-0.003 (0.019)	-0.055*** (0.002)				
Experience	0.001 (0.004)	-0.004*** (0.001)	0.005 (0.008)	-0.009*** (0.001)	0.000 (0.004)	-0.001 (0.001)
Experience^2	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Age	-0.022*** (0.007)	0.010*** (0.001)	-0.017 (0.017)	0.017*** (0.002)	-0.023*** (0.008)	0.008*** (0.001)
Age^2	0.000*** (0.000)	0.000*** (0.000)	0.000 (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Married	-0.020 (0.019)	0.065*** (0.002)	-0.017 (0.038)	0.124*** (0.003)	-0.023 (0.022)	0.030*** (0.002)
No studies	0.096** (0.049)	0.105*** (0.005)	0.011 (0.111)	0.139*** (0.012)	0.117** (0.054)	0.084*** (0.006)
Low secondary	0.044* (0.025)	0.011*** (0.003)	0.049 (0.058)	0.039*** (0.005)	0.037 (0.027)	0.008** (0.003)
Higher secondary	0.117*** (0.032)	0.131*** (0.004)	0.188*** (0.073)	0.159*** (0.007)	0.086** (0.035)	0.125*** (0.005)
Tertiary	0.329*** (0.042)	0.580*** (0.005)	0.411*** (0.093)	0.550*** (0.009)	0.284*** (0.047)	0.611*** (0.007)
Agriculture	0.184*** (0.028)	-0.010*** (0.003)	0.611*** (0.126)	0.093*** (0.010)	0.105*** (0.028)	-0.034*** (0.004)
Mining, water, gas and electricity supply	1.019*** (0.098)	0.357*** (0.007)	0.391 (0.485)	0.493*** (0.021)	0.995*** (0.099)	0.333*** (0.007)
Construction	0.375*** (0.026)	0.214*** (0.003)	0.668*** (0.144)	0.322*** (0.015)	0.309*** (0.027)	0.195*** (0.004)
Manufacturing	0.346***	0.092***	0.448***	0.045***	0.293***	0.111***

Transportation and mail	0.509*** (0.025)	0.046*** (0.003)	1.350*** (0.060)	0.207*** (0.005)	0.410*** (0.027)	0.025*** (0.004)
Business activities	0.682*** (0.041)	0.190*** (0.005)	0.824*** (0.171)	0.238*** (0.015)	0.618*** (0.041)	0.157*** (0.005)
Education	1.228*** (0.033)	0.463*** (0.004)	1.218*** (0.080)	0.492*** (0.006)	1.254*** (0.035)	0.419*** (0.005)
Health & welfare	0.728*** (0.079)	0.334*** (0.004)	0.828*** (0.143)	0.331*** (0.006)	0.653*** (0.108)	0.343*** (0.006)
Arts & sports	0.616*** (0.055)	0.671*** (0.005)	0.462*** (0.102)	0.300*** (0.007)	0.629*** (0.070)	0.777*** (0.009)
Administration	0.424*** (0.062)	0.147*** (0.013)	0.805*** (0.145)	0.214*** (0.026)	0.290*** (0.068)	0.099*** (0.015)
Tourism	0.128*** (0.030)	0.055*** (0.003)	0.184*** (0.084)	0.053*** (0.005)	0.132*** (0.031)	0.071*** (0.004)
Protestant	-0.034 (0.027)	-0.001 (0.004)	-0.098* (0.044)	0.003 (0.006)	-0.012 (0.036)	-0.003 (0.006)
Non-believer	0.041 (0.024)	0.030*** (0.003)	0.032 (0.052)	0.051*** (0.005)	0.038 (0.028)	0.024*** (0.004)
Indigenous	-0.267*** (0.033)	-0.148*** (0.004)	-0.278*** (0.083)	-0.080*** (0.008)	-0.275*** (0.036)	-0.166*** (0.005)
Informal economy	-0.228*** (0.030)	0.110*** (0.003)	-0.297*** (0.076)	0.127*** (0.006)	-0.068 (0.032)	0.085*** (0.003)
Observations	545144 (0.042)		166083 (0.067)		379061 (0.068)	

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01

**Table 6. Structural probit results**

	Informal economy (not included)			Informal economy (included)		
	Total	Female	Male	Total	Female	Male
Female (d)	-0.007*** (0.000)			-0.008*** (0.000)		
Experience	-0.000** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000** (0.000)	-0.000 (0.000)	-0.000 (0.000)
Experience^2	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)
Age	0.003*** (0.000)	0.001*** (0.000)	0.004*** (0.000)	0.003*** (0.000)	0.001*** (0.000)	0.004*** (0.000)
Age^2	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)
Married (d)	0.010*** (0.001)	0.007*** (0.001)	0.008*** (0.001)	0.010*** (0.001)	0.006*** (0.001)	0.008*** (0.001)
No studies (d)	-0.004*** (0.001)	-0.002 (0.001)	-0.007*** (0.001)	-0.004*** (0.001)	-0.002 (0.002)	-0.007*** (0.001)
Low secondary (d)	0.002*** (0.001)	0.002* (0.001)	0.003*** (0.001)	0.002*** (0.001)	0.002** (0.001)	0.003*** (0.001)
Higher secondary (d)	0.011*** (0.001)	0.005*** (0.001)	0.016*** (0.001)	0.011*** (0.001)	0.005*** (0.001)	0.016*** (0.001)
Tertiary (d)	0.038*** (0.003)	0.009*** (0.002)	0.065*** (0.007)	0.038*** (0.003)	0.009*** (0.002)	0.065*** (0.007)
Agriculture (d)	-0.016*** (0.001)	-0.007*** (0.001)	-0.017*** (0.001)	-0.016*** (0.001)	-0.007*** (0.001)	-0.017*** (0.001)
Mining, water,	-0.020***	-0.011***	-0.025***	-0.020***	-0.011***	-0.025***

gas and electricity supply (d)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Construction (d)	-0.014***	-0.006***	-0.015***	-0.014***	-0.006***	-0.015***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Manufacturing (d)	-0.017***	-0.008***	-0.019***	-0.017***	-0.007***	-0.019***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Transportation and mail (d)	-0.018***	-0.001	-0.022***	-0.018***	-0.002	-0.022***
	(0.001)	(0.006)	(0.001)	(0.001)	(0.005)	(0.001)
Business activities (d)	-0.019***	-0.008***	-0.022***	-0.019***	-0.008***	-0.022***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Education (d)	-0.029***	-0.018***	-0.031***	-0.028***	-0.017***	-0.031***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Health & welfare (d)	-0.020***	-0.011***	-0.023***	-0.020***	-0.011***	-0.023***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
Arts & sports (d)	0.016***	0.006*	0.033***	0.015***	0.005	0.032***
	(0.003)	(0.004)	(0.005)	(0.003)	(0.003)	(0.005)
Administration (d)	-0.021***	-0.013***	-0.021***	-0.020***	-0.013***	-0.021***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Tourism (d)	-0.001	0.000	-0.001	-0.001	0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Protestant (d)	0.005***	0.002**	0.005***	0.005***	0.003**	0.005***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Non-believer (d)	0.001	0.002	0.000	0.001	0.002	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

Informal economy				0.060*** (0.007)	0.024*** (0.006)	0.022*** (0.004)
Renting (d)	-0.002*** (0.000)	-0.001* (0.001)	-0.002*** (0.001)	-0.001*** (0.000)	-0.001 (0.001)	-0.002*** (0.001)
Other arrangement (d)	-0.008*** (0.001)	-0.003*** (0.001)	-0.011*** (0.001)	-0.008*** (0.001)	-0.003*** (0.001)	-0.011*** (0.001)
Private insurance (d)	0.054*** (0.002)	0.040*** (0.004)	0.060*** (0.003)	0.054*** (0.002)	0.040*** (0.004)	0.060*** (0.003)
Wage difference	0.021*** (0.006)	-0.016*** (0.005)	0.038*** (0.008)	0.021*** (0.006)	-0.013** (0.005)	0.038*** (0.008)
Observations	545144	166083	379061	545144	166083	379061
Pseudo $R^2$	0.133	0.173	0.121			

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Marginal effects

(d) for discrete change of dummy variable from 0 to 1

\* p<0.10, \*\* p<0.05, \*\*\* p<0.01