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Entrepreneurship and Economic Mobility: A Case Study of Bolivia

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Abstract

This paper studies the relationship between entrepreneurship, economic mobility and income class in one of the most informal countries in the world: Bolivia. We argue that entrepreneurs should be defined not only by the act of undertaking a business venture but also by the motivation to pursue a profit opportunity and show that both, tenure profiles and mobility premiums in hourly and monthly labor earnings, reveal that not all people who provide employment for themselves are pursuing a profit opportunity. On the contrary, most self-employed workers (own account and cooperative) began a business venture only to have a job and earn a living, and only for a handful self-employed workers who create at least one source of employment (employers), a salaried job in the formal sector is not unambiguously a superior alternative. Once we identify a set of "true" entrepreneurs, we use panel and pseudo panel data to analyze their economic mobility relative to other types of self-employed workers and to paid-employed workers. Our estimates of time (in)dependence parameters show that employers are much more mobile relative to other occupations in the labor income distribution but as mobile as salaried workers in the overall per-capita household income distribution. In other words, employers have, on average greater unpredictability of labor income but a more stable aggregate household income. Using this estimates to analyze their upward/downward positional mobility and their long run income-class we find that employers are much more likely to move upward and end-up in the upper class in both, labor and overall income distributions. Finally, we show that, despite their significantly different mobility patters, employers do not display striking differences is their socioeconomic profile relative to their counterparts in other types of self-employment except in two particular covariates: school attainment and wealth.

Keywords: self-employment, entrepreneurship, economic mobility, time dependence, positional mobility, income class, Bolivia.

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Contents

1 Introduction

Entrepreneurship - the act of organizing, managing, and assuming the risks of a business venture, has long been studied as a potential determinant of a country's capital accumulation, technological innovation, and sustained economic growth (Add REFERENCES). This paper studies another potential role of entrepreneurship, the promise of economic mobility in both, the labor market and the overall income distributions. In particular, we attempt to answer three specific questions: (1) How to define and identify "entrepreneurs" in household survey data?, (2) What is the level of entrepreneurs' economic mobility relative to alternative occupational choices?, and (3) What does it take to be an entrepreneur? The answers to these questions are not easy. First, there is no agrement in the literature on neither the definition nor the most appropriate measurement of entrepreneurial activity. The common practice of relying on measures of self-employment to proxy entrepreneurship often gives rise to misleading inference, particularly in developing countries where at least some forms of self-employment are nothing but a temporary shelter from unemployment where workers can earn some cash in preference to earn nothing. Second, there are some methodological challenges in the measurement of economic mobility with both, pseudo and panel data. Finally, individuals select into entrepreneurship based on unobserved variables such us skills and risk aversion so that we can only explore the association of observable covariates with occupational choices.

To tackle this issues we begin by analyzing alternative defining characteristics of entrepreneurs. From our point of view, entrepreneurs should be defined not only by the act of undertake a business venture but also by the motivation to pursue a profit opportunity. Analyzing tenure profiles and mobility premiums in hourly and monthly labor earnings we show that not all people who provide employment for themselves are pursuing a profit opportunity. Most self-employed workers (own account and cooperative) began a business venture only to have a job and earn a living. Only for a handful self-employed workers who create at least one source of employment (employers), a salaried job in the formal sector is not unambiguously a superior alternative. Once we identify a set of "true" entrepreneurs, we use panel and pseudo panel data to analyze their economic mobility relative to other types of self-employed workers and to paid-employed workers. Both panel and pseudo panel estimates give similar levels of average mobility levels once the measurement error problem in panel data is taken into account instrumenting past income with a prediction of permanent income. However, pseudo panel lack power to conduct a disaggregated analysis of mobility by the occupational choice. Our panel estimates of time (in)dependence show that employers are much more mobile relative to other occupations in the labor income distribution but as mobile as salaried workers in the overall per-capita household income distribution; results that suggest that employers have greater unpredictability of labor income but a more stable aggregate household income. Using this estimates to analyze their upward/downward positional mobility and their long run income-class we find that employers are much more likely to move upward and end-up in the upper income-classes in both, labor and overall income distributions. Finally, we show that, despite their significantly different mobility patters, employers do not display striking differences is their socioeconomic profile relative to their counterparts in other types of self-employment except in two particular covariates: school attainment and wealth.

To the best of our knowledge, studies on the relationship between entrepreneurship and economic mobility are scarce and new in developed countries and nonexistent in developing countries. In the case of the US, the empirical evidence have found mixed roles of entrepreneurship in intragenerational economic mobility and significant differences by subpopulations. For example, Hamilton (2000) finds that self-employed men, on average, have lower initial

earnings and earnings growth than their paid-employed/salaried counterparts. Holtz-Eakin et. al.(2000) show that self-employment leads to an increase in the earnings distribution for low income individuals but a decrease for high-income individuals. Fairlie (2004a) finds that self-employed less-educated young men and women experience faster earnings growth on average than their paid-employed/salaried counterpart after a few initial years of slower growth; and Fairlie (2004b) finds that young self-employed black and hispanic men have greater earnings over time than their minority paid-employed/salaried counterparts after slower initial earnings.

The remaining of the document is organized as follows. Section 2 discuss alternative defining characteristics to define and identify entrepreneurs among the pool of self-employed in household survey data. Section 3, analyze the contribution of entrepreneurship to economic mobility using three alternative concepts: (1) mobility as (unconditional and conditional) time independence; (2) mobility as positional movement among income-classes; and (3) mobility as an equalizer force of long term incomes. Section 4 analyze the associated factor of "occupational choice" and selection into entrepreneurship. Finally, section 5 concludes.

2 Entrepreneurial Activity in Bolivia

2.1 Defining Entrepreneurship and Entrepreneurs

Entrepreneurship is the act of being an "entrepreneur", i.e. the act of undertake a business venture[1]. Since undertaking a business venture is related to many aspects, neither past nor contemporary literature has arrived at a consensus on the most appropriate way of defining entrepreneurs. In the 17th century R. Cantillon identified *the willingness to bear the personal financial risk of a business venture* as the defining characteristic of an entrepreneur. In the 18th century, J.B. Say and J.S. Mill popularized the academic usage of the word "entrepreneur". Say stressed the role of entrepreneurs in *creating value by moving resources out of less productive areas and into more productive ones*. Mill stressed his role in *assuming both the risk and the management of a business* distinguishing between an entrepreneur and shareholders of a corporation who assume financial risk but do not actively participate in the day-to-day operations or management of the firm. In the 20th century J. Schumpeter defined entrepreneurs as *innovators who implement change in an economy by introducing new goods or new methods of production that result in the obsolescence or failure of others, i.e the main force of a beneficial process of creative destruction*; while Kirzner focused on entrepreneurship as *a process of discovery of previously unnoticed profit opportunities*.

Contemporary authors (e.g. OECD, 1998a; Van Praag, 1999; Lumpkin and Dess, 1996; Bull and Willard, 1993) have emphasized the multidimensional character of entrepreneurship, so in practice its definition will largely depend on the theoretical perspective and the focus of the research undertaken. An entrepreneur fulfill different functions. Heebert and Link (1989) distinguished between the supply of financial capital, innovation, allocation of resources among alternative uses and decision-making and propose to define entrepreneurs as "someone who specializes in taking responsibility for and making judgmental decisions that affect the location, form, and the use of goods, resources or institutions". Wennekers and Thurik (1999) focus on "the perception of new economic opportunities and the subsequent introduction of new ideas in the market". Finally, Sahlman and Stevenson (1991) distinguished between entrepreneurs and managers, and define entrepreneurship as "a way of managing that involves

[1] In fact, the word "entrepreneur" originates from the French verb, *entreprendre*, meaning "to do something" or "to undertake"

pursuing opportunity without regard to the resources currently controlled. Entrepreneurs identify opportunities, assemble required resources, implement a practical action plan, and harvest the reward in a timely, flexible way".

Although we do believe that all persons that identify and pursue a profit opportunity organizing, managing, and, fundamentally assuming the risks of a business venture should be considered as entrepreneurs, we do not belive this apply to all people who provide employment for themselves. It is not the same to leave a formal job and face high opportunity costs to become an entrepreneur pursuing a profit opportunity than to become self-employed only to have the opportunity to have a job and earn a living. This distinction is particularly important in developing countries -such as Bolivia, where social protection systems are inexistent or weak, and people *need* to start some kind of business as quickly as they can instead of being waiting for "the right" opportunity while collecting welfare or unemployment insurance. Using the terminology of *The Global Entrepreneurship Monitor* (GEM) program, there might be not only *Opportunity-driven* entrepreneurs but also *Necessity-driven entrepreneurs*[2]. The big question is how to identify entrepreneurs from the pool of self-employed workers.

2.2 Paid-employment and Self-Employment Earnings Profiles

One way to discriminate between self-employed workers who began a bussiness venture to pursue a profit opportunity and those who began a bussiness venture just to have a job opportunity is to examine the labor earnings tenure profiles of different types of self- and paid-employment. In order to do that, we discriminate between three types of self-employed (SE) workers and two types of paid-employed (PE) workers. SE workers were classified according to the type of ownership of the business venture in: *own account workers*, SE workers who provide employment only for themselves[3]; *cooperative workers*, SE workers who operate a venture in association with somebody without hiring additional labor[4]; and *employers* SE workers who operate the venture alone or in association with somebody and hire at least one worker[5]. PE workers were classified depending on whether they contribute or not to social security into: *formal* and *informal*.

Figure 1 presents montly labor earnings tenure profiles for each type of worker. The tenure-labor earnings were constructed for an average productivity worker with 10 years of potential experience based on labor earnings equations[6]. The mean earnings profile (panel a), reveals that only employers' expected montly earnings is not unambiously lower than those in a formal job. All other types of self-employment exhibit unambiguosly lower earnings. In fact, the earnings profile of own account workers is unambigously lower earnings than any other type of SE or PE. Given the rigth skewness of the labor income distribution we also present.10, .25,

[2]In fact, the GEM program identify the first as those who "claim" to be driven by opportunity, as opposed to finding no other option for work, and indicate the main driver for being involved in self-employment is this opportunity of being independent or of increasing their income, rather than just maintaining their income; and identify the second as those who "claim" to be involved in entrepreneurship because they had no other option for work

[3]We exclude from this group unpaid family workers, business owners in the agricultural sector and salaried workers operating a side business as a secondary work activity

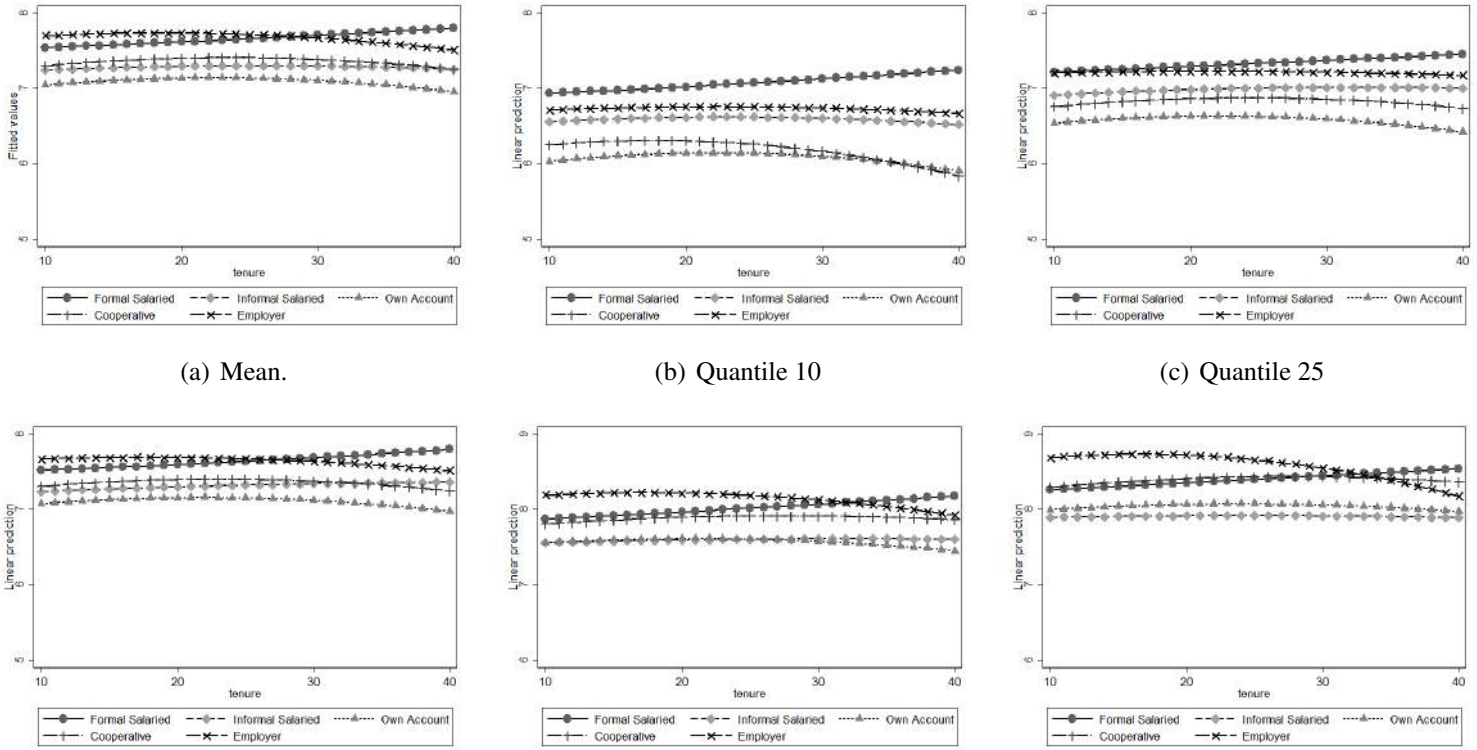
[4]We identify the*cooperative* SE worker as those self-employed who work in a firm size of at least two and do not declare themselves as employers.

[5]We identify the*employers* SE workers as those self-employed who work in a firm size of at least two and declare themselves as employers.

[6]Labor earnings equations include, as explanatory variables, quadratics in potential labor market experience and on the job tenure, i.e. the lengthof the current tenure spell with the employer or the business, as well as individual productivity controls such as indicators of school attainment, sex and ethnicity

.50, .75 and .90 quantile earnings profile. The lower decile and quartile profiles (panels b and c) show that formal PE earnings are unambigous higher than all types of self-employment (own-account, cooperative and employers); the median and upper quartile profiles (panels d and e) show that formal PE earnings are unambiously higher than own-account and cooperative SE but not to employers; finally, the upper decile profile show that formal PE earnings are unembigously higher than own-account SE, similar to those in cooperative SE and lower than employers. Figure 2 presents hourly labor earnings profile for each type of worker. Once the number of hours worked are taking into account, a formal job has unambigously higher earnings than all typpes of self-employment not only at the lower decile and quartile but also at the median (panel b, c and d; respectively). Again, only at the upper quartile and decile, employers' earnings compite with those of a formal job. Therefore, abstracting from selection issues, our tenure-labor earnings profiles can not reject the hypothesis that most SE workers would prefer to switch to a job in the formal sector.

Figure 1. Monthly Labor Earnings Profiles by Tenure.

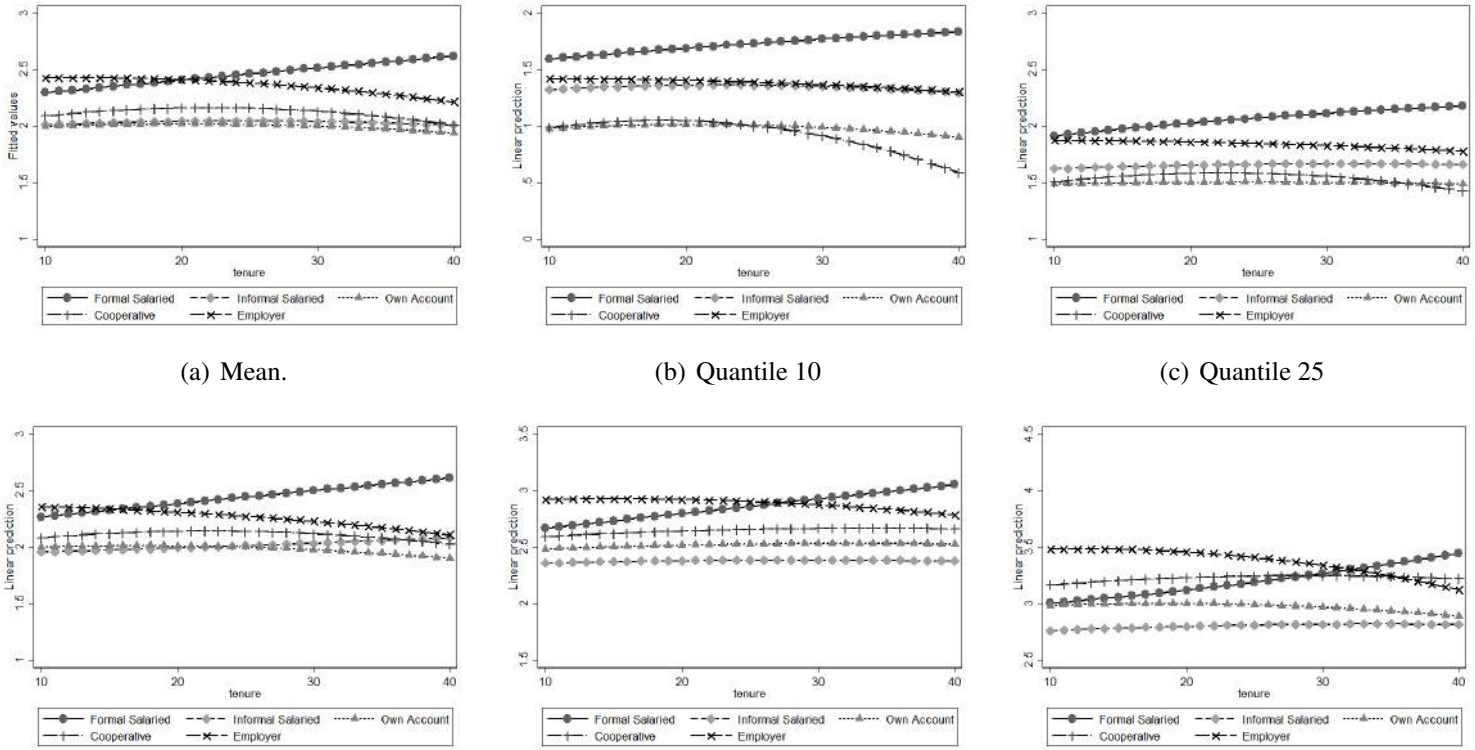


(a) Mean. (b) Quantile 10 (c) Quantile 25

(d) Quantile 50 (e) Quantile 75 (f) Quantile 90

Source: Author's calculations based on Fundacion ARU set of harmonized surveys.
Sample: 18 to 65 years old.

Figure 2. Monthly Wage Profiles by Tenure.



(a) Mean. (b) Quantile 10 (c) Quantile 25

(d) Quantile 50 (e) Quantile 75 (f) Quantile 90

Source: Author's calculations based on Fundacion ARU set of harmonized surveys.
Sample: 18 to 65 years old.

2.3 Mobility Premiums

It is unlikely that individuals choose some types of self-employment despite a stream of future returns lower than that available as a formal paid employee. However, some may argue that such differences might be consistent with a theory of compensenting wage differentials, where self-employed receive substantial non-pecuaniary benefits, such as "being their own boss". To discard such hypothesis - and confirm that a formal job is a superior alternative to most types of self-employment, we examine the mobility premium of those who move out of SE to PE. Notice that, if differences in labor earnings were compensated by differences in nonpecuniary aspects of self-employment, SE workers who return to PE would not be penalized, i.e. the "entry" wage in PE of movers out of SE would be similar to those already in PE. Table 1 presents estimated mobility coefficients from both, hourly and montly, earnings regressions. Panels A and B present the PE exit and entry hourly and monthly wages, respectively. Panels C and D present the SE exit and entry hourly and montly earnings, respectively. Given the rigth skewness of the labor income distribution we not only present mean estimates (column 1) but also .25, .50, and .75 quantile estimates (column 2, 3 and 4).

Notice that, for both, PE and SE, *exit* hourly and montly earnings are significantly lower compare to those than remain in PE or SE, respectively. On the one hand, movers out of PE into SE have exit hourly and montly wages lower, on average, than those remaining in PE in 14 and 20 percent, respectively. The penalty for movers out of the PE into SE is constant in different parts of the hourly wages distribution, but significantly higher (22 percent) for the lower quartile relative to those in the median and upper quartile (14 pencent). Disagregating the results by destination, we observe that only movers out of PE into employer SE are not significantly different from those who remain in PE; movers into own account SE and cooperative SE exhibit aboce average penalties. On the other hand, movers out of SE into PE have exit hourly and montly wages lower, on average, than those remaining in SE in 14 and 21 percent, respectively. Again, the penalty for movers out of the SE into PE is constant in different parts of the hourly wages distribution, but significantly higher (25 percent) for the lower quartile relative to those in the median and upper quartile (16 pencent). Disagregating the results by destination, we observe that only movers out of SE into informal PE are penalized; hourly and montly exit earnings of movers out of SE into formal PE are not significantly different from those who remain in SE.

Notice also that, while PE *entry* montly wages are significantly lower, SE *entry* hourly and montly earnings are significantly higher. On the one hand, movers out of SE into PE, on average, does not exhibit significant differences in hourly earnings relative to those already in PE but they do exhibit 8 percent lower montly earnings, only at the lower quartile and median, relative to those already in PE. Dissagregating the results by sector of origin we observe that movers from own account SE, netiher those from cooperative SE nor those from employer SE, are the ones with penalties in their entry wages. Relative to those already in the PE sector, own account SE workers receive, on average, 15 percent lower hourly wages and 20 percent lower montly wages. Notice that the penalties at the lower quartile of the labor income distribution are significantly higher 18 percent in the hourly wages and 24 percent in montly wages. Interestingly, employers in the upper quartile in montly wage distribution receive a premium of 15 percent. On the other hand, movers out of PE into SE, on average get higher hourly and montly earnings, on average, relative to their counterparts already in self-employment.

2.4 Entrepreneurial Activity in Bolivia

This diverse set of definitions have derived in an equally diverse set of measures of the level of entrepreneurial activity. Final counts usually vary depending not only on the level of analysis but also on the definition of who are the entrepreneurs. For example, in the case of Bolivia, the level and trend of entrepreneurial activity depend on whether we focus on individual levels of activity such as self-employment or firm levels activity such as the *World Bank Group Entrepreneurship Survey* (WBGES) *formal business entry rate*[7] or *formal business density rate*[8] (The World Bank Group, 2007).

If not all SE workers should be considered entrepreneurs then common measures of entrepreneurial activity are seriously overestimated, including the GEM measure. To proxy the size and importante of entrepreneurial activity in terms of both Table 2 presents some share statistics calculated from the sample of people living in urban areas between 18 to 65 years old extracted from *Fundacion ARU*'s harmonized set of household surveys. Panel A and B present the importance of entrepreneurial activity in total employment and total hours worked, respectively. Panel C presents the share of labor income accounted by entrepreneurs. Our results show that, contrary to what other studies have suggested (INCLUDE REFERENCES SUCH AS MPD-1 MPD2), Bolivia has two few entrepreneurs. Only

3 Entrepreneurs Excess Mobility

Once we define entrepreneurs, the next step is to analyze the relationship between entrepreneurial activity and economic mobility. Economic mobility studies the transformation of an initial income vector into one or more subsequent vectors while keeping track of the identity of the recipient units. Within this approach, thee broad conceptions of mobility exists: mobility as time independence, mobility as movement in incomes, shares or position, and mobility as an equalizer force of long term incomes. It is important to notice that each of this concepts of economic mobility capture very different aspects of mobility. In this section, we explore the relationship between the different types of entrepreneurs and economic mobility measured in three specific ways: (1) time (in)dependence, (2) positional movement among income-classes, and (3) long term (or stationary) income-class distributions. First, we present the concepts and measures. Next we present the data and samples. Finally, we describe the results. It is important to bear in mind that the estimation of entrepreneurs' excess mobility under these three concepts entails some methodological complications. To focus the discussion on the results we present the details of the estimation in a methodological appendix at the end of the paper.

3.1 Defining and Measuring Economic Mobility

3.2 Time Dependence

The most common measure of economic mobility is time independence, i.e. the degree to which individual's economic fortune in the past determines his economic fortune in the present. Under this framework, one can measure economic mobility by the coefficient of a Galtonian regression[9]. Since we are interested in estimating entrepreneurs' excess time dependence, we

[7] The number of new firms officially registered in the current year as a percentage of lagged total register firms

[8] The number of registered firms as a percentage of the active population 15 to 64 years old.

[9] The Galtonian regression is defined as $y_t = \alpha + \rho y_{t-1} + v_t$; where y_t corresponds to the income distribution vector in time t, y_{t-1} corresponds to the income distribution in time $t-1$, and v_t is a residual vector

can modify the regression to include interactions of the constant and the slope with dummies of different type of entrepreneurs. More formally,

$$y_{i,t} = \alpha + \rho y_{i,t-1} + \sum_j \gamma_j E_j * y_{i,t-1} + \sum_j \delta E_j + v_{i,t}, t = 1, 2, ..., T \quad (1)$$

where $y_{i,t}$ is the income of individual i at time t, E_j a dummy for type j entrepreneurs, and $v_{i,t}$ a disturbance term. The parameter rho measures the degree of time dependence of the income vector for non-entrepreneurs. The closer is the value of the coefficient to $+1$, the more positive time dependence there is; the closer is the value of the coefficient to -1, the more negative time dependence there is; finally, the closer is the value of the coefficient to 0, the more time independence there is. The parameters $\gamma_j, j = 1, 2..., J$ measure the degree of excess time dependence of the income vector for type j entrepreneurs. Positive coefficients would indicate that type j entrepreneurs have more time dependence (less mobility) than non-entrepreneurs; negative coefficients would indicate that type j entrepreneurs have less time dependence (more mobility) than non-entrepreneurs; and cero (or non-significant) coefficients would indicate that type j entrepreneurs have similar levels of time dependence and mobility.

Before proceeding to our next measure of economic mobility it is important to stress out two pints. First, notice that observing more mobility is not necessary better for the society. The socially optimum level of rho would involve a trade-off between the degree of aversion to inequality (which favors lower values of rho) and a degree of aversion to unpredictability of income (which favors values of rho closer to one). Second, a consistent measurement of rho is needed to assess the degree of mobility. As detailed in the methodological appendix, consistent estimates are not easily obtained. On the one hand, panel data estimators may be bised due to attrition an measurement problems. On the other hand, pseudo panel data may not have sufficient power to obtained precise estimates, in particular for excess mobility coefficients.

Coefficient ρ in equation 11 can also be interpreted as a measure of *unconditional* convergence in incomes through time. A value of rho equal to one indicates that incomes move in step, with no convergence of incomes. If ρ is greater than one, there is divergence; and if ρ is less than one, there is convergence. Under this context, it might be useful to estimate whether there is *conditional* convergen in incomes through time. If we modify equation 11 to include observable covariates the modify coefficients would indicate whether there is convergence **within** specific groups defined by the included covariates. More formally, we would estimate the following model,

$$y_{i,t} = \alpha^C + \rho^C y_{i,t-1} + \sum_j \gamma^C E_j * y_{i,t-1} + \sum_j \delta^C E_j + \beta x_{i,t} + \omega_{i,t}, t = 1, 2, ..., T \quad (2)$$

where the supra-index C denotes coefficients conditional on observed covariates $x_{i,t}$, β measures the contribution to income of such covariates, and ω is a new disturbance term.

As noticed by Atman and Mckenzie (2005), the concept of unconditional mobility, which tell us the extent to which individuals move around the overall income distribution, corresponds more closely to the idea that mobility can lower lifetime inequality. In contrast, the concept of conditional mobility, which tell us whether individuals move around relative to other individuals with the same observed covariates, relates more to the flexibility and efficiency of the labor market.

3.2.1 Positional Mobility Between Income-Classes

As stress out before, the analysis of time dependence tell us only the degree of (in)mobility of an income processes. It does not tell us anything about the type of mobility, i.e. whether people

are more likely to ascend or to descend along the overall income distribution or along different economic strata. A natural complement to an analysis of time dependence is an analysis of positional mobility, i.e. the degree to which the individualÂ´s position in the income distribution in the past determines his position in the present. To simplify our explanation let us assume that individuals can be divided into three income-classes: lower (L), middle (M) and upper (U). Then mobility within income classes can be perfectly described by an origin-destination transition matrix $Q = \{q_{C_{t-1},C_t}\}$,

$$Q = \begin{bmatrix} & Lower(L) & Middle(M) & Upper(U) \\ Lower(L) & q_{LL} & q_{LM} & q_{LU} \\ Middle(M) & q_{ML} & q_{MM} & q_{MU} \\ Upper(U) & q_{UL} & q_{UM} & q_{UU} \end{bmatrix} \tag{3}$$

Matrix Q rows identify origen's income stratum, while columns identify destination's income stratum. Each element of the diagonal give us the probability that an individual stays in the same class he was observed in the past, while each element off the diagonal q_{C_{t-1},C_t} give us the probability that an individual transits from class C_{t-1} to class C_t.

3.2.2 Steady State Simulations

A third concept of economic mobility is as an equalizer of long term incomes. Notice that, once the origin-destination transition matrix have been estimated, it is easy to do some steady state calculations. Defining the steady state as the situation in which the flows in-to and out-of a given income class are the same, we can easily calculate the stationary (long term) share of people in each income-class by solving the following system of equations,

$$(q_{LM} + q_{LU}) \cdot L = q_{ML} \cdot M + q_{UL} \cdot U \tag{4}$$
$$(q_{ML} + q_{MU}) \cdot M = q_{LM} \cdot L + q_{UM} \cdot U \tag{5}$$
$$(q_{UL} + q_{UM}) \cdot U = q_{LU} \cdot L + q_{MU} \cdot M \tag{6}$$

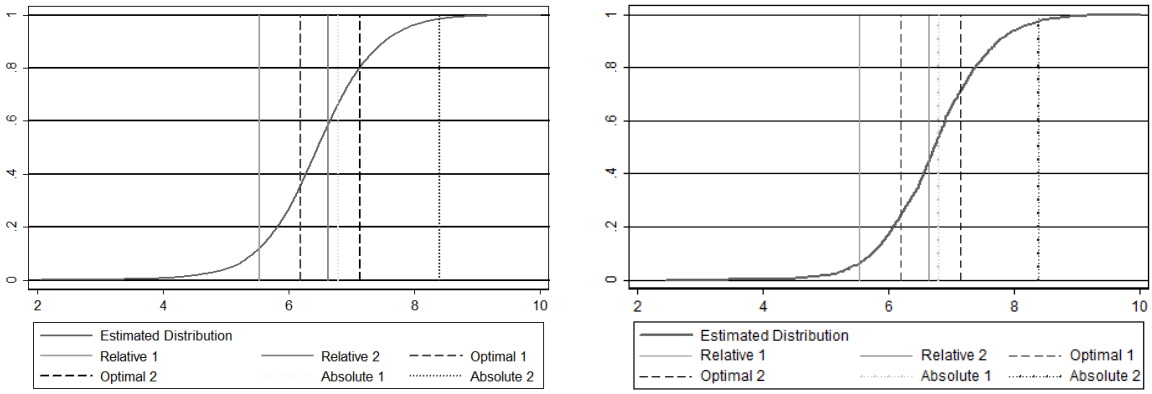
Notice that to the left of the equations we observe the flows out-of a given stratum; while to the right we observe the flows in-to that stratum. For example, in equation (4) the left hand side denotes the share of people moving out-of the lower class (i.e. the share of individuals in the lower class L times the probability of moving from the lower in-to the middle class q_{LM} plus the probability of moving from the lower in-to the upper class q_{LU}) and the right hand side the share of people moving in-to the lower class (i.e. the share of people in the middle class M times the probability of moving out-of the middle class x to the lower class q_{ML} plus the share of people in the upper class U times the probability of moving out-of the upper class into the lower class q_{UL}.

3.2.3 Income-Classes

Notice that, in order to estimate the transition probabilities in-to and out-of as well as steady state shares between income classes, it is necessary to determine cut-points that define the different income-classes. We define income-classes based on three alternative criteria. First, we follow (ADD references) and adopt an *absolute* income-class criteria, with cut-points defined at 10 and 50 PPP dollars per day. Second, we follow Davis and Huston (1992) and adopt a *relative* income class criteria that define the middle class as those between 0.5 and 1.5 of the median household per capita income. Finally, we also follow [5] and use an endogenous definition of

income class using an *optimal* criteria that determines the cut-points as those that maximize the between-class variance and minimize the within-class variance.

Figure 3. Household Per Capita Income Cumulative Distribution and Cut-points by Class Definition

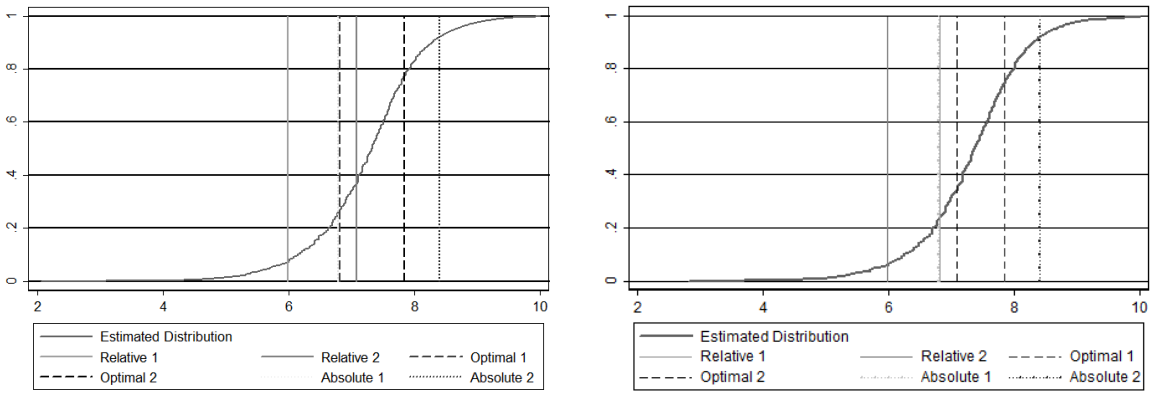


(a) Panel (b) Pseudopanel

Sample: 18 to 65 years old.

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

Figure 4. Monthly Labor Earnings from Primary Job Cumulative Distribution and Cut-points by Class Definition



(a) Panel (b) Pseudopanel

Sample: 18 to 65 years old.

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

Figure **??** and 4 presents kernel estimates of the per-capita household income and monthly labor earnings cumulative distribution function and cut-points respectively.

3.3 Data and Sample

To analyze the relationship between entrepreneurship and economic mobility we rely on two datasources. A pseudo panel constructed from the *Fundacion ARU*'s harmonized set of household surveys; and a panel constructed from the first eight rounds of the Quarterly Employment Survey (hereafter QES). *Fundacion ARU*'s harmonized set of household surveys collects and harmonized information from all available national household surveys in the last decade including the Living Standard Measurement Surveys (LSMS) from 1999 to 2002, the Income and Expenditure survey of years 2003 and 2004, the LSMS from 2005 to 2009, and the Social Stratification and Mobility Survey (EMES) of years 2009. It is important to note that there are important differences in sample and content design between different type of surveys, and even between different years of the same type of surveys. In order to maximize comparability the harmonized set of household surveys not only has used a uniform definition of variables and indicators - to the extent that is possible, but also has refrain from using any kind of imputation or correction methods and most importantly has corrected for the differences in sample design between different years using post-stratification methods (For further reference see *Fundacion ARU*, 2010). The QES is a 2-2-2 quarterly rotating panel representative of the 9 capital cities of Bolivia plus the city of *El Alto*[10]. Although the sample and content design comparability among quarters is high, we have also reconstruct sampling weights suing post-stratification methods to improve the representativity of the sample and correct potential attrition problems.

To analyze the relationship between entrepreneurship and mobility in earnings we restrict our sample to individuals between 25 to 55 years old who live in urban areas. For the relationship between entrepreneurship and overall per-capita household income mobility we have test three different samples. Breadwinners, *de- jure* household heads and individuals between 25 to 55 years old. All three samples were restricted to those living in urban areas of the country.

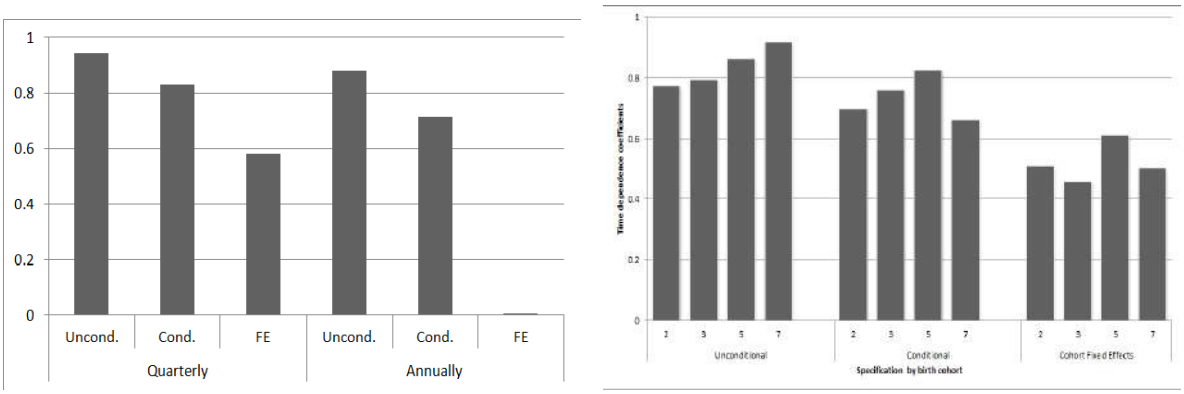
3.4 Results

3.4.1 Time Dependence

Before we analyze the relationship between entrepreneurship and economic mobility it is worth to present average estimates of economic mobility for both, labor earnings and the overall household per-capita income distribution. Tables 7, 8 present the estimation of time dependence parameters in labor earnings **average time dependence** using panel and pseudo-panel data, respectively. Tables 9, 10 present the estimation of time dependence parameters in per-capita household income **average time dependence** using panel and pseudo-panel data, respectively. Figure 5 and 6 summarize this estimates. On the one hand, the *unconditional* time dependence estimates in labor earnings are significant and around .86 and .92, depending on the source of the data, while the *conditional* estimates are somewhat lower, .71 with panel and between .68 and .86 with pseudo panel data. On the other hand, the *unconditional* time dependence estimates in per-capita household income are significant and around .81 and .85, depending on the source of the data, while the *conditional* estimates are somewhat lower -.85 with panel and between .52 and .57 with pseudo panel data.

[10] A 2-2-2 quarterly rotation structure implies that households have been included 2 quarters in the sample, been excluded 2 quarters, and included again for the last two quarters

Figure 5. Average Time Dependence. Labor Earnings from Primary Job

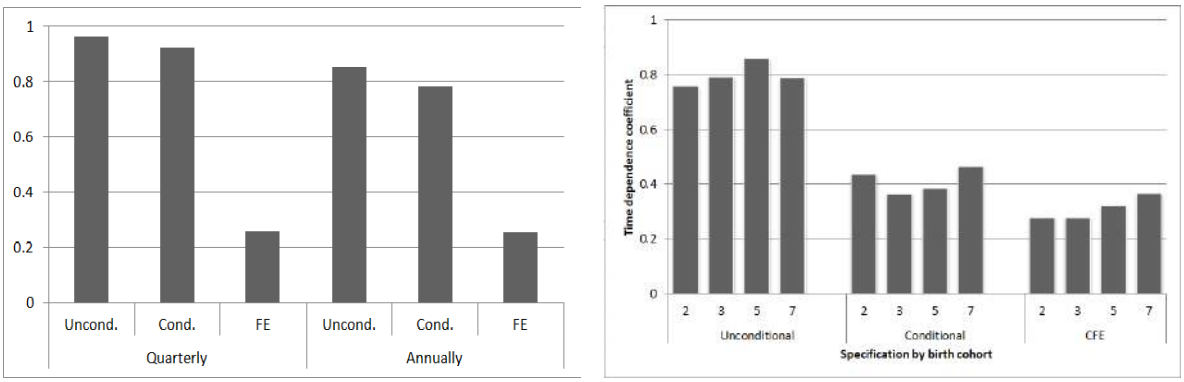


(a) Panel (b) Pseudopanel

Sample: 18 to 65 years old.

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

Figure 6. Average Time Dependence. Monthly Per Capita Income



(a) Panel (b) Pseudopanel

Sample: 18 to 65 years old.

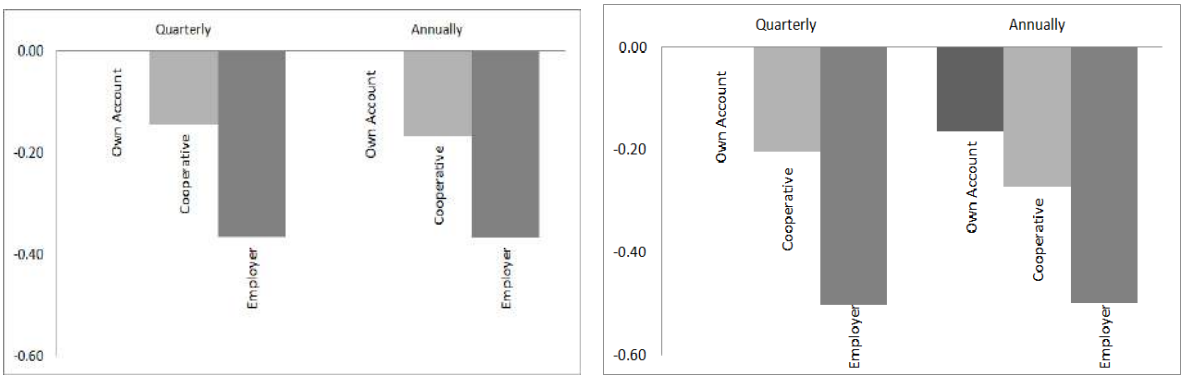
Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

A few important points are worth to be noticed in both estimates. First, as expected, *quarterly* unconditional and conditional time dependence estimates are higher than *anual* estimates. Second, notice that simple OLS estimates with panel data have substantial attenuation bias - most likely due to measurement error. Third, measurement error in the estimation of cohort averages, and the consequently attenuation bias is likely to be a problem with 2 and 3 year cohort pseudo-panel, while the 7 year cohort pseudo panel is likely to over-smooth data. Finally, it is important to mention that there is no problem of underestimation of time dependence with pseudo-panel due to the "loose of within cohort mobility" since appropriate estimators with both, panel and pseudo panel,identify the population parameter of interest.

Now we turn into analyzing entrepreneurs' excess mobility. Tables 7 and 8 present the estimation of *excess time dependence* in labor earnings using panel and pseudo panel data, respectively. Tables 9 and 10 present the estimation of *excess time dependence* in per-capita household income using panel and pseudo panel data, respectively. Figure 7 and 8 summarize the information. On the one hand, by the type of ownership criteria, our panel estimates of entrepreneurs excess time dependence are significant for cooperative and owner entrepreneurs, in both cases with negative coefficients that imply that these two types have considerable

more mobility -i.e. considerable less time persistence, in particular in the case of owner entrepreneurs. By the time in business criteria, our panel estimates are significant only for new business owners at an anual frequency in the unconditional version and for new and establish business owners in the conditional on observables version. On the other hand, for all definitions of entrepreneurship the estimates of entrepreneurs' excess time dependence in per-capita income are not significant with both, panel and pseudo panel; except for the broad definition in the panel data and the intermediate definition in the 3 and 7 year pseudo panel that turn out to be negative and significant.

Figure 7. Excess Mobility (Monthly Labor Earnings from Primary Job)

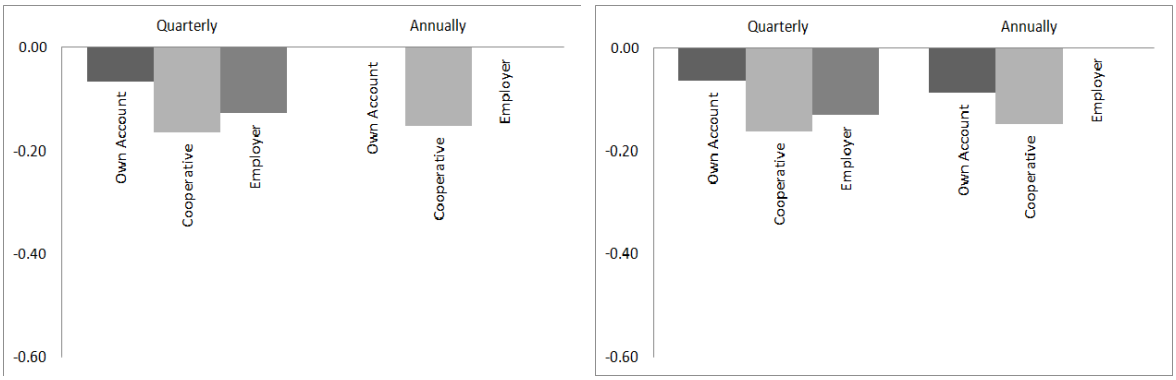


(a) Unconditional (b) Conditional

Sample: 18 to 65 years old.

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

Figure 8. Excess Mobility (Monthly Household Per Capita Income)



(a) Unconditional (b) Conditional

Sample: 18 to 65 years old.

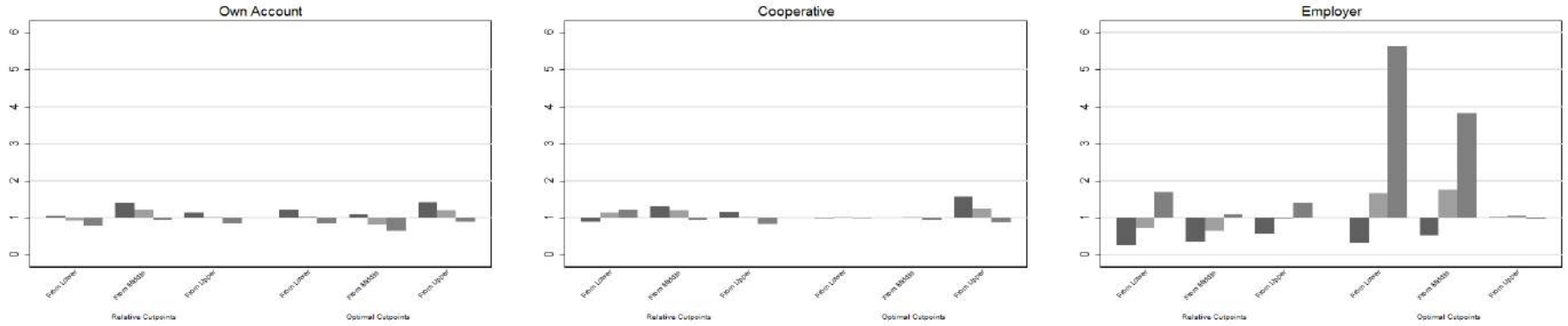
Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

3.4.2 Positional Mobility

Table 13 present the excess mobility rations for each criteria used to define different types of entrepreneurs[11]. On the one hand, under the *size and type of ownership criteria*, owner entrepreneurs present an above average probability of moving upward if their income-class of origin is the lower class, an above average probability of moving downward and upward if their income-class of origen is the middle class; and a below average probability of moving downward if their class of origen is the upper class under all definitions of income classes (See Figure 10). On the other hand, under the *time doing business criteria*, nascent and established business entrepreneurs present above average probabilities of moving upward if their class of origen is the lower class and of moving downward if their class of origen is the upper class (See Figure **??**).

[11]The results of this table are constructed as the ratio of the entrepreneurs to average income-class positional mobility matrices presented in Appendix A. The sample is restricted to individuals from 18 to 65 years old living in urban areas

Figure 9. Excess mobility ratios by entrepreneur definition (Monthly Labor Earnings)

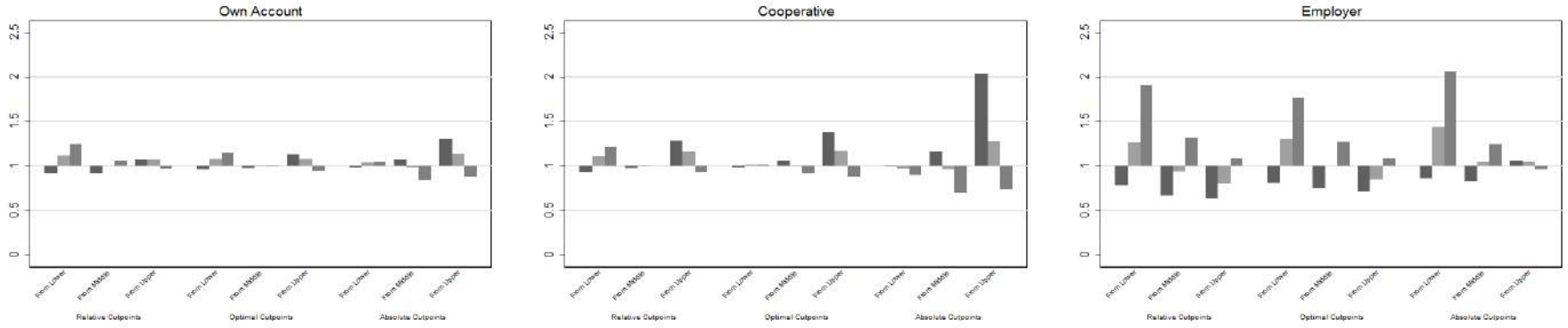


(a) Own Account (b) Cooperative (c) Employer

Sample: 18 to 65 years old.

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

Figure 10. Excess mobility ratios by entrepreneur definition (Monthly Per Capita Income)



(a) Own Account (b) Cooperative (c) Employer

Sample: 18 to 65 years old.

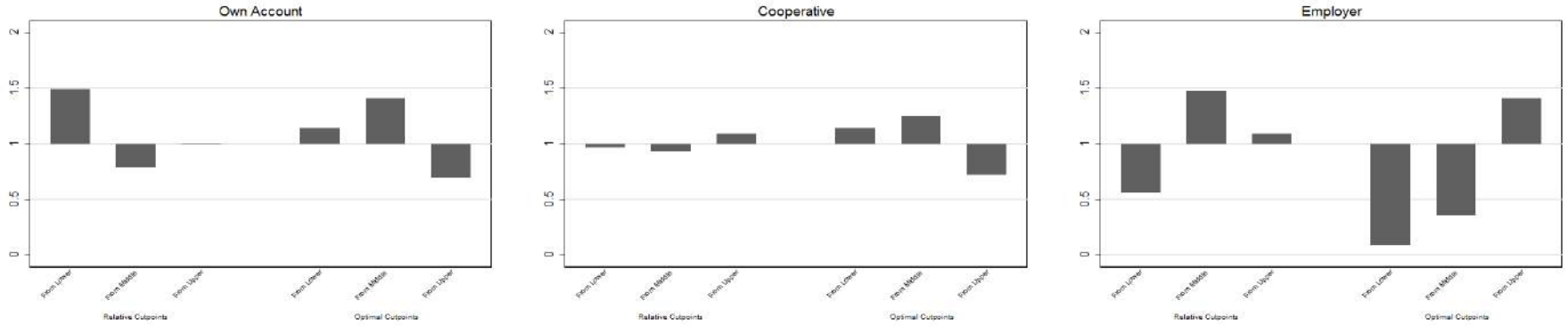
Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

3.4.3 Steady State Simulations

An alternative way of comparing mobility patters is simulating the steady state distribution of income-classes expected with the estimated positional mobility patters. The steady state distribution of income classes is define as those where the fraction of entrants in-to a given income-class equals the fraction of exits out-of the same class[12]. Figure 12 and **??** present the under/over representation of entrepreneurs in each income class according to each definition. Notice that, under the *size and type of ownership criteria*, owner entrepreneurs are significant under-represented in the lower class but significan over-represented in the upper class; while under the *time doing business criteria*, the patterns are much more blurry.

[12] More formally, we have that ...TO BE COMPLETED

Figure 11. Steady State ratio by entrepeneur definition (Monthly Labor Earnings)

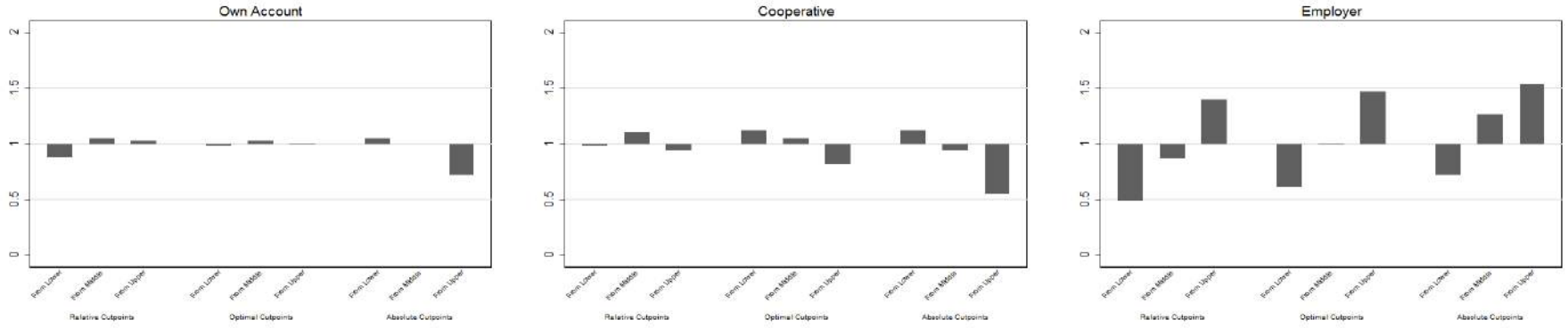


(a) Own Account (b) Cooperative (c) Owner

Sample: 18 to 65 years old.

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

Figure 12. Steady State ratio by entrepreneur definition (Monthly Per Capita Income)



(a) Own Account (b) Cooperative (c) Employer

Sample: 18 to 65 years old.

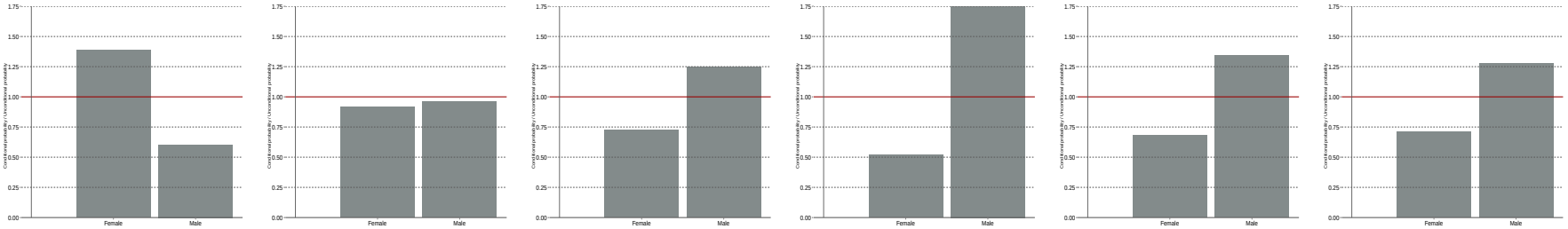
Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

4 Who are "Entrepreneurs" in Bolivia?

Figures **??** to **??** present the probabilities of being a type j worker conditional on a set of demographic and socio-economic explanatory variables[13]. We find that significative differences not only between SE and PE workers but also significative differences between types of SE workers. By sex, we find that, *ceteris paribus* female workers are equally likely to be own account workers but less likely to be cooperative and employers (Figure 1a). By ethnicity, we find that Indigenous are more likely to be cooperative worker (Figure 1b). All type of SE workers have similar age patters - with an inverted "U" shape (Figure 1c). By schooling attainment, we find that more schooling decreases the probability of being own account and cooperative, but has significant non-linearities in the probability of being an employer (Figure 1d). By city, (Figure 1e). Finally, by wealth class we find increases the probability of being an owner entrepreneur but does not affect the probabilities of single-person and cooperative entrepreneurs (Figure 1f).

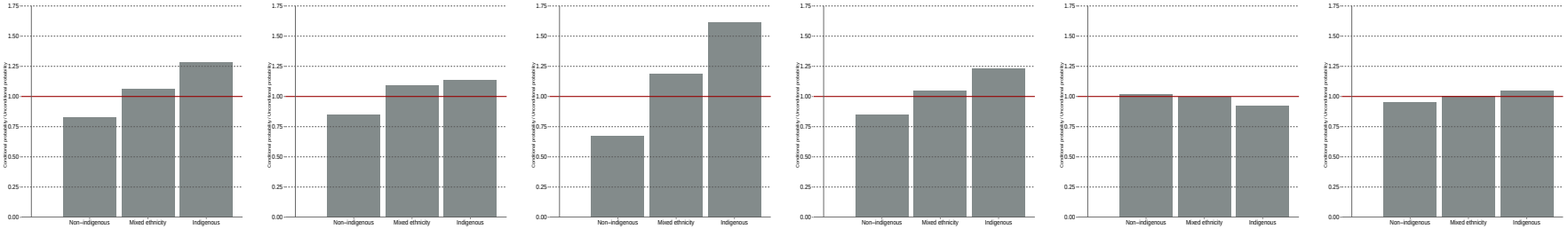
[13] In order to adjust our estimates for the differences in group sizes we divide them by the unconditional probabilities of each type.

Figure 13. Probability profiles.



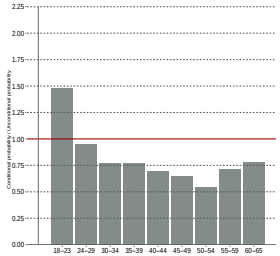
(a) Familiar worker (b) Own account (c) Cooperative (d) Employer (e) Informal salaried (f) Formal salaried

(a) Sex

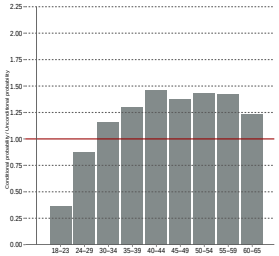


(a) Familiar worker (b) Own account (c) Cooperative (d) Employer (e) Informal salaried (f) Formal salaried

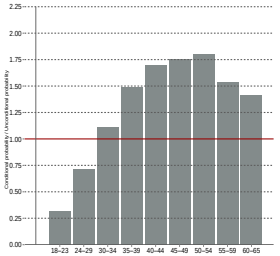
(b) Ethnicity



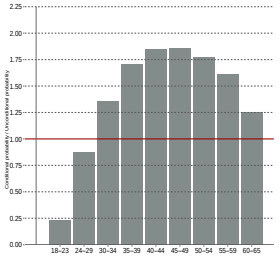
(a) Familiar worker



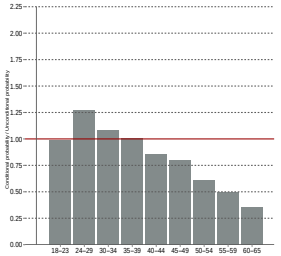
(b) Own account



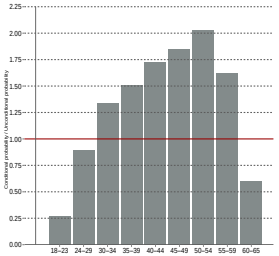
(c) Cooperative



(d) Employer

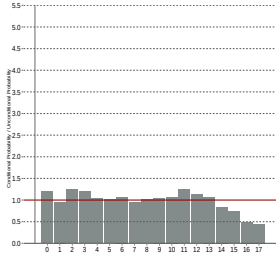


(e) Informal salaried

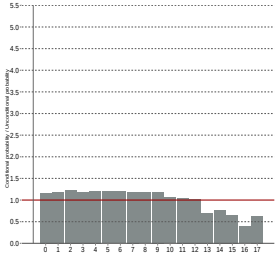


(f) Formal salaried

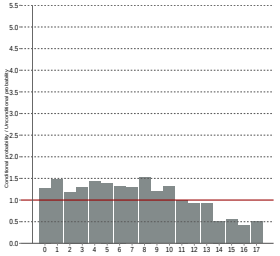
(c) Age



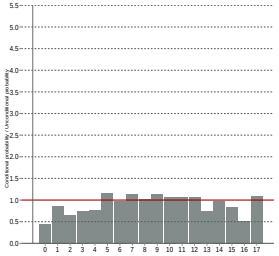
(a) Familiar worker



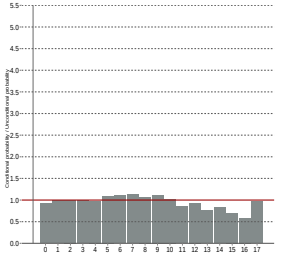
(b) Own account



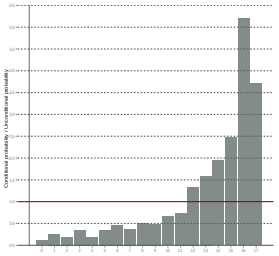
(c) Cooperative



(d) Employer

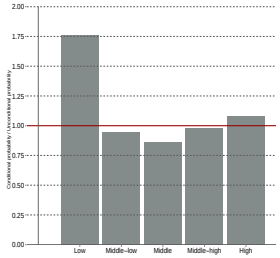


(e) Informal salaried

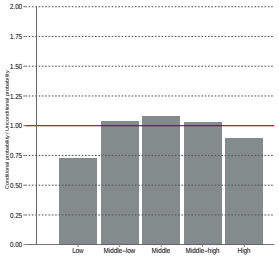


(f) Formal salaried

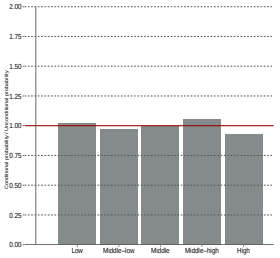
(d) Years of Education



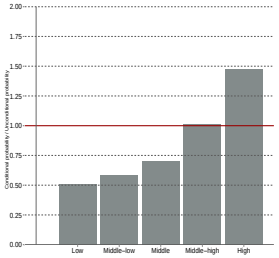
(a) Familiar worker



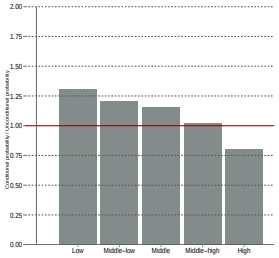
(b) Own account



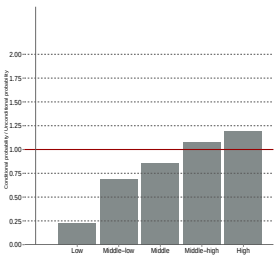
(c) Cooperative



(d) Employer

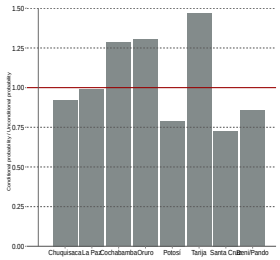


(e) Informal salaried

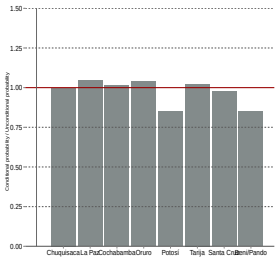


(f) Formal salaried

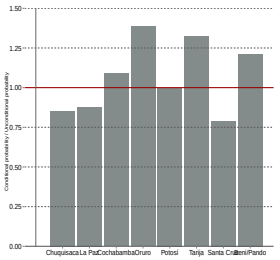
(e) Wealth



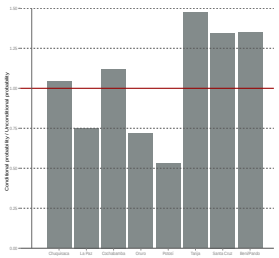
(a) Familiar worker



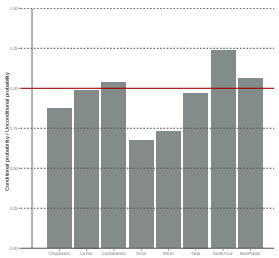
(b) Own account



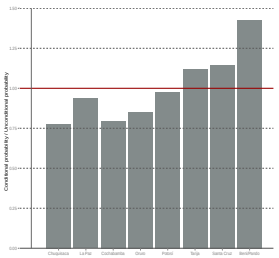
(c) Cooperative



(d) Employer



(e) Informal salaried



(f) Formal salaried

(f) City

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.
Sample: 18 to 65 years old.
a: Unconditional probability is estimated as the predicted probability for each outcome leaving the covariates at their average values. Conditional probability is estimated as the predicted probability obtained by letting a covariate vary through its categories, while leaving the rest of them constant at their average values

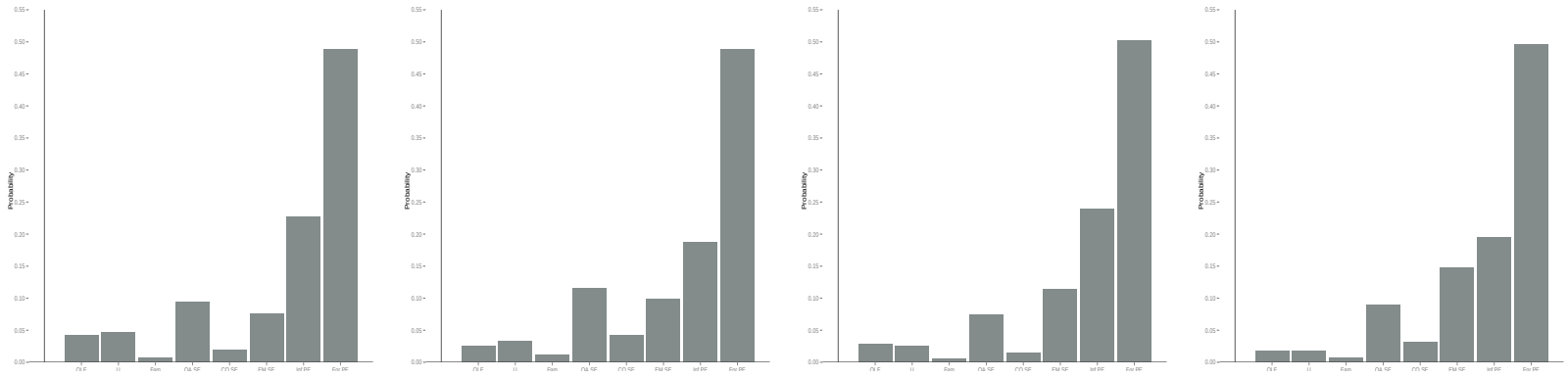


Figure 14. Probability types

The basic type of individual used in these probability estimations is a male between 35 and 39 with seventeen years of education and in the top wealth quintile. The differences among types are in city and ethnicity. Type 1A refers to a non-indigenous in La Paz, and 1B to a indigenous in the same city. Type 2A is a non-indigenous in Santa Cruz, while type 2B is an indigenous in such city.

5 Conclusions

This paper analyzes the relationship between entrepreneurship, economic mobility and income class in Bolivia. We find that the answer to the question of how entrepreneurship relates to (labor and overall) income mobility depends on the definition of who are the country's entrepreneurs. On the one hand, if we consider all self-employed workers as entrepreneurs then involvement with entrepreneurship does not contribute neither to labor nor to overall income mobility. On the other hand, if we consider as entrepreneurs only a handful of self-employed workers - those who generate employment not only for themselves but for at least one more person, i.e. *employers*, then there is some merit to the notion that entrepreneurs experience more mobility in both, the labor and overall, income distributions relative not only to other types of self-employed workers (*cooperative* and *own account*) but also to paid-employed workers (formal and informal). The association between the narrow definition of entrepreneurship and economic mobility appears to be robust to different measures of economic mobility such as time independence, positional movement and mobility as equalizer of long-term incomes. Employers exhibit significantly lower unconditional and conditional time dependence coefficients in labor earnings, are significantly more likely to move upward in both labor and overall income distributions, and much more likely to end-up in the upper income-class relative to other types of self-employed workers and even relative to paid-employed workers.

Despite their significantly different mobility patters, employers do not display striking differences is their socioeconomic profile relative to their counterparts in other types of self-employment except in two particular covariates: school attainment and wealth. On school attainment, we find that a person has a below-average probability of being an employer if he has not complete at least six years of schooling and an above-average probability if he has complete a university degree, while other self-employment types (cooperative and own account) exhibit opposite patterns. On wealth - measured by the Filmer and Pritchet (2001) asset index, we find a clear gradient relating the probability of being an entrepreneur with the wealth quintile, a result that suggest that the availability of assets exert a significantly and quantitatively important effect on the "opportunity" to be an employer. It is important to mention that neither of our analysis accounts for the selection of individuals into entrepreneurship. We do not attempt to analyze what would have happened if a randomly selected person became an entrepreneur. Rather, we have the modest goal of summarizing the association of individuals' socioeconomic characteristics and their occupational choice.

Finally, our results support the view of self-employment, not as form of entrepreneurship, but as a temporary shelter from unemployment where workers can earn some cash in preference to earn nothing. Our analysis of tenure profiles and mobility premiums in hourly and monthly labor earnings show that most self-employment jobs are nothing but "casual jobs", worse than jobs in the formal sector and superior only to unemployment. Therefore, from a policy perspective, it is crucial to distinguished between "true" entrepreneurs - persons that identify and pursue an economic opportunity organizing, managing, and, fundamentally assuming the risks of a business venture; and "petty" entrepreneurs - persons that become self-employed just to have the opportunity to have a job and earn a living. At least in the Bolivian case, it is important to promote policies that improve the employment potential of true entrepreneurs so that many more good (formal) jobs are available for otherwise poor self-employed workers.

Table 1. Estimation of aggregate mobility coefficients

	Dependent variable: log hourly earnings				Dependent variable: log monthly earnings			
	PE_t							
	Exit premium							
	Mean	Q25	Q50	Q75	Mean	Q25	Q50	Q75
SE_{t+1}	-0.138***	-0.142***	-0.146***	-0.146***	-0.206***	-0.227***	-0.145***	-0.144***
	(0.026)	(0.036)	(0.030)	(0.033)	(0.025)	(0.031)	(0.026)	(0.030)
	Entry premium							
SE_{t-1}	-0.053	-0.053	-0.059	-0.033	-0.078**	-0.085*	-0.076**	-0.026
	(0.029)	(0.043)	(0.037)	(0.037)	(0.029)	(0.037)	(0.027)	(0.035)
R-squared	0.350	0.177	0.209	0.251	0.317	0.173	0.188	0.216
Observations	8030	8030	8030	8030	8030	8030	8030	8030
	SE_t							
	Exit premium							
PE_{t+1}	-0.130**	-0.122*	-0.121**	-0.107*	-0.206***	-0.259***	-0.147**	-0.160**
	(0.042)	(0.057)	(0.043)	(0.049)	(0.040)	(0.056)	(0.047)	(0.053)
R-squared	0.155	0.102	0.092	0.077	0.241	0.167	0.144	0.115
	Entry premium							
PE_{t-1}	0.131***	0.233***	0.154***	0.030	0.097**	0.197***	0.087	0.017
	(0.036)	(0.051)	(0.037)	(0.044)	(0.035)	(0.047)	(0.045)	(0.046)
R-squared	0.155	0.104	0.093	0.077	0.239	0.167	0.144	0.114
Observations	7155	7155	7155	7155	7155	7155	7155	7155

Standard errors in parentheses, $*p < 0.05 * *p < 0.01 * * * p < 0.001$

Sample: 18-65 occupied urban population

The covariates included dummy variables for bolivian cities, an interaction of sex and ethnicity,
years of education and age and tenure, both linear and squared

Table 2. Employment and labor earnings structure

		Participation composition						
		2003	2004	2005	2006	2007	2008	2009
Employed population / Total population 18-65		68.0	69.9	68.2	68.5	68.5	71.2	71.8
Paid employment		51.1	52.7	51.5	53.7	56.7	52.4	56.2
	Informal PE	33.0	34.5	33.0	33.9	35.6	35.2	36.0
	Formal PE	18.1	18.2	18.4	19.8	21.1	17.2	20.2
Self-employment		48.8	47.4	48.5	46.3	43.4	47.6	43.8
	Own account SE	24.2	24.9	27.5	26.6	26.2	26.2	25.3
	Cooperative SE	11.8	9.4	7.2	7.5	5.7	8.2	6.9
	Employer SE	4.1	6.0	6.3	5.7	6.2	5.6	5.3
	Familiar worker SE	8.7	7.1	7.5	6.5	5.3	7.6	6.3
		Hours in primary activity composition						
Primary activity hours / Total hours		95.5	95.2	97.0	96.2	97.2	96.7	96.9
Paid employment		53.3	54.8	52.2	54.5	56.3	53.2	56.6
	Informal PE	36.2	38.0	35.2	35.8	36.6	36.7	37.3
	Formal PE	17.1	16.8	17.0	18.7	19.7	16.5	19.3
Self-employment		46.8	45.3	47.8	45.5	43.7	46.7	43.4
	Own account SE	22.3	23.0	26.4	25.8	25.8	25.5	24.7
	Cooperative SE	12.6	10.2	7.4	8.0	6.4	8.9	7.6
	Employer SE	4.8	6.6	7.6	6.0	6.8	6.2	6.0
	Familiar worker SE	7.1	5.5	6.4	5.7	4.7	6.1	5.1
		Labor share						
Total earnings / GDP		44.7	46.1	47.7	41.9	45.1	50.4	50.7
Paid employment		66.4	61.5	58.0	60.6	63.1	55.7	61.1
	Informal PE	28.6	27.5	22.6	26.3	29.3	30.8	31.8
	Formal PE	37.8	34.0	35.4	34.3	33.9	24.9	29.3
Self-employment		33.6	38.5	42.0	39.4	36.9	44.3	38.8
	Own account SE	14.5	15.5	20.0	19.7	20.2	22.1	20.4
	Cooperative SE	10.8	9.0	7.0	8.2	5.5	10.3	6.5
	Employer SE	8.3	13.9	14.9	11.4	11.2	11.9	11.9

Sample: 18-65 occupied urban population.
PE: paid employment, SE: self-employment

Table 3. Discount Value Present by Employment Estructure

													Hourly Earnings*					Monthly Earnings^{+}				
													Paid Employment		Self Employment			Paid Employment		Self Employment		
	Age	Education^{e}	Female	Mestizo	Indigenous	CHU	CBB	ORU	POT	TJA	SCZ	BNI-PAN	Formal	Informal	Own Account	Cooperative	Employer	Formal	Informal	Own Account	Cooperative	Employer
Average	**35.95**	**10.58**	**0.53**	**0.32**	**0.16**	**0.06**	**0.13**	**0.04**	**0.03**	**0.04**	**0.32**	**0.03**	**100.00**	**66.00**	**63.91**	**72.35**	**92.75**	**100.00**	**68.96**	**57.05**	**74.78**	**103.34**
Male	35.95	10.58	0.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	107.10	75.05	74.80	85.64	93.77	115.05	86.22	79.34	94.17	111.30
By Years of Education	35.95	8.00	0.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	82.43	65.87	68.51	80.23	86.76	94.12	79.78	75.17	89.29	104.51
	35.95	12.00	0.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	123.65	80.63	78.49	88.77	97.85	128.45	89.98	81.72	96.96	115.22
	35.95	17.00	0.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	205.29	103.83	93.04	100.72	113.71	189.49	104.57	90.73	107.47	130.17
By Age	25.00	10.58	0.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	83.06	63.18	70.30	82.47	78.77	88.21	67.69	66.53	80.30	89.43
	35.00	10.58	0.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	105.14	74.19	74.59	85.60	92.71	112.97	85.05	78.67	93.47	109.88
	45.00	10.58	0.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	123.68	81.35	74.82	83.77	100.93	130.85	91.80	80.50	95.17	118.86
	55.00	10.58	0.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	135.22	83.32	70.95	77.29	101.65	137.06	85.13	71.27	84.75	113.21
By Ethnicity	35.95	10.58	0.00	0.00	0.00	0.06	0.13	0.04	0.03	0.04	0.32	0.03	113.22	76.39	79.30	87.94	95.80	123.26	85.76	80.24	93.75	110.57
	35.95	10.58	0.00	1.00	0.00	0.06	0.13	0.04	0.03	0.04	0.32	0.03	102.33	72.55	72.44	86.23	95.34	108.83	85.05	80.55	97.01	113.29
	35.95	10.58	0.00	0.00	1.00	0.06	0.13	0.04	0.03	0.04	0.32	0.03	98.59	75.97	66.42	77.82	84.88	103.63	90.10	74.33	90.05	109.72
By City	35.95	10.58	0.00	0.32	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	108.28	64.25	66.10	68.73	77.34	116.83	70.60	60.18	70.10	91.78
	35.95	10.58	0.00	0.32	0.16	0.00	1.00	0.00	0.00	0.00	0.00	0.00	98.07	75.30	77.82	89.72	102.41	103.28	85.91	90.25	99.36	116.53
	35.95	10.58	0.00	0.32	0.16	0.00	0.00	0.00	0.00	0.00	1.00	0.00	111.38	89.58	96.41	117.90	116.54	122.75	111.26	114.47	142.90	143.81
Female	35.95	10.58	1.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	93.99	58.76	55.44	62.12	91.84	88.10	56.35	42.35	60.71	96.63
By Years of Education	35.95	8.00	1.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	72.34	51.56	50.78	58.19	84.98	72.07	52.14	40.13	57.57	90.73
	35.95	12.00	1.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	108.52	63.12	58.18	64.38	95.84	98.37	58.81	43.63	62.51	100.03
	35.95	17.00	1.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	180.16	81.28	68.97	73.06	111.37	145.10	68.35	48.44	69.29	113.01
By Age	25.00	10.58	1.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	72.90	49.46	52.11	59.82	77.15	67.55	44.24	35.52	51.77	77.64
	35.00	10.58	1.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	92.27	58.08	55.30	62.09	90.80	86.51	55.59	42.00	60.26	95.40
	45.00	10.58	1.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	108.54	63.69	55.47	60.76	98.85	100.20	60.00	42.98	61.35	103.20
	55.00	10.58	1.00	0.32	0.16	0.06	0.13	0.04	0.03	0.04	0.32	0.03	118.67	65.23	52.59	56.06	99.56	104.96	55.64	38.05	54.63	98.29
By Ethnicity	35.95	10.58	1.00	0.00	0.00	0.06	0.13	0.04	0.03	0.04	0.32	0.03	99.36	59.81	58.79	63.78	93.83	94.39	56.05	42.84	60.44	95.99
	35.95	10.58	1.00	1.00	0.00	0.06	0.13	0.04	0.03	0.04	0.32	0.03	89.80	56.79	53.70	62.55	93.38	83.34	55.59	43.00	62.54	98.36
	35.95	10.58	1.00	0.00	1.00	0.06	0.13	0.04	0.03	0.04	0.32	0.03	86.52	59.48	49.24	56.44	83.14	79.36	58.89	39.68	58.06	95.26
By City	35.95	10.58	1.00	0.32	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	95.02	50.30	49.00	49.85	75.75	89.46	46.14	32.13	45.19	79.69
	35.95	10.58	1.00	0.32	0.16	0.00	1.00	0.00	0.00	0.00	0.00	0.00	86.07	58.95	57.69	65.08	100.31	79.09	56.15	48.18	64.06	101.17
	35.95	10.58	1.00	0.32	0.16	0.00	0.00	0.00	0.00	0.00	1.00	0.00	97.75	70.13	71.47	85.52	114.15	94.00	72.72	61.11	92.12	124.86

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys
Sample: Urban, 18 to 65 years old
Notes:
(*) Assuming Full Employment (40 hrs per week) and 2% real interest rate
(+) 2% interest rate
(e)Measured by Years of Education.
CHU: Chuquisaca, CBB: Cochabamba, ORU: Oruro, POT: Potosi, TJA: Tarija, SCZ: Santa Cruz, BNI-PAN: Beni and Pando

Table 4. Estimation of mobility coefficients by type of employment

	Dependent variable: log hourly earnings				Dependent variable: log monthly earnings			
	PE_t							
	Exit premium							
	Mean	Q25	Q50	Q75	Mean	Q25	Q50	Q75
OA_{t+1}	-0.152***	-0.151***	-0.150***	-0.143***	-0.234***	-0.241***	-0.148***	-0.187***
	(0.032)	(0.042)	(0.038)	(0.038)	(0.031)	(0.039)	(0.031)	(0.037)
R-squared	0.351	0.178	0.210	0.252	0.322	0.176	0.189	0.218
CO_{t+1}	-0.186***	-0.217**	-0.174*	-0.168*	-0.267***	-0.331***	-0.236***	-0.186**
	(0.056)	(0.084)	(0.073)	(0.065)	(0.055)	(0.072)	(0.054)	(0.067)
R-squared	0.350	0.177	0.209	0.251	0.319	0.175	0.189	0.216
EM_{t+1}	0.015	0.026	0.018	0.005	0.033	0.027	0.016	0.009
	(0.059)	(0.082)	(0.073)	(0.071)	(0.058)	(0.075)	(0.058)	(0.074)
R-squared	0.350	0.177	0.209	0.251	0.317	0.173	0.188	0.216
	Entry premium							
OA_{t-1}	-0.151***	-0.181**	-0.155**	-0.155**	-0.189***	-0.234***	-0.165***	-0.141**
	(0.040)	(0.059)	(0.051)	(0.048)	(0.039)	(0.049)	(0.038)	(0.048)
R-squared	0.351	0.178	0.210	0.251	0.319	0.175	0.188	0.217
CO_{t-1}	0.006	0.021	0.005	0.058	-0.002	0.015	-0.001	0.070
	(0.056)	(0.079)	(0.068)	(0.064)	(0.054)	(0.071)	(0.053)	(0.065)
R-squared	0.350	0.177	0.209	0.251	0.317	0.173	0.188	0.216
EM_{t-1}	0.114	0.127	0.130	0.097	0.105	0.111	0.112	0.143*
	(0.061)	(0.086)	(0.073)	(0.072)	(0.059)	(0.074)	(0.058)	(0.070)
R-squared	0.350	0.177	0.209	0.251	0.317	0.173	0.188	0.216
Observations	8030	8030	8030	8030	8030	8030	8030	8030
	SE_t							
	Exit premium							
PI_{t+1}	-0.134**	-0.157**	-0.138**	-0.100	-0.230***	-0.268***	-0.179***	-0.159**
	(0.044)	(0.059)	(0.045)	(0.052)	(0.042)	(0.058)	(0.049)	(0.055)
R-squared	0.155	0.102	0.092	0.077	0.241	0.167	0.144	0.115
PF_{t+1}	-0.073	-0.041	-0.052	-0.142	0.006	0.055	-0.008	-0.158
	(0.119)	(0.150)	(0.123)	(0.145)	(0.116)	(0.168)	(0.132)	(0.151)
R-squared	0.154	0.101	0.092	0.077	0.238	0.165	0.143	0.114
	Entry premium							
PI_{t-1}	0.121**	0.213***	0.141***	0.032	0.082*	0.182***	0.068	0.010
	(0.038)	(0.049)	(0.040)	(0.044)	(0.037)	(0.051)	(0.047)	(0.048)
R-squared	0.155	0.103	0.093	0.077	0.239	0.166	0.144	0.114
PF_{t-1}	0.175	0.307*	0.177	0.010	0.194	0.211	0.131	0.020
	(0.107)	(0.136)	(0.115)	(0.128)	(0.104)	(0.152)	(0.126)	(0.135)
R-squared	0.154	0.102	0.092	0.077	0.239	0.165	0.143	0.114
Observations	7155	7155	7155	7155	7155	7155	7155	7155

Standard errors in parentheses, $*p < 0.05 * *p < 0.01 * * * p < 0.001$

Sample: 18-65 occupied urban population

The covariates included dummy variables for bolivian cities, an interaction of sex and ethnicity, years of education and age and tenure, both linear and squared

Table 5. Annual remunerated employment status transition matrix (Obs/%)

	OA	CO	EM	Inf PE	For PE	Total
OA	1633	276	87	258	23	2277
	71.72	12.12	3.820	11.33	1.010	100
CO	355	475	88	133	8	1059
	33.52	44.85	8.310	12.56	0.76	100
EM	100	88	284	100	10	582
	17.18	15.12	48.8	17.18	1.720	100
Inf PE	366	131	94	2,016	265	2872
	12.74	4.560	3.270	70.19	9.230	100
For PE	35	9	11	212	1,398	1665
	2.1	0.54	0.66	12.73	83.96	100
Total	2489	979	564	2719	1704	8455
	29.44	11.58	6.670	32.16	20.15	100

Sample: 18-65 occupied urban population.
PE: paid employment, SE: self-employment
OW: Own Account, CO: Cooperative, EM: Employer
For: Formal, Inf: Informal

Table 6. Size of Entreprenurial Activity as a % of The Employed Population

Sample: Urban Area, 18 to 65 years old

	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Own Account	0.25	0.25	0.28	0.27	0.26	0.24	0.25
Cooperative	0.12	0.10	0.09	0.08	0.06	0.07	0.07
Employer	0.04	0.06	0.06	0.06	0.06	0.06	0.05

	2009				**2010**			
	Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
Own Account	0.21	0.22	0.22	0.23	0.24	0.25	0.25	0.25
Cooperative	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09
Employer	0.06	0.06	0.07	0.07	0.06	0.07	0.06	0.06

Source: Author's calculationes based on Fundacion ARU's set of harmonized surveys.
Note: The difference in the sum of percentages is due to missing values in both definitions

Table 7. Time Dependence Regression. (Insturmental Variables)

Dependent Variable: Log of Monthly Labor Earnings from Primary Job

Sample: Urban Area, 18 to 65 years old						
	Quarterly			**Annually**		
	Uncond.	**Cond.**	**CFE**	**Uncond.**	**Cond.**	**CFE**
Y_{t-1}	0.947***	0.851***	0.537	0.899***	0.757***	-0.020
	-0.017	-0.029	-0.378	-0.025	-0.039	(0.389)
$Y_{t-1} \cdot D_1$	0	-0.056	0.798	-0.048	-0.166**	0.585
	-0.042	-0.048	-0.973	-0.063	-0.074	-0.89
$Y_{t-1} \cdot D_2$	-0.145**	-0.204***	-0.451	-0.168*	-0.274***	0.141
	-0.07	-0.072	-0.387	-0.102	-0.106	-0.573
$Y_{t-1} \cdot D_3$	-0.366***	-0.502***	-0.317	-0.367**	-0.499***	-0.302
	-0.137	-0.135	-0.846	-0.179	-0.168	-0.357
D_1	-0.053	0.312	-5.686	0.287	1.059**	-4.15
	-0.289	-0.336	-6.881	-0.438	-0.511	-6.359
D_2	0.978**	1.378***	2.939	1.180*	1.893**	-1.094
	-0.489	-0.509	-2.845	-0.708	-0.735	-4.18
D_3	2.882***	3.928***	2.397	2.897**	3.905***	2.44
	-1.042	-1.021	-6.262	-1.352	-1.271	-2.694
age		0.009**			0.013**	
		-0.004			-0.005	
age^2		-0.000**			-0.000**	
		0			0	
Some Primary		0.076*			0.233***	
		-0.039			-0.062	
Complete Primary		0.067			0.316***	
		-0.044			-0.07	
Some Secondary		0.106**			0.278***	
		-0.044			-0.07	
Complete Secondary		0.119***			0.275***	
		-0.044			-0.07	
Teachers College		0.156**			0.386***	
		-0.07			-0.113	
Technical College		0.127***			0.290***	
		-0.049			-0.076	
Undergraduate		0.150***			0.342***	
		-0.046			-0.075	
Graduate		0.251***			0.554***	
		-0.063			-0.095	
Other		0.113*			0.242***	
		-0.06			-0.093	
Gender		-0.079***			-0.146***	
		-0.02			-0.03	
Constant	0.420***	0.837***	3.45	0.809***	1.325***	7.455***
	-0.122	-0.173	-2.77	-0.182	-0.239	-2.8
Observations	17071	17068	17071	7647	7646	7647
R-squared	0.39	0.45		0.32	0.43	
Number of id_panel			15391			5978

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys
NOTE: Standard errors in parentheses.
** significant at 10%; ** significant at 5%; *** significant at 1%*
"No education" category excluded

Table 8. Time Dependence Regression.

Dependent variable: Log of Income from Primary Activity

	2 year cohorts			3 year cohorts			5 year cohorts			7 year cohorts		
	Uncond.	Cond.	CFE	Uncond.	Cond.	CFE	Uncond.	Cond.	CFE	Uncond.	Cond.	CFE
Y_{t-1}	0.747***	0.650***	0.393*	0.684***	0.641**	0.254	0.817***	0.799***	0.700**	0.830***	0.677**	0.533
	-0.103	-0.099	-0.169	-0.161	-0.187	-0.198	-0.173	-0.189	-0.198	-0.164	-0.198	-0.294
$Y_{t-1} \cdot D_1$	0.054	0.038	0.097	0.094	0.064	0.176*	0.007	0.001	0.045	0.018	0.069	0.149
	-0.055	-0.053	-0.065	-0.087	-0.099	-0.085	-0.088	-0.096	-0.104	-0.094	-0.12	-0.13
$Y_{t-1} \cdot D_2$	-0.045	-0.072	-0.025	-0.047	-0.05	-0.038	-0.026	-0.023	-0.032	-0.017	-0.063	-0.046
	-0.041	-0.04	-0.04	-0.05	-0.046	-0.049	-0.046	-0.051	-0.049	-0.061	-0.072	-0.086
$Y_{t-1} \cdot D_3$	-0.008	-0.029	-0.002	0.021	-0.01	0.023	0.036	0.027	0.046	0.082	0.035	0.114*
	-0.026	-0.025	-0.032	-0.047	-0.05	-0.045	-0.044	-0.056	-0.053	-0.05	-0.044	-0.056
D_1	-0.599*	-0.133	-0.501	-0.620*	-0.022	-0.646	-0.525	-0.322	-0.942*	-1.145*	-0.489	-1.169*
	-0.239	-0.269	-0.314	-0.308	-0.358	-0.351	-0.281	-0.563	-0.39	-0.424	-0.464	-0.491
D_2	-0.011	0.614	-0.222	-0.604	0.351	-0.757	-1.293**	-0.908	-1.818*	-0.733	-0.331	-1.196
	-0.384	-0.433	-0.422	-0.529	-0.734	-0.571	-0.461	-0.749	-0.676	-0.623	-0.8	-0.649
D_3	1.664**	1.385**	1.16	2.773**	2.205**	1.928*	3.269**	2.716*	2.337*	4.422***	4.391***	3.946***
	-0.511	-0.52	-0.603	-0.852	-0.748	-0.899	-0.959	-1.088	-0.922	-0.842	-1.081	-0.845
Gender		-0.650*			-0.604			-0.438			-0.55	
		-0.257			-0.321			-0.64			-0.386	
Some primary		0.02			-0.598			-0.385			0.058	
		-0.456			-0.701			-0.924			-0.772	
Complete primary		1.650**			0.033			-0.128			-0.052	
		-0.597			-0.816			-1.487			-1.204	
Some secondary		0.351			-0.205			0.011			-0.127	
		-0.44			-0.599			-0.834			-0.83	
Complete secondary		0.542			0.066			-0.086			0	
		-0.408			-0.58			-0.849			-0.84	
Teacher's college		1.610*			0.361			0.608			0.41	
		-0.766			-1.138			-1.676			-1.352	
Technical college		1.412*			1.458*			0.544			1.48	
		-0.569			-0.645			-1.096			-0.936	
Undergraduate		0.287			-0.175			-0.202			0.55	
		-0.397			-0.566			-0.807			-0.435	
Graduate		1.329			1.242			0.752			2.514*	
		-0.728			-1.014			-1.23			-1.169	
Other		0.601			-0.748			-2.156			-2.515	
		-1.057			-1.773			-2.339			-2.383	
Constant	1.897***	2.796***	3.963***	1.870**	2.871***	4.361***	1.231	1.757*	1.952*	0.694	2.006*	1.942
	-0.47	-0.465	-0.745	-0.617	-0.653	-0.929	-0.65	-0.83	-0.886	-0.625	-0.787	-1.153
Observations	124	124	124	83	83	83	54	54	54	40	40	40
Adjusted R-squared	0.647	0.699	0.648	0.71	0.73	0.734	0.865	0.844	0.859	0.922	0.937	0.921

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys
NOTE: Standard errors in parentheses.
** significant at 10%; ** significant at 5%; *** significant at 1%*
"No education" category excluded

Table 9. Time Dependence Regression

Dependent Variable: Log of Monthly Household Per Capita Income

Sample: Urban Area, 18 to 65 years old						
	Quarterly			**Annually**		
	Uncond.	**Cond.**	**CFE**	**Uncond.**	**Cond.**	**CFE**
Y_{t-1}	0.990***	0.952***	0.331	0.883***	0.817***	0.397
	-0.013	-0.02	-0.295	-0.019	-0.027	-0.349
$Y_{t-1} \cdot D_1$	-0.065*	-0.065*	0.027	-0.088*	-0.088*	-0.081
	-0.039	-0.038	-0.168	-0.051	-0.049	-0.131
$Y_{t-1} \cdot D_2$	-0.166***	-0.163***	-0.529***	-0.152*	-0.148*	-0.357**
	-0.062	-0.061	-0.204	-0.091	-0.088	-0.181
$Y_{t-1} \cdot D_3$	-0.126*	-0.129**	-0.306	-0.133	-0.135	-0.520**
	-0.065	-0.064	-0.239	-0.108	-0.104	-0.213
D_1	0.483**	0.482**	-0.012	0.624*	0.634**	0.692
	-0.244	-0.24	-1.041	-0.319	-0.309	-0.813
D_2	1.078***	1.056***	3.419***	0.988*	0.971*	2.336**
	-0.385	-0.377	-1.255	-0.56	-0.543	-1.121
D_3	1.001**	1.032**	2.167	1.06	1.107	3.556***
	-0.44	-0.429	-1.531	-0.715	-0.692	-1.373
age		-0.004*			-0.009**	
		-0.002			-0.004	
age^2		0.000*			0.000**	
		0			0	
Some Primary		-0.017			0.141***	
		-0.031			-0.048	
Complete Primary		-0.026			0.192***	
		-0.035			-0.053	
Some Secondary		0.007			0.119**	
		-0.034			-0.052	
Complete Secondary		-0.018			0.150***	
		-0.034			-0.051	
Teachers College		0.008			0.143	
		-0.064			-0.094	
Technical College		0.043			0.246***	
		-0.041			-0.059	
Undergraduate		0.03			0.202***	
		-0.036			-0.054	
Graduate		0.073			0.391***	
		-0.055			-0.077	
Other		0.026			0.188**	
		-0.056			-0.083	
Gender		0.007			0.008	
		-0.01			-0.015	
Constant	0.034	0.341***	4.232**	0.766***	1.159***	3.821*
	-0.086	-0.127	-1.881	-0.123	-0.172	-2.214
Observations	30101	29923	30101	13962	13942	13962
R-squared	0.24	0.27		0.09	0.15	

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys
NOTE: Standard errors in parentheses.
** significant at 10%; ** significant at 5%; *** significant at 1%*
"No education" category excluded

Table 10. Time Dependence Regression

Dependent Variable: Log of Monthly Household Per Capita Income

	2 year cohorts			3 year cohorts			5 year cohorts			7 year cohorts		
	Uncond.	Cond.	CFE	Uncond.	Cond.	CFE	Uncond.	Cond.	CFE	Uncond.	Cond.	CFE
Y_{t-1}	0.590***	0.299*	0.050	0.570***	0.446**	0.049	0.550***	0.129	-0.077	0.422*	0.237	0.101
	(0.121)	(0.130)	(0.138)	(0.130)	(0.146)	(0.189)	(0.158)	(0.157)	(0.188)	(0.180)	(0.184)	(0.233)
$Y_{t-1} \cdot D_1$	0.147*	0.169**	0.186**	0.053***	0.048**	0.053*	0.223*	0.254**	0.286**	0.100***	0.112***	0.108**
	(0.074)	(0.064)	(0.068)	(0.015)	(0.017)	(0.023)	(0.087)	(0.081)	(0.089)	(0.020)	(0.022)	(0.032)
$Y_{t-1} \cdot D_2$	0.045	0.022	0.027	0.034	0.007	-0.069	0.014	0.017	-0.019	-0.015	-0.018	-0.054
	(0.034)	(0.033)	(0.037)	(0.062)	(0.054)	(0.053)	(0.049)	(0.046)	(0.048)	(0.044)	(0.042)	(0.067)
$Y_{t-1} \cdot D_3$	-0.002	-0.001	-0.018	-0.008	-0.015	0.087	-0.014	0.010	-0.016	0.067	0.071	0.090
	(0.031)	(0.029)	(0.030)	(0.071)	(0.062)	(0.072)	(0.052)	(0.052)	(0.049)	(0.113)	(0.098)	(0.138)
D_1	-0.272	-0.247	-0.338	-0.593	-0.013	-0.755	-0.315	-0.134	-0.419	-1.448	-1.476	-2.140
	(0.200)	(0.271)	(0.268)	(1.487)	(1.570)	(1.793)	(0.262)	(0.357)	(0.301)	(1.852)	(1.736)	(2.442)
D_2	0.780*	0.400	-0.176	-0.576	0.276	0.256	1.229*	0.736	-0.182	-0.574	0.789	-0.178
	(0.352)	(0.443)	(0.488)	(0.545)	(0.629)	(0.732)	(0.584)	(0.653)	(0.734)	(0.743)	(0.715)	(1.004)
D_3	0.904	0.718	0.633	0.168	0.188	0.353	0.331	0.507	0.308	0.164	0.764*	0.675
	(0.663)	(0.634)	(0.666)	(0.142)	(0.310)	(0.372)	(0.834)	(0.821)	(0.932)	(0.173)	(0.349)	(0.468)
Gender		0.111			-0.226			0.209			0.152	
		(0.240)			(0.328)			(0.380)			(0.379)	
Some primary		-1.076**			-1.095*			-0.997			-1.723**	
		(0.409)			(0.515)			(0.510)			(0.586)	
Complete primary		-0.596			-0.307			-0.845			0.088	
		(0.646)			(0.838)			(0.891)			(0.942)	
Some secondary		-1.718***			-1.626*			-1.766**			-2.429**	
		(0.452)			(0.717)			(0.536)			(0.689)	
Complete secondary		-1.027**			-1.372**			-0.998*			-1.380*	
		(0.362)			(0.498)			(0.427)			(0.532)	
Teacher's college		-0.036			0.165			0.878			1.393	
		(0.678)			(0.819)			(0.951)			(0.822)	
Technical college		-0.478			-0.785			-0.345			-1.394	
		(0.534)			(0.694)			(0.845)			(0.746)	
Undergraduate		-0.755			-0.407			-0.497			-0.187	
		(0.415)			(0.655)			(0.547)			(0.646)	
Graduate		0.175			-1.384			0.604			-0.841	
		(0.546)			(0.864)			(0.819)			(0.822)	
Other		-0.002			1.282			-1.647			-0.555	
		(1.146)			(1.892)			(1.618)			(1.876)	
Constant	1.476**	4.203***	5.043***	2.351***	4.343***	5.694***	1.533*	4.536***	5.550***	2.858**	4.727***	4.850**
	(0.513)	(0.843)	(0.795)	(0.680)	(1.027)	(1.202)	(0.669)	(0.988)	(0.968)	(0.947)	(1.253)	(1.339)
Observations	124	124	124	76	76	76	83	83	83	52	52	52
Adjusted R-squared	0.501	0.562	0.556	0.457	0.516	0.515	0.535	0.628	0.602	0.544	0.707	0.551

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys
NOTE: Standard errors in parentheses.
** significant at 10%; ** significant at 5%; *** significant at 1%*
"No education" category excluded

Table 11. Over Representation of Entrepreneurs in Income-Classes (Ratio: % entrepreneurs / % of population)

		Relative Cutpoints							Optimal Cutpoints							Absolute Cutpoints						
		2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
	Lower	1.49	1.54	1.17	1.26	1.46	1.31	1.45	1.24	1.25	1.11	1.27	1.23	1.13	1.25	1.18	1.17	1.08	1.12	1.14	1.13	1.12
Own Account	Middle	1.18	1.19	1.07	1.19	1.14	1.08	1.09	0.97	0.97	1.04	0.97	1.05	1.02	1.00	0.78	0.84	0.90	0.90	0.83	0.86	0.88
	Upper	0.79	0.81	0.92	0.85	0.86	0.92	0.89	0.52	0.49	0.74	0.69	0.66	0.84	0.78	0.32	0.23	0.70	0.34	0.38	0.81	0.62
	Lower	1.29	1.66	2.14	2.09	2.10	2.47	2.39	1.18	1.33	1.46	1.45	1.60	1.78	1.81	1.12	1.24	1.18	1.26	1.20	1.29	1.38
Cooperative	Middle	1.14	1.25	1.10	1.22	1.13	1.26	1.34	0.96	0.85	0.81	0.94	0.92	0.84	0.87	0.86	0.73	0.77	0.63	0.79	0.70	0.56
	Upper	0.86	0.76	0.75	0.74	0.79	0.70	0.61	0.68	0.60	0.68	0.50	0.53	0.62	0.51	0.49	0.25	0.52	0.63	0.00	0.46	0.50
	Lower	0.36	0.21	0.89	0.79	0.49	0.89	0.59	0.60	0.54	0.66	0.62	0.38	0.67	0.73	0.67	0.65	0.67	0.73	0.64	0.74	0.66
Employer	Middle	0.68	0.61	0.54	0.64	0.50	0.72	0.68	1.09	1.07	0.80	0.92	0.89	0.88	0.85	1.66	1.41	1.42	1.31	1.47	1.29	1.32
	Upper	1.33	1.35	1.35	1.26	1.39	1.17	1.27	1.71	1.87	1.92	1.71	1.87	1.51	1.48	0.87	2.03	1.86	1.89	2.18	1.30	2.09
		2009				**2010**			**2009**				**2010**				**2009**				**2010**			
		Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
	Lower	1.41	1.48	1.43	1.29	1.33	1.26	1.13	1.33	1.20	1.21	1.18	1.17	1.16	1.12	1.11	1.18	1.11	1.09	1.09	1.07	1.08	1.08	1.05	1.10
Own Account	Middle	1.05	1.04	1.04	1.05	1.04	1.07	1.03	1.09	0.97	0.92	0.96	0.99	1.00	1.01	1.00	0.99	0.81	0.81	0.84	0.92	0.91	0.84	0.92	0.87
	Upper	0.86	0.87	0.90	0.92	0.93	0.92	0.96	0.91	0.82	0.89	0.89	0.88	0.88	0.90	0.92	0.90	0.89	1.05	1.03	0.93	0.92	1.03	0.98	0.96
	Lower	1.58	1.53	1.76	1.92	1.88	2.04	1.83	1.87	1.30	1.31	1.45	1.45	1.53	1.58	1.42	1.36	1.11	1.09	1.18	1.20	1.27	1.29	1.19	1.15
Cooperative	Middle	1.06	1.02	1.09	1.15	1.21	1.21	1.15	1.06	0.91	0.88	0.89	0.88	0.91	0.97	0.90	0.90	0.88	0.84	0.76	0.69	0.66	0.72	0.64	0.68
	Upper	0.81	0.88	0.81	0.77	0.73	0.72	0.77	0.86	0.79	0.84	0.76	0.80	0.69	0.63	0.80	0.88	0.69	0.95	0.87	1.01	0.80	0.66	1.02	1.11
	Lower	0.71	0.60	0.45	0.48	0.55	0.39	0.45	0.46	0.80	0.65	0.55	0.57	0.61	0.56	0.56	0.59	0.81	0.77	0.68	0.69	0.67	0.67	0.72	0.68
Employer	Middle	0.81	0.72	0.73	0.69	0.70	0.69	0.71	0.69	0.95	0.94	0.87	0.80	0.82	0.87	0.91	0.84	1.11	1.22	1.34	1.14	1.26	1.23	1.08	1.06
	Upper	1.23	1.31	1.29	1.28	1.28	1.29	1.29	1.26	1.31	1.45	1.55	1.57	1.51	1.45	1.45	1.42	1.78	1.57	1.53	1.81	1.54	1.52	1.71	1.64

Source Author's calculation based on Fundacion ARU's set of harmonized surveys.

Sample: Urban Area, 18 to 65 years old

Table 12. Excess Mobility (Monthly Per Capita Income)

Sample: Urban Area, 18 to 65 years old

		Own account			
		Low	Middle	High	Steady State
Relative Cutpoints	Low	0.92	1.12	1.25	0.88
	Middle	0.92	1	1.06	1.05
	High	1.07	1.07	0.97	1.03
Optimal Cutpoints	Low	0.96	1.08	1.15	0.98
	Middle	0.98	1.01	1.01	1.03
	High	1.13	1.08	0.95	0.99
Absolute Points	Low	0.99	1.04	1.05	1.05
	Middle	1.07	0.99	0.84	1
	High	1.3	1.14	0.88	0.72
		Cooperative			
Relative Cutpoints	Low	0.93	1.11	1.22	0.98
	Middle	0.98	1.01	1	1.1
	High	1.29	1.16	0.93	0.94
Optimal Cutpoints	Low	0.99	1.02	1.02	1.12
	Middle	1.06	1.01	0.92	1.05
	High	1.38	1.17	0.88	0.82
Absolute Points	Low	1.01	0.97	0.9	1.12
	Middle	1.16	0.96	0.7	0.94
	High	2.04	1.28	0.74	0.55
		Employer			
Relative Cutpoints	Low	0.79	1.26	1.91	0.49
	Middle	0.67	0.94	1.32	0.87
	High	0.64	0.8	1.09	1.4
Optimal Cutpoints	Low	0.81	1.3	1.77	0.61
	Middle	0.76	1	1.27	0.99
	High	0.72	0.85	1.09	1.47
Absolute Points	Low	0.86	1.44	2.06	0.72
	Middle	0.83	1.05	1.25	1.26
	High	1.06	1.05	0.96	1.54

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys
Sample: 18 to 65 years old

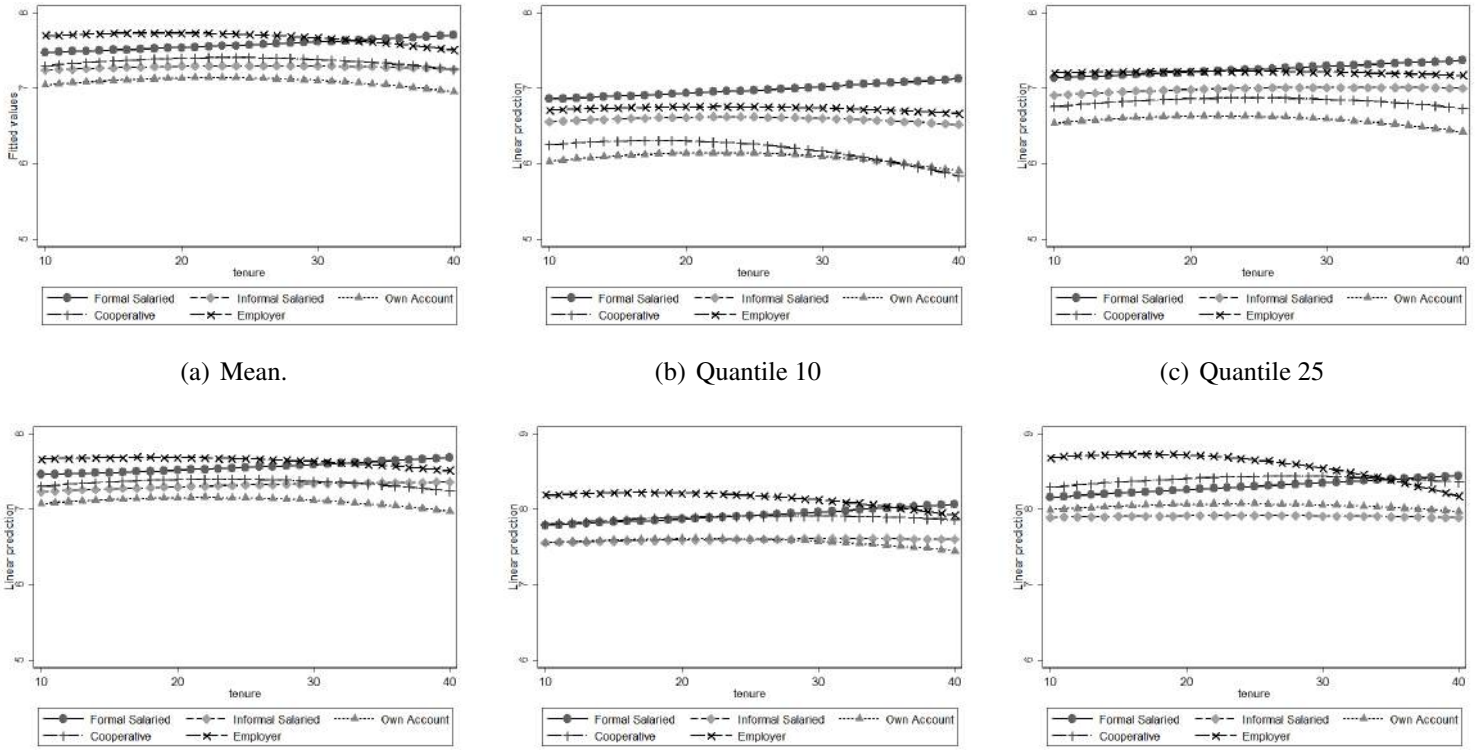
Table 13. Excess Mobility (Monthly Labor Earnings)

Sample: Urban Area, 18 to 65 years old

		Own account			
		Low	Middle	High	Steady State
Relative Cutpoints	Low	1.05	0.93	0.78	1.49
	Middle	1.23	1.04	0.85	1.14
	High	1.40	1.23	0.94	0.79
Optimal Cutpoints	Low	1.09	0.82	0.66	1.41
	Middle	1.15	1.01	0.86	0.99
	High	1.42	1.21	0.90	0.70
		Cooperative			
Relative Cutpoints	Low	0.90	1.15	1.23	0.97
	Middle	0.98	1.02	0.98	1.14
	High	1.32	1.20	0.95	0.93
Optimal Cutpoints	Low	1.00	1.01	0.94	1.25
	Middle	1.16	1.02	0.84	1.09
	High	1.57	1.26	0.87	0.72
		Employer			
Relative Cutpoints	Low	0.32	1.67	5.63	0.09
	Middle	0.27	0.72	1.71	0.56
	High	0.36	0.65	1.10	1.48
Optimal Cutpoints	Low	0.53	1.75	3.82	0.36
	Middle	0.58	0.96	1.40	1.09
	High	1.01	1.08	0.97	1.41

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys
Sample: 18 to 65 years old

Figure 15. Monthly Labor Earnings Profiles by Tenure.

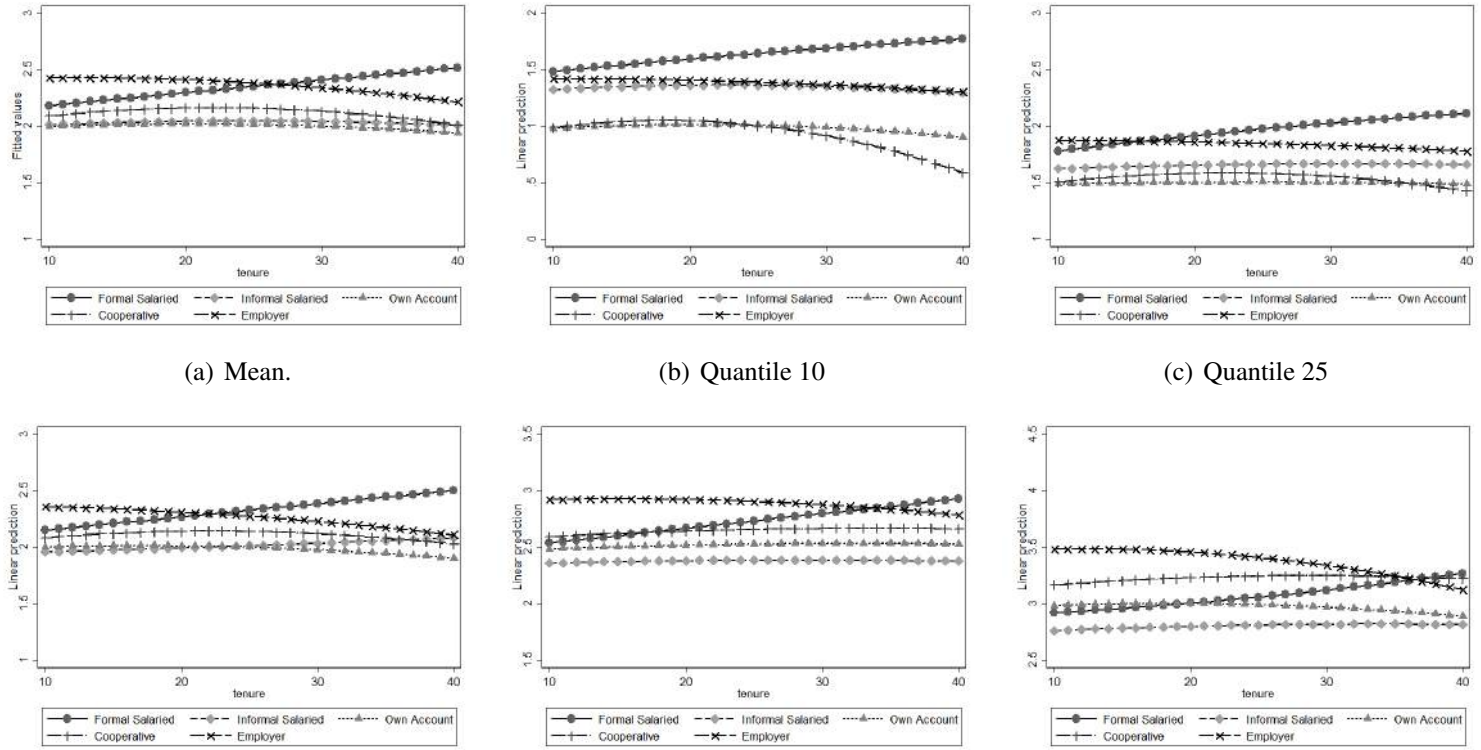


(a) Mean. (b) Quantile 10 (c) Quantile 25

(d) Quantile 50 (e) Quantile 75 (f) Quantile 90

Source: Author's calculations based on Fundacion ARU set of harmonized surveys.
Sample: 18 to 65 years old.

Figure 16. Monthly Wage Profiles by Tenure.



(a) Mean. (b) Quantile 10 (c) Quantile 25

(d) Quantile 50 (e) Quantile 75 (f) Quantile 90

Source: Author's calculations based on Fundacion ARU set of harmonized surveys.
Sample: 18 to 65 years old.

Table 14. OLS and Quantile Monthly Labor Earnings Estimations

Monthly Labor Earnings

	Mean					P(25)					P(50)					P(75)				
	Paid Employee		Self Employed			Paid Employee		Self Employed			Paid Employee		Self Employed			Paid Employee		Self Employed		
	Formal	Informal	Own Account	Cooperative	Employer	Formal	Informal	Own Account	Cooperative	Employer	Formal	Informal	Own Account	Cooperative	Employer	Formal	Informal	Own Account	Cooperative	Employer
age	0.055***	0.068***	0.060***	0.055***	0.059***	0.045***	0.071***	0.070***	0.055***	0.063***	0.056***	0.059***	0.058***	0.036***	0.047***	0.058***	0.057***	0.045***	0.045***	0.053***
	(0.004)	(0.003)	(0.004)	(0.007)	(0.010)	(10.48)	(21.11)	(12.59)	(5.82)	(5.14)	(11.66)	(22.65)	(13.22)	(4.21)	(4.94)	(10.37)	(18.72)	(10.75)	(5.63)	(5.33)
age^2	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.000***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.000***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(8.24)	(18.59)	(12.94)	(6.28)	(4.82)	(8.88)	(19.13)	(13.38)	(4.52)	(4.66)	(7.59)	(14.95)	(10.78)	(5.73)	(4.80)
tenure	0.006**	0.012***	0.027***	0.027***	0.018***	0.008***	0.013***	0.029***	0.027***	0.007	0.005*	0.009***	0.025***	0.025***	0.012***	0.008**	0.007***	0.019***	0.019***	0.020***
	(0.002)	(0.002)	(0.002)	(0.004)	(0.004)	(3.12)	(5.52)	(10.08)	(5.92)	(1.16)	(1.88)	(4.88)	(10.59)	(6.18)	(2.82)	(2.57)	(2.97)	(8.58)	(5.18)	(4.37)
tenure^2	0.000	-0.000***	-0.001***	-0.001***	-0.000***	0.000	-0.000**	-0.001***	-0.001***	-0.000	0.000	-0.000	-0.001***	-0.001***	-0.000***	0.000	-0.000	-0.000***	-0.000***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.06)	(2.37)	(8.01)	(4.12)	(0.87)	(0.95)	(1.50)	(8.31)	(4.54)	(2.68)	(0.38)	(1.19)	(6.91)	(3.20)	(4.24)
years of education	0.078***	0.030***	0.021***	0.021***	0.024***	0.068***	0.016***	0.012***	0.008**	0.018***	0.077***	0.024***	0.019***	0.016***	0.022***	0.083***	0.034***	0.022***	0.024***	0.032***
	(0.002)	(0.001)	(0.002)	(0.003)	(0.003)	(46.78)	(10.53)	(5.45)	(2.12)	(4.12)	(43.74)	(20.04)	(10.48)	(5.04)	(6.51)	(36.02)	(23.23)	(12.54)	(7.84)	(8.80)
sex	-0.267***	-0.425***	-0.628***	-0.439***	-0.141***	-0.257***	-0.446***	-0.825***	-0.602***	-0.243***	-0.267***	-0.428***	-0.688***	-0.465***	-0.152***	-0.248***	-0.423***	-0.523***	-0.313***	-0.008
	(0.012)	(0.010)	(0.014)	(0.024)	(0.033)	(20.86)	(34.96)	(43.22)	(20.33)	(5.99)	(19.56)	(43.21)	(44.19)	(17.00)	(4.81)	(15.58)	(38.12)	(34.75)	(12.13)	(0.24)
mestizo	-0.124***	-0.008	0.004	0.034	0.024	-0.093***	0.006	0.022	0.022	-0.023	-0.135***	0.008	0.029	0.026	0.062*	-0.149***	-0.001	0.014	0.022	0.021
	(0.014)	(0.011)	(0.018)	(0.033)	(0.035)	(6.47)	(0.43)	(0.91)	(0.53)	(0.52)	(8.55)	(0.75)	(1.48)	(0.70)	(1.82)	(7.91)	(0.10)	(0.77)	(0.65)	(0.59)
indigenous	-0.173***	0.049***	-0.076***	-0.040	-0.008	-0.080***	0.078***	-0.081***	-0.045	-0.014	-0.165***	0.090***	-0.062**	-0.027	0.040	-0.174***	0.045***	-0.048**	-0.017	0.028
	(0.024)	(0.016)	(0.022)	(0.037)	(0.046)	(3.21)	(3.82)	(2.68)	(0.99)	(0.25)	(6.08)	(5.73)	(2.55)	(0.63)	(0.91)	(5.57)	(2.58)	(2.07)	(0.44)	(0.59)
CHU	-0.117***	0.119***	0.023	0.023	-0.044	-0.074***	0.123***	0.005	-0.017	0.153	-0.062**	0.190***	-0.014	0.020	-0.038	-0.120***	0.159***	0.013	0.070	-0.104
	(0.024)	(0.019)	(0.028)	(0.047)	(0.105)	(3.01)	(5.03)	(0.12)	(0.30)	(1.20)	(2.24)	(10.02)	(0.45)	(0.37)	(0.38)	(3.77)	(7.48)	(0.43)	(1.40)	(0.98)
CBB	-0.123***	0.196***	0.405***	0.349***	0.239***	-0.054***	0.241***	0.450***	0.363***	0.299***	-0.080***	0.224***	0.415***	0.295***	0.231***	-0.172***	0.168***	0.348***	0.304***	0.231***
	(0.019)	(0.014)	(0.020)	(0.036)	(0.043)	(2.85)	(13.28)	(16.61)	(8.14)	(5.63)	(3.81)	(15.85)	(19.08)	(7.24)	(5.59)	(7.07)	(10.56)	(16.92)	(8.06)	(5.19)
ORU	-0.157***	-0.053***	-0.043	-0.123***	-0.013	-0.086***	-0.053**	-0.064*	-0.225***	-0.078	-0.128***	-0.032*	-0.065**	-0.189***	-0.010	-0.195***	-0.046**	-0.050*	-0.003	0.057
	(0.024)	(0.018)	(0.027)	(0.040)	(0.051)	(3.55)	(2.21)	(1.74)	(4.51)	(1.24)	(4.74)	(1.73)	(2.23)	(4.17)	(0.21)	(6.21)	(2.22)	(1.82)	(0.08)	(1.09)
POT	0.015	0.078***	-0.031	-0.005	0.167**	0.092***	0.052*	-0.082*	-0.056	0.112	0.077***	0.126***	-0.020	-0.039	0.176**	0.016	0.160***	0.012	0.029	0.233***
	(0.026)	(0.022)	(0.032)	(0.044)	(0.078)	(3.51)	(1.80)	(1.91)	(1.02)	(1.15)	(2.68)	(5.63)	(0.59)	(0.77)	(2.34)	(0.49)	(6.38)	(0.37)	(0.61)	(2.90)
TJA	-0.084***	0.300***	0.226***	0.170***	0.096	0.087***	0.340***	0.364***	0.252***	0.237***	-0.077***	0.341***	0.215***	0.144***	0.061	-0.214***	0.259***	0.095***	0.118***	0.039
	(0.023)	(0.019)	(0.030)	(0.042)	(0.071)	(3.73)	(13.79)	(8.92)	(4.72)	(2.64)	(2.95)	(17.71)	(6.60)	(2.97)	(0.88)	(6.90)	(11.88)	(3.07)	(2.61)	(0.53)
SCZ	0.049***	0.455***	0.643***	0.712***	0.449***	0.129***	0.547***	0.678***	0.656***	0.428***	0.067***	0.482***	0.603***	0.686***	0.447***	-0.011	0.368***	0.578***	0.648***	0.472***
	(0.019)	(0.015)	(0.023)	(0.043)	(0.041)	(6.88)	(27.87)	(21.69)	(12.18)	(8.30)	(3.20)	(31.69)	(23.90)	(13.91)	(11.24)	(0.44)	(21.46)	(23.97)	(13.98)	(10.95)
BNI-PAN	0.040*	0.437***	0.493***	0.843***	0.545***	0.110***	0.497***	0.585***	0.873***	0.555***	0.051*	0.444***	0.413***	0.715***	0.608***	-0.040	0.338***	0.348***	0.837***	0.613***
	(0.024)	(0.017)	(0.029)	(0.072)	(0.058)	(4.62)	(22.19)	(14.67)	(9.69)	(7.68)	(1.92)	(25.52)	(12.89)	(8.67)	(10.84)	(1.27)	(17.31)	(11.46)	(10.84)	(10.24)
Constant	5.557***	5.368***	5.454***	5.676***	5.893***	5.493***	5.139***	4.916***	5.417***	5.521***	5.519***	5.618***	5.587***	6.194***	6.189***	5.736***	5.936***	6.296***	6.351***	6.324***
	(0.084)	(0.046)	(0.084)	(0.160)	(0.201)	(64.39)	(85.19)	(42.87)	(27.17)	(22.06)	(58.99)	(119.56)	(60.84)	(33.92)	(31.81)	(52.29)	(110.32)	(73.03)	(36.97)	(31.32)
Observations	10088	19951	15657	6292	3479	10088	19951	15657	6292	3479	10088	19951	15657	6292	3479	10088	19951	15657	6292	3479
R-squared	0.30	0.23	0.26	0.17	0.10	0.16	0.14	0.17	0.12	0.06	0.18	0.15	0.16	0.10	0.06	0.21	0.13	0.13	0.08	0.07

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.
Sample: 18 to 65 years old.
Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%
CHU=Chuquisaca, CBB=Cochabamba, ORU=Oruro, POT=Potosí, TJA=Tarija, SCZ=Santa Cruz, BNI-PAN=Beni and Pando.

Table 15. OLS and Quantile Hourly Wage Estimations

Hourly Wage

	Mean					**P(25)**					**P(50)**					**P(75)**				
	Paid Employee		**Self Employed**			**Paid Employee**		**Self Employed**			**Paid Employee**		**Self Employed**			**Paid Employee**		**Self Employed**		
	Formal	**Informal**	**Own Account**	**Cooperative**	**Employer**	**Formal**	**Informal**	**Own Account**	**Cooperative**	**Employer**	**Formal**	**Informal**	**Own Account**	**Cooperative**	**Employer**	**Formal**	**Informal**	**Own Account**	**Cooperative**	**Employer**
age	0.046***	0.037***	0.023***	0.021***	0.040***	0.036***	0.038***	0.024***	0.021**	0.041***	0.049***	0.036***	0.019***	0.028***	0.040***	0.054***	0.041***	0.024***	0.027***	0.031**
	(0.005)	(0.003)	(0.004)	(0.008)	(0.011)	(7.10)	(12.56)	(4.16)	(2.11)	(3.16)	(8.59)	(12.94)	(4.96)	(3.06)	(3.45)	(8.86)	(14.26)	(5.18)	(2.99)	(2.33)
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***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(4.55)	(9.77)	(4.54)	(2.73)	(2.77)	(5.84)	(9.05)	(4.95)	(3.48)	(2.84)	(6.04)	(10.06)	(5.21)	(3.04)	(1.74)
tenure	0.012***	0.008***	0.009***	0.022***	0.007	0.015***	0.006***	0.004	0.024***	0.001	0.012***	0.002	0.007***	0.017***	0.001	0.013***	0.005**	0.006***	0.009**	0.007
	(0.003)	(0.002)	(0.002)	(0.004)	(0.005)	(5.03)	(2.91)	(1.28)	(4.78)	(0.15)	(3.74)	(1.21)	(3.56)	(3.80)	(0.17)	(3.79)	(2.22)	(2.61)	(2.04)	(1.18)
tenure^2	-0.000	-0.000**	-0.000***	-0.000***	-0.000*	-0.000	-0.000	-0.000	-0.001***	-0.000	-0.000	0.000	-0.000***	-0.000***	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(1.24)	(1.27)	(0.88)	(3.58)	(0.45)	(0.13)	(0.44)	(3.58)	(2.90)	(1.17)	(0.05)	(1.03)	(1.38)	(1.02)	(1.30)
years of education	0.101***	0.051***	0.034***	0.025***	0.030***	0.102***	0.034***	0.026***	0.014***	0.019***	0.105***	0.043***	0.029***	0.019***	0.029***	0.102***	0.052***	0.037***	0.028***	0.042***
	(0.002)	(0.001)	(0.002)	(0.003)	(0.004)	(59.72)	(26.55)	(11.23)	(3.75)	(4.25)	(49.15)	(34.07)	(18.36)	(5.37)	(6.98)	(40.03)	(36.69)	(18.60)	(7.95)	(8.81)
sex	-0.131***	-0.245***	-0.299***	-0.321***	-0.021	-0.114***	-0.256***	-0.439***	-0.456***	-0.177***	-0.133***	-0.280***	-0.313***	-0.373***	-0.078**	-0.132***	-0.250***	-0.156***	-0.168***	0.109**
	(0.013)	(0.010)	(0.015)	(0.026)	(0.035)	(7.70)	(22.26)	(22.06)	(14.04)	(4.15)	(8.07)	(26.56)	(23.30)	(12.54)	(2.02)	(7.66)	(23.57)	(9.48)	(5.67)	(2.49)
mestizo	-0.101***	-0.052***	-0.091***	-0.020	-0.005	-0.059***	-0.022*	-0.092***	0.008	-0.045	-0.085***	-0.025**	-0.090***	-0.017	0.014	-0.104***	-0.057***	-0.079***	-0.000	0.039
	(0.015)	(0.011)	(0.018)	(0.036)	(0.037)	(3.47)	(1.69)	(3.64)	(0.17)	(0.96)	(4.43)	(2.04)	(5.36)	(0.41)	(0.34)	(5.08)	(4.69)	(3.89)	(0.01)	(0.81)
indigenous	-0.138***	-0.006	-0.177***	-0.122***	-0.121**	-0.082***	0.032*	-0.190***	-0.074	-0.131**	-0.143***	0.040**	-0.162***	-0.119***	-0.075	-0.140***	-0.015	-0.130***	-0.093**	-0.040
	(0.026)	(0.016)	(0.023)	(0.041)	(0.049)	(2.73)	(1.68)	(6.02)	(1.44)	(2.14)	(4.30)	(2.38)	(7.67)	(2.58)	(1.38)	(4.07)	(0.92)	(5.06)	(2.08)	(0.63)
CHU	-0.076***	0.131***	-0.226***	-0.042	0.018	-0.114***	0.155***	-0.230***	-0.090	0.045	-0.077**	0.188***	-0.249***	-0.093	0.113	-0.063*	0.150***	-0.201***	-0.005	-0.040
	(0.026)	(0.019)	(0.029)	(0.052)	(0.112)	(3.81)	(6.99)	(5.79)	(1.41)	(0.33)	(2.32)	(9.27)	(9.34)	(1.59)	(0.90)	(1.80)	(7.35)	(6.16)	(0.09)	(0.27)
CBB	-0.099***	0.159***	0.163***	0.267***	0.281***	-0.041*	0.208***	0.226***	0.304***	0.275***	-0.103***	0.207***	0.193***	0.254***	0.315***	-0.181***	0.151***	0.161***	0.246***	0.290***
	(0.020)	(0.014)	(0.020)	(0.039)	(0.045)	(1.83)	(12.68)	(8.06)	(6.25)	(4.94)	(4.09)	(13.72)	(10.30)	(5.76)	(6.25)	(6.84)	(9.91)	(7.03)	(5.69)	(4.96)
ORU	-0.104***	-0.033*	-0.029	-0.047	0.141***	-0.093***	-0.040*	-0.024	-0.172***	0.100	-0.051	-0.006	-0.070***	-0.090*	0.088	-0.120***	-0.019	-0.022	0.069	0.040
	(0.026)	(0.019)	(0.028)	(0.044)	(0.054)	(3.16)	(1.84)	(0.64)	(3.15)	(1.51)	(1.55)	(0.30)	(2.74)	(1.81)	(1.47)	(3.47)	(0.97)	(0.70)	(1.42)	(0.59)
POT	0.068**	0.172***	-0.013	0.047	0.296***	0.091***	0.117***	-0.096**	-0.077	0.219**	0.101***	0.216***	-0.063**	0.019	0.261***	0.054	0.272***	0.030	0.129**	0.359***
	(0.028)	(0.022)	(0.033)	(0.048)	(0.083)	(2.89)	(4.47)	(2.15)	(1.29)	(2.15)	(2.88)	(9.00)	(2.10)	(0.34)	(2.82)	(1.49)	(11.33)	(0.82)	(2.41)	(3.40)
TJA	-0.045*	0.235***	-0.134***	0.052	0.014	0.033	0.318***	0.002	0.216***	0.150	-0.058*	0.307***	-0.137***	0.063	0.028	-0.135***	0.179***	-0.209***	0.023	-0.033
	(0.025)	(0.019)	(0.030)	(0.047)	(0.075)	(1.17)	(14.28)	(0.06)	(3.73)	(1.61)	(1.83)	(14.98)	(4.90)	(1.20)	(0.34)	(4.04)	(8.60)	(6.10)	(0.45)	(0.35)
SCZ	0.028	0.332***	0.377***	0.540***	0.410***	0.107***	0.450***	0.435***	0.499***	0.416***	0.015	0.390***	0.360***	0.517***	0.439***	-0.028	0.248***	0.332***	0.502***	0.406***
	(0.020)	(0.015)	(0.024)	(0.049)	(0.044)	(4.75)	(25.31)	(13.38)	(8.22)	(7.74)	(0.58)	(24.04)	(16.50)	(9.46)	(9.04)	(1.04)	(15.06)	(12.43)	(9.34)	(7.06)
BNI-PAN	0.052**	0.349***	0.108***	0.604***	0.397***	0.123***	0.464***	0.191***	0.697***	0.448***	0.019	0.397***	0.065**	0.473***	0.535***	-0.032	0.253***	0.086**	0.613***	0.499***
	(0.025)	(0.017)	(0.030)	(0.081)	(0.061)	(4.30)	(22.97)	(4.64)	(6.97)	(5.89)	(0.59)	(21.51)	(2.38)	(5.17)	(7.83)	(0.93)	(13.63)	(2.57)	(6.84)	(6.35)
Constant	0.082	0.536***	1.209***	1.246***	0.989***	-0.163	0.295***	0.866***	0.854***	0.668**	-0.073	0.564***	1.357***	1.233***	0.950***	0.255**	0.813***	1.559***	1.547***	1.406***
	(0.089)	(0.047)	(0.086)	(0.176)	(0.214)	(1.63)	(5.52)	(7.32)	(3.97)	(2.52)	(0.65)	(11.25)	(17.11)	(6.22)	(3.98)	(2.14)	(15.74)	(16.08)	(7.87)	(5.13)
Observations	9751	19549	15164	5972	3368	9751	19549	15164	5972	3368	9751	19549	15164	5972	3368	9751	19549	15164	5972	3368
R-squared	0.37	0.18	0.15	0.11	0.09	0.21	0.10	0.10	0.08	0.05	0.24	0.11	0.09	0.06	0.06	0.24	0.11	0.07	0.05	0.06

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.
Sample: 18 to 65 years old.
Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%
CHU=Chuquisaca, CBB=Cochabamba, ORU=Oruro, POT=Potosí, TJA=Tarija, SCZ=Santa Cruz, BNI-PAN=Beni and Pando.

References

[1] Panel data from time series of cross-sections.

[2] The world bank group entrepreneurship database.
Technical report, World Bank Development Research Group and International Finance Corporation, 2010.

[3] Francisca Antman and David Mckenzie.
Earnings mobility and measurement error: A pseudo-panel approach.
Policy Research Working Paper Series 3745, The World Bank, 2005.

[4] Jose Cuesta, Hugo Nopo, and Georgina Pizzolito.
Using pseudo-panels to measure income mobility in latin america.
Discussion Paper Series 5449, IZA, 2011.

[5] JB Davies and AF Shorrocks.
Optimal grouping of income and wealth data.
Technical Report 1-2, 1989.

[6] Joe Davis and John Huston.
The shrinking middle-income class: A multivariate analysis.
Technical Report 3, 1992.

[7] Marco A. Fernandez.
Global entrepreneurship monitor reporte nacional bolivia 2010.
Technical report, Global Entrepreneurship Monitor, 2010.

[8] Gary Fields.
But that is not what social mobility is!
Technical report, Cornell University and IZA, 2010.

[9] Gary Fields, Robert Duval, Samuel Freije, and Maria Laura Sanchez.
Intragenerational income mobility in latin america.
Technical Report 2, 2007.

[10] Gary Fields and Maria Laura Sanchez Puerta.
How is convergent mobility consistent with rising inequality? a reconciliation in the case of argentina.
Technical report, Cornell University, 2005.

[11] Gary Fields and Maria Laura Sanchez Puerta.
Earnings mobility in times of growth and decline, argentina from 1996 to 2003.
Research Paper Series 2008/06, World Institute for Development Economics Research, 2008.

[12] Deon Filmer and Lant Pritchett.
Estimating wealth effects without expenditure data – or tears: An application to educational enrollments in states of india.
Technical report, 2001.

[13] Barton H. Hamilton.
Does entrepreneurship pay? an empirical analysis of the returns of self-employment.
Technical report, 2000.

[14] Robert Moffitt.
Identification and estimation of dynamic models with a time-series of repeated cross-sections.
Technical report, 1993.

[15] Ana Navarro.
Estimating long term earnings mobility in argentina with pseudo-panel data.
Technical Report 2.

[16] Ana Navarro.
Estimating income mobility in argentina with pseudo-panel data.
Technical report, Universidad de San Andres, 2006.

[17] Rafael Novella, Laura Ripani, Maria Cecilia Soto, and Luis Tejerina.
Trading places: A decade of earnings mobility in chile and nicaragua.
Technical report, 2010.

[18] Desai Sameeksha.
Measuring entrepreneurship in developing countries.
Research paper 2009/10, World Institute for Development Economics Research, 2009.

[19] Robert Shimer.
Reassessing the ins and outs of unemployment, 2005.

[20] Marno Verbeek and Francis Vella.
Estimating dynamic models from repeated cross-sections.
Technical report, 2000.

A Methodological Appendix

A.1 Estimation of Time Dependence Parameters

The starting point to the measurement of time dependence, or persistence of economic outcomes, is a first order autoregresive AR(1) income model. Let y_{it} be the observed income for individual i in period t, the AR(1) income modell can be written as,

$$y_{it} = \alpha + \rho y_{it-1} + \beta x_{it} + f_i + u_{it}, t = 1, 2, ..., T \tag{7}$$

Equation (7) is best viewed as a "population model" defined over T periods of time where α is a constant, ρ is the persistance parameter, β is the effect of observed heterogeneity $x_{i,t}$, f_i is the effect of unobserved heterogeneity and u_{it} is a transitory idiosyncratic shock. Popular restricted version of the previous model include its unconditional version - equation 8, and its version conditional only on observed heterogeneity 9

$$y_{it} = \alpha + \rho y_{it-1} + v_{it}, t = 1, 2, ..., T \tag{8}$$

$$y_{it} = \alpha + \rho y_{it-1} + \beta x_{it} + \omega_{it}, t = 1, 2, ..., T \tag{9}$$

Furthermore, we are interested in estimating entrepreneurs' excess time dependence so we modify the model

$$y_{it} = \alpha + \rho y_{it-1} + \gamma E * y_{it-1} + \delta E + \beta x_{it} + f_i + u_{it}, t = 1, 2, ..., T \tag{10}$$

$$y_{it} = \alpha + \rho y_{it-1} + \gamma E * y_{it-1} + \delta E + v_{it}, t = 1, 2, ..., T \tag{11}$$

$$y_{it} = \alpha + \rho y_{it-1} + \gamma E * y_{it-1} + \delta E + \beta x_{it} + \omega_{it}, t = 1, 2, ..., T \tag{12}$$

Estimation of equations(7),(8),(9),(10),(11), and (12) depends on the type of data available, panel or pseudo-panel. With panel data, the presence of measurement error and non-random attrition may bias simple estimation procedures ([3]). For example, whenever the earnings (or the income) process is measured with error the estimation of the time dependence parameter will always be underestimated. As suggested by [9], the problem can be solved using or constructed appropriate instruments for the lag dependent variable(s). One of such instruments is permanent earnings (or income), which can be constructed as the predicted value of a simple earnings (or income) regression on exogenous variables such as sex, age and level of education,

$$\hat{y}_{it} = \hat{a} + \hat{b} female_{it} + \sum_j \sum_k \hat{c}_{jk} I(age_{ijt}) * I(schooling_{ikt}) + \sum_l \hat{d} I(city_{ilt}) \tag{13}$$

With pseudo-panel data -a collection of multiple observation over time for a cross section of "cohorts", it is easier to identify population parameters Notice that, If we divide population for

which the model holds into G cohorts defined by ranges of birth year. Furthermore, assuming that $E[u_{it}|g_i = g] = 0$, we will have that,

$$\mu^y_{g,t} = \alpha + \rho\mu^y_{g,t-1} + \beta\mu^x_{g,t} + \alpha_g$$

where $\mu^y_{g,t} = E[y_{it}|g_i = g]$, $\mu^y_{g,t-1} = E[y_{i,t-1}|g_i = g]$, $\mu^x_{g,t} = E[x_{i,t}|g_i = g]$ and $+E[f_i|g_i = g] = \alpha_g$. Again, the popularized restricted version can be also estimated with pseudo-panel. Assuming that $E[v_{it}|g_i = g] = 0$ and $E[\omega_{it}|g_i = g] = 0$, we will have that,

$$\mu^y_{g,t} = \alpha + \rho\mu^y_{g,t-1}$$

$$\mu^y_{g,t} = \alpha + \rho\mu^y_{g,t-1} + \alpha_g$$

Notice that the pseudo-panel formulation is remarkable in that it holds without any assumptions restricting the dependence between u_{it} and the explanatory variables y_{it_1} and x_{it_1}. Furthermore, as suggested by [3], pseudo panels, can consistently estimate mobility elasticities even in the presence of non-classical measurement error and non-random attrition. Although, at first this may look a little suspicious, with sufficient observations in the group/time cells we will have consistent estimates of the means $\mu^y_{g,t}$, $\mu^y_{g,t-1}$ and $\mu^x_{g,t}$, and used them to consistently estimates parameters of equation 7 using a *minimum distance* estimation framework.

A.2 Estimation of Positional Mobility Matrices

A natural complement to an analysis of time persistance is an analysis of positional mobility, i.e. the degree to which the individual´s position in the income distribution in the past determines his position in the present. The basic tool is an origin-destination transition matrix where rows identify the economic stratum of origin and columns identify the economic stratum of destination. A direct estimation of the transition matrix between income classes is not possible using a pseudo-panel - at the individual level we only have one observation of the income process, and have a serious measurement error problem with panel data - since both the base and final incomes are usually measured with error we will tend to overestimate the degree of positional mobility. Hernani-Limarino and Eid(2011) propose to use the estimated parameters of the unconditional time dependence equation to construct class transition matrices using the structure of a basic standard normal ordered model. More formally, let μ_1 and μ_2 be the income cut-points that divide lower and middle classes, and middle and upper classes, respectively. Then, we can estimate the elements of the transition matrix in the following way,

$$\begin{aligned} p_{LL} &= P(y_{it} \leq \mu_1 | y_{i,t-1} \leq \mu_1) \\ &= P(\rho y_{i,t-1} + u_{i,t} \leq \mu_1 | y_{i,t-1} \leq \mu_1) \\ &= P(\tfrac{u_{i,t}}{\sigma_u} \leq \tfrac{\mu_1 - \rho y_{i,t-1}}{\sigma_u} | y_{i,t-1} \leq \mu_1) \\ &= \Phi(\tfrac{\mu_1 - \rho y_{i,t-1}}{\sigma_u}) \qquad \text{for} \quad y_{i,t-1} \leq \mu_1 \end{aligned}$$

and consequently,

$$
\begin{array}{lll}
p_{LM} = \Phi\left(\frac{\mu_2-\rho y_{i,t-1}}{\sigma_u}\right) - \Phi\left(\frac{\mu_1-\rho y_{i,t-1}}{\sigma_u}\right) & \text{for} & y_{i,t-1} \leq \mu_1 \\
p_{LH} = 1 - \Phi\left(\frac{\mu_2-\rho y_{i,t-1}}{\sigma_u}\right) & \text{for} & y_{i,t-1} \leq \mu_1 \\
p_{ML} = \Phi\left(\frac{\mu_1-\rho y_{i,t-1}}{\sigma_u}\right) & \text{for} & \mu_1 < y_{i,t-1} \leq \mu_2 \\
p_{MM} = \Phi\left(\frac{\mu_2-\rho y_{i,t-1}}{\sigma_u}\right) - \Phi\left(\frac{\mu_1-\rho y_{i,t-1}}{\sigma_u}\right) & \text{for} & \mu_1 < y_{i,t-1} \leq \mu_2 \\
p_{MH} = 1 - \Phi\left(\frac{\mu_2-\rho y_{i,t-1}}{\sigma_u}\right) & \text{for} & \mu_1 < y_{i,t-1} \leq \mu_2 \\
p_{HL} = \Phi\left(\frac{\mu_1-\rho y_{i,t-1}}{\sigma_u}\right) & \text{for} & y_{i,t-1} > \mu_2 \\
p_{HM} = \Phi\left(\frac{\mu_2-\rho y_{i,t-1}}{\sigma_u}\right) - \Phi\left(\frac{\mu_1-\rho y_{i,t-1}}{\sigma_u}\right) & \text{for} & y_{i,t-1} > \mu_2 \\
p_{HH} = 1 - \Phi\left(\frac{\mu_2-\rho y_{i,t-1}}{\sigma_u}\right) & \text{for} & y_{i,t-1} > \mu_2
\end{array} \tag{14}
$$

A.3 Endogenous Cut-points for Income-Classes

To obtain optimal partitions of the income distribution, we use the algorithm proposed by [**?**] which guarantees that groups correspond to non-overlapping income ranges and minimizes loss of distributional detail, in this case captured by the Gini coefficient. Such algorithm requires arranging individual incomes y_i in ascending order and consider only those groups that consist of the first n_i incomes, the next of the n_2 incomes, and so on. Such *ordered partition* is associated with a vector $N = (N_1, ...N_k)$ where N_j represents the total number of households in the lowest j groups (so that $N_k = n$).
When using the Gini coefficient, [**?**] show that a necessary condition for an optimal partition N^* is given by,

$$
y_{N_j} \leq m_j(N^*) \leq y_{N_j^*+1} \text{ for all } j = 1, ..., k-1 \tag{15}
$$

where $m_j(N)$ denotes the combined mean of groups j and $j+1$ under the ordered partition N. Condition (15) indicates that the upper bound for incomes in group j and the lower bound for income in group $j+1$ are given by the mean income of these two groups.
To identify all ordered partition satisfying (15) two convergent sequences $\{N(t)\}_{t=0}^{\infty}$ and $\{N'(t)\}_{t=0}^{\infty}$ must be built according to

$$
N_k(t) = n, \; t \geq 0
$$

$$
\begin{gathered}
N_j(0) = n, \; j < k \\
N_j(t+1) = \max\{i | x_i < m_j(N(t)) \vee i = N_j(t)\} \, j < k, t \geq 0
\end{gathered} \tag{16}
$$

and

$$
N'_k(t) = n, \; t \geq 0
$$

$$
\begin{gathered}
N'_j(0) = n - k + j, \; j < k \\
N'_j(t+1) = \max\{i | x_{i+1} > m_j(N'(t)) \vee i = N'_j(t)\}, j < k, t \geq 0
\end{gathered} \tag{17}
$$

Both these sequences converge in a finite number of steps to their limits μ_1 and μ_2 respectively, and satisfy condition (15), providing lower and upper bounds on the optimal partition. For additional details see [5]

A.4 Associated Factors of the Decision to Be an Entrepreneur

To estimate the probabilities of being a particular type of entrepreneur conditional on each of the explanatory variables, we first estimate a multinomial logit model,

$$P(L_i = l) = \alpha + \sum_{i=1}^{5} \beta_i wealth_i + \sum_{i=1}^{17} \gamma_i schooling_i + \sum_{i=1}^{9} \phi_i age_i + \sum_{i=1}^{8} \omega_i city_i + \delta_i female_i \quad (18)$$

where X is a categorical variable that identifies all alternative labor market status -ie. out of the labor force, unemployed, formal salaried workers, informal salaried workers, familiar workers and the alternative forms of entrepreneurs; $wealth_i, i = 1, ..., 5$ a set of five dummy variables that indicate the individuals' wealth class which ranges from 1 to 5, 1 being the lowest wealth class and 5 the highest; $schooling_i, i = 1, ..., 17$ denotes a dummy variable for each year of schooling; $age_i, i = 1, ..., 9$ represents a group of dummy variables for each age group, $city_i, i = 1, ..., 8$ are dummy variables for each city in the country (Pando and Beni were grouped as a single city), and $female_i$ is a dummy variable for gender.

After (18) is estimated, we calculate the probabilities of being a given type of entrepreneur on each category of the explanatory variable of interest holding all other covariates constant at their average value. The set of covariates include only individuals' exogenous characteristics: sex, age, schooling, place of residence, and, fundamentally, wealth. To include this last covariate, we follow Filmer and Pritchet (2001) and construct a wealth index using dwelling's ownership and construction materials as well as the ownership of a considerable set of durable goods.

Following Pritchett et. al., we construct a wealth index based on indicators of household assets whose weights are determined by principal component analysis. There are alternative procedures for the weight determination, such as the estimation of multivariate regressions, with the weights being the regression coefficients. While this procedure produces a linear index, this index cannot be interpreted as the effect of an increase in wealth, and principal components allows for such interpretation. This statistical procedure extracts from a large number of variables the few orthogonal linear combinations of the variables that best capture the common information. and the first component provides the weights to be used for the index. The result of principal components is an asset index for each individual based on the formula

$$A_j = f_1 \cdot \frac{(a_{j1} - a_1)}{s_1} + ... + f_N \cdot \frac{(a_{jN} - a_N)}{s_N}$$

where f_N is the *scoring factor* for the Nth asset determined by the procedure, a_{jN} is the jth individuals' value for the Nth asset and a_N and s_N are the mean and the standard deviation of the Nth asset over all individuals.

We use two main kinds of assets, the first category includes variables about household ownership of certain durables such as TV, radio or refrigerator, the second category groups variables that describe household dwelling characteristics (e.g. toilet facilities, source of drinking water, building materials used). An added benefit of this construction is interpretation: since all of the variables used are dummies (except for number of rooms), a move from 0 to 1 would increase the index by f_i/s_i.

B Additional Tables and Graphs

Table 16. Time Dependence Regression.

Dependent Variable: Log of Monthly Labor Earnings from Primary Job

Sample: Urban Area, 18 to 65 years old

	Quarterly			Annually		
	Uncond.	**Cond.**	**CFE**	**Uncond.**	**Cond.**	**CFE**
Y_{t-1}	0.697***	0.602***	0.176***	0.634***	0.529***	0.037
	-0.007	-0.008	-0.03	-0.011	-0.011	-0.031
$Y_{t-1} \cdot D_1$	-0.122***	-0.085***	-0.015	-0.196***	-0.158***	-0.039
	-0.011	-0.011	-0.041	-0.017	-0.017	-0.039
$Y_{t-1} \cdot D_2$	-0.197***	-0.147***	-0.025	-0.182***	-0.133***	0.02
	-0.016	-0.016	-0.049	-0.023	-0.023	-0.048
$Y_{t-1} \cdot D_3$	-0.282***	-0.213***	0.002	-0.246***	-0.167***	0.137**
	-0.021	-0.02	-0.068	-0.032	-0.031	-0.059
D_1	0.664***	0.402***	-0.048	1.157***	0.900***	0.264
	-0.081	-0.082	-0.298	-0.119	-0.12	-0.28
D_2	1.250***	0.916***	0.071	1.164***	0.844***	-0.082
	-0.112	-0.112	-0.35	-0.166	-0.164	-0.343
D_3	2.292***	1.747***	-0.032	2.024***	1.414***	-0.926**
	-0.156	-0.154	-0.513	-0.244	-0.238	-0.444
age		0.028***			0.028***	
		-0.002			-0.004	
age^2		-0.000***			-0.000***	
		0			0	
Some Primary		0.158***			0.301***	
		-0.034			-0.054	
Complete Primary		0.192***			0.413***	
		-0.036			-0.057	
Some Secondary		0.231***			0.375***	
		-0.035			-0.056	
Complete Secondary		0.243***			0.377***	
		-0.035			-0.055	
Teachers College		0.325***			0.481***	
		-0.038			-0.059	
Technical College		0.256***			0.401***	
		-0.036			-0.056	
Undergraduate		0.343***			0.514***	
		-0.035			-0.055	
Graduate		0.611***			0.856***	
		-0.042			-0.066	
Other		0.273***			0.395***	
		-0.041			-0.065	
Gender		-0.186***			-0.223***	
		-0.009			-0.014	
Constant	2.264***	2.171***	6.035***	2.754***	2.568***	6.999***
	-0.051	-0.072	-0.224	-0.079	-0.112	-0.228
Observations	20967	20964	20967	9488	9486	9488
R-squared	0.48	0.51	0.03	0.43	0.46	0.01

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys
NOTE: Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
"No education" category excluded

Table 17. Time Dependence Regression

Dependent Variable: Log of Monthly Household Per Capita Income

Sample: Urban Area, 18 to 65 years old

	Quarterly			Annually		
	Uncond.	**Cond.**	**CFE**	**Uncond.**	**Cond.**	**CFE**
Y_{t-1}	0.629***	0.574***	0.179***	0.485***	0.432***	0.034**
	-0.005	-0.005	-0.017	-0.007	-0.007	-0.015
$Y_{t-1} \cdot D_1$	-0.121***	-0.101***	-0.036	-0.101***	-0.087***	-0.013
	-0.012	-0.011	-0.033	-0.016	-0.016	-0.029
$Y_{t-1} \cdot D_2$	-0.166***	-0.136***	-0.045	-0.137***	-0.106***	0.003
	-0.016	-0.016	-0.042	-0.022	-0.022	-0.037
$Y_{t-1} \cdot D_3$	-0.093***	-0.080***	-0.068	-0.109***	-0.091***	0.004
	-0.022	-0.021	-0.06	-0.03	-0.029	-0.054
D_1	0.794***	0.690***	0.388*	0.633***	0.594***	0.29
	-0.075	-0.073	-0.211	-0.102	-0.1	-0.186
D_2	1.010***	0.857***	0.461*	0.811***	0.674***	0.158
	-0.104	-0.101	-0.265	-0.141	-0.137	-0.236
D_3	0.872***	0.786***	0.646	1.006***	0.893***	0.218
	-0.148	-0.144	-0.395	-0.202	-0.198	-0.357
age		-0.009***			-0.009***	
		-0.002			-0.003	
age^2		0.000***			0.000***	
		0			0	
Some Primary		0.083***			0.194***	
		-0.028			-0.043	
Complete Primary		0.139***			0.320***	
		-0.03			-0.046	
Some Secondary		0.183***			0.269***	
		-0.029			-0.044	
Complete Secondary		0.205***			0.329***	
		-0.028			-0.043	
Teachers College		0.339***			0.536***	
		-0.032			-0.049	
Technical College		0.313***			0.478***	
		-0.029			-0.045	
Undergraduate		0.392***			0.543***	
		-0.028			-0.043	
Graduate		0.741***			0.969***	
		-0.039			-0.058	
Other		0.318***			0.440***	
		-0.037			-0.056	
Gender		-0.013			-0.021*	
		-0.008			-0.012	
Constant	2.371***	2.555***	5.225***	3.317***	3.342***	6.140***
	-0.031	-0.052	-0.107	-0.043	-0.076	-0.097
Observations	36487	36248	36487	17539	17505	17539
R-squared	0.37	0.4	0.04	0.28	0.31	0.01

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys
NOTE: Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
"No education" category excluded

Table 18. Distribution of Population by Income Class

Sample: Urban Area, 18 to 65 years

Class	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
	Relative cutpoints						
Lower	0.08	0.06	0.09	0.07	0.09	0.09	0.09
Middle	0.42	0.40	0.40	0.39	0.39	0.34	0.39
Upper	0.50	0.54	0.50	0.54	0.52	0.56	0.52
	Optimal cutpoints						
Lower	0.44	0.42	0.36	0.33	0.31	0.28	0.28
Middle	0.40	0.40	0.44	0.47	0.47	0.49	0.46
Upper	0.16	0.17	0.20	0.20	0.23	0.24	0.26
	Absolute cutpoints						
Lower	0.64	0.60	0.62	0.60	0.64	0.57	0.57
Middle	0.31	0.35	0.33	0.35	0.32	0.39	0.39
Upper	0.05	0.05	0.05	0.04	0.04	0.04	0.03

	2009				**2010**			
Class	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
	Relative Cutpoints							
Lower	0.12	0.10	0.09	0.08	0.08	0.07	0.08	0.07
Middle	0.41	0.40	0.38	0.37	0.38	0.37	0.39	0.37
Upper	0.48	0.50	0.53	0.55	0.54	0.56	0.53	0.57
	Optimal Cutpoints							
Lower	0.31	0.30	0.27	0.26	0.27	0.25	0.26	0.24
Middle	0.42	0.40	0.41	0.41	0.38	0.39	0.41	0.39
Upper	0.27	0.29	0.32	0.34	0.35	0.36	0.33	0.38
	Absolute Cutpoints							
Lower	0.60	0.58	0.55	0.52	0.52	0.51	0.54	0.49
Middle	0.30	0.31	0.34	0.34	0.31	0.30	0.29	0.30
Upper	0.10	0.12	0.11	0.14	0.17	0.19	0.18	0.21

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys

Table 19. Distribution of Entrepreneurs by Income Class

Sample: Urban Area, 18 to 65 years old

		Relative Cutpoints							Optimal Cutpoints							Absolute Cutpoints						
		2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
	Lower	0.10	0.09	0.10	0.07	0.09	0.08	0.10		0.51	0.51	0.38	0.39	0.32	0.27	0.31		0.73	0.69	0.64	0.66	0.69	0.60	0.60
Own Account	Middle	0.48	0.46	0.41	0.45	0.43	0.36	0.41		0.40	0.40	0.46	0.46	0.51	0.51	0.46		0.25	0.30	0.32	0.33	0.30	0.36	0.38
	Upper	0.42	0.45	0.49	0.48	0.48	0.56	0.49		0.09	0.09	0.16	0.15	0.17	0.22	0.22		0.02	0.01	0.04	0.02	0.02	0.04	0.02
	Lower	0.09	0.09	0.18	0.12	0.13	0.15	0.16		0.48	0.54	0.50	0.44	0.42	0.42	0.45		0.70	0.73	0.70	0.74	0.72	0.68	0.74
Cooperative	Middle	0.46	0.48	0.42	0.46	0.43	0.42	0.50		0.40	0.35	0.36	0.45	0.44	0.42	0.40		0.28	0.26	0.27	0.23	0.28	0.30	0.24
	Upper	0.45	0.42	0.40	0.42	0.44	0.43	0.34		0.12	0.11	0.15	0.11	0.13	0.16	0.15		0.03	0.01	0.03	0.03	0.00	0.02	0.02
	Lower	0.03	0.01	0.08	0.05	0.03	0.06	0.04		0.24	0.22	0.23	0.19	0.10	0.16	0.18		0.42	0.38	0.40	0.43	0.38	0.39	0.35
Employer	Middle	0.27	0.24	0.21	0.24	0.19	0.24	0.25		0.45	0.44	0.35	0.44	0.43	0.44	0.39		0.53	0.50	0.50	0.48	0.52	0.54	0.56
	Upper	0.70	0.75	0.72	0.71	0.78	0.71	0.71		0.30	0.34	0.42	0.37	0.47	0.40	0.43		0.05	0.12	0.10	0.09	0.10	0.06	0.08
		2009				**2010**				**2009**				**2010**				**2009**				**2010**		
		Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
hline	Low	0.16	0.15	0.12	0.10	0.11	0.09	0.09	0.09	0.37	0.37	0.32	0.30	0.32	0.28	0.29	0.28	0.66	0.63	0.60	0.56	0.56	0.55	0.56	0.53
Own Account	Middle	0.43	0.41	0.40	0.39	0.39	0.39	0.40	0.40	0.41	0.37	0.39	0.41	0.38	0.40	0.41	0.38	0.25	0.25	0.28	0.31	0.28	0.25	0.26	0.26
	High	0.41	0.43	0.48	0.51	0.50	0.51	0.51	0.51	0.22	0.26	0.28	0.30	0.31	0.32	0.30	0.34	0.09	0.12	0.12	0.13	0.16	0.19	0.17	0.21
	Low	0.18	0.16	0.15	0.15	0.15	0.15	0.14	0.12	0.40	0.40	0.40	0.37	0.42	0.40	0.37	0.32	0.66	0.63	0.64	0.63	0.66	0.66	0.64	0.56
Cooperative	Middle	0.43	0.40	0.42	0.43	0.46	0.44	0.45	0.39	0.38	0.36	0.36	0.36	0.34	0.38	0.37	0.35	0.27	0.26	0.26	0.23	0.21	0.22	0.18	0.20
	High	0.39	0.44	0.43	0.42	0.39	0.40	0.41	0.49	0.22	0.25	0.24	0.27	0.24	0.22	0.27	0.33	0.07	0.11	0.10	0.14	0.14	0.12	0.18	0.24
	Low	0.08	0.06	0.04	0.04	0.04	0.03	0.03	0.03	0.25	0.20	0.15	0.14	0.17	0.14	0.14	0.14	0.49	0.44	0.37	0.36	0.34	0.34	0.39	0.33
Employer	Middle	0.33	0.29	0.28	0.26	0.26	0.25	0.28	0.25	0.40	0.38	0.36	0.33	0.31	0.34	0.37	0.32	0.34	0.37	0.46	0.39	0.39	0.37	0.31	0.32
	High	0.59	0.65	0.68	0.71	0.69	0.72	0.69	0.72	0.36	0.42	0.49	0.53	0.52	0.52	0.48	0.54	0.18	0.18	0.17	0.25	0.26	0.29	0.30	0.35

Source: Author's calculations based on Fundacion ARU's harmonized surveys.

Table 20. Average Positional Mobility (Monthly Per Capita Income)

Sample: Urban Area, 18 to 65 years old

		Lower	Middle	Upper	Steady State
Relative Cutpoints	Lower	0.64	0.29	0.07	0.25
	Middle	0.22	0.46	0.32	0.33
	Upper	0.04	0.25	0.71	0.42
Optimal Cutpoints	Lower	0.69	0.25	0.07	0.38
	Middle	0.31	0.41	0.28	0.31
	Upper	0.08	0.27	0.65	0.32
Absolute Points	Lower	0.77	0.22	0.01	0.53
	Middle	0.32	0.58	0.10	0.37
	Upper	0.03	0.42	0.55	0.09

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys

Table 21. Entrepreneurs Positional Mobility (Monthly Per Capita Income)

Sample: Urban Area, 18 to 65 years old

		Own Account			
		Lower	Middle	Upper	Steady State
Relative Cutpoints	Lower	0.59	0.33	0.08	0.22
	Middle	0.21	0.46	0.34	0.35
	Upper	0.04	0.27	0.69	0.44
Optimal Cutpoints	Lower	0.66	0.26	0.08	0.37
	Middle	0.31	0.41	0.29	0.31
	Upper	0.09	0.29	0.62	0.32
Absolute Points	Lower	0.76	0.23	0.01	0.56
	Middle	0.35	0.57	0.08	0.37
	Upper	0.04	0.48	0.49	0.07
		Cooperative			
Relative Cutpoints	Lower	0.59	0.33	0.08	0.24
	Middle	0.22	0.46	0.32	0.36
	Upper	0.05	0.29	0.65	0.4
Optimal Cutpoints	Lower	0.68	0.25	0.07	0.42
	Middle	0.33	0.41	0.26	0.32
	Upper	0.11	0.32	0.58	0.26
Absolute Points	Lower	0.78	0.22	0.01	0.6
	Middle	0.38	0.55	0.07	0.35
	Upper	0.06	0.53	0.41	0.05
		Employer			
Relative Cutpoints	Lower	0.51	0.37	0.13	0.12
	Middle	0.15	0.43	0.42	0.29
	Upper	0.03	0.2	0.77	0.59
Optimal Cutpoints	Lower	0.56	0.32	0.12	0.23
	Middle	0.24	0.4	0.36	0.3
	Upper	0.06	0.23	0.71	0.47
Absolute Points	Lower	0.66	0.32	0.02	0.39
	Middle	0.27	0.61	0.13	0.47
	Upper	0.03	0.44	0.53	0.15

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys

Table 22. Average Positional Mobility (Monthly Labor Earnings)

Sample: Urban Area, 18 to 65 years old

		Low	Middle	High	Steady State
Relative Cutpoints	Low	0.63	0.33	0.04	0.14
	Middle	0.14	0.51	0.35	0.31
	High	0.01	0.19	0.79	0.55
Optimal Cutpoints	Low	0.68	0.28	0.04	0.28
	Middle	0.22	0.50	0.28	0.35
	High	0.03	0.27	0.70	0.37

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys

Table 23. Entrepreneurs Positional Mobility (Monthly Labor Earnings)

Sample: Urban Area, 18 to 65 years old

		Own account			
		Low	Middle	High	Steady State
Relative Cutpoints	Low	0.66	0.31	0.03	0.21
	Middle	0.18	0.53	0.30	0.35
	High	0.02	0.24	0.74	0.44
Optimal Cutpoints	Low	0.75	0.23	0.03	0.40
	Middle	0.25	0.51	0.24	0.35
	High	0.04	0.32	0.63	0.25
		Cooperative			
Relative Cutpoints	Low	0.57	0.38	0.05	0.14
	Middle	0.14	0.52	0.34	0.35
	High	0.02	0.23	0.75	0.51
Optimal Cutpoints	Low	0.69	0.28	0.04	0.35
	Middle	0.25	0.52	0.23	0.39
	High	0.05	0.34	0.61	0.26
		Employer			
Relative Cutpoints	Low	0.20	0.55	0.25	0.01
	Middle	0.04	0.37	0.60	0.17
	High	0.00	0.13	0.87	0.81
Optimal Cutpoints	Low	0.36	0.48	0.15	0.10
	Middle	0.13	0.49	0.39	0.38
	High	0.03	0.29	0.68	0.51

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys

Table 24. 2 year cohorts: Number of observations of the 18-65 urban population

2 year cohorts	2003	2004	2005	2006	2007	2008	2009
1945	65	83	60	48	66	36	41
1947	109	111	82	65	59	52	50
1949	132	138	81	86	69	66	66
1951	168	173	112	97	90	101	99
1953	169	182	111	105	132	94	88
1955	191	221	109	134	138	116	116
1957	192	219	125	154	161	108	117
1959	219	231	132	182	170	156	131
1961	280	232	165	206	145	154	159
1963	258	288	171	183	206	152	146
1965	287	338	189	190	222	136	175
1967	248	296	186	248	251	156	183
1969	272	293	162	212	225	209	170
1971	301	331	208	226	216	229	199
1973	284	298	195	227	237	207	188
1975	289	380	210	217	244	160	206
1977	287	392	209	278	259	167	226
1979	308	367	196	258	273	203	245
1981	334	412	216	270	270	232	226
1983	247	293	196	248	255	215	239
1985	221	275	161	195	228	177	239

Source: ARU foundation set of harmonized household surveys
Sample: 18-65, urban area

Table 25. 3 year cohorts: Number of observations of the 18-65 urban population

3 year cohorts	2003	2004	2005	2006	2007	2008	2009
1945	114	107	79	67	96	57	41
1948	179	176	120	112	97	81	66
1951	230	246	155	136	121	138	149
1954	253	313	141	181	205	151	138
1957	299	309	204	212	226	167	183
1960	338	358	242	279	253	239	208
1963	419	393	226	292	268	223	228
1966	409	505	280	335	324	231	278
1969	398	422	257	315	374	270	250
1972	402	498	313	336	356	314	294
1975	472	511	300	334	341	282	299
1978	455	557	307	409	382	282	319
1981	474	614	314	397	420	320	378
1984	347	446	263	361	370	297	356

Source: ARU foundation set of harmonized household surveys
Sample: 18-65, urban area

Table 26. 5 year cohorts: Number of observations of the 18-65 urban population

5 year cohorts	2003	2004	2005	2006	2007	2008	2009
1945	164	179	116	117	123	57	41
1950	333	340	223	196	177	177	160
1955	436	485	272	291	311	252	259
1960	530	577	367	433	414	347	325
1965	706	731	415	482	490	359	403
1970	680	761	465	577	605	483	452
1975	714	837	496	553	568	478	494
1980	764	972	520	659	693	502	583
1985	633	767	458	590	592	492	592

Source: ARU foundation set of harmonized household surveys
Sample: 18-65, urban area

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Table 27. 7 year cohorts: Number of observations of the 18-65 urban population

7 year cohorts	2003	2004	2005	2006	2007	2008	2009
1942	145	140	56	50	27		
1949	355	356	242	218	224	175	157
1956	626	698	396	430	422	370	362
1963	851	848	529	631	620	511	494
1970	967	1,099	654	767	827	619	627
1977	1,001	1,229	705	831	827	645	720
1984	989	1,225	675	889	913	732	827

Source: ARU foundation set of harmonized household surveys
Sample: 18-65, urban area

Table 28. 2 year cohorts: Share of the 18-65 population under entrepreneur definitions

		Year						
2 year cohorts		2003	2004	2005	2006	2007	2008	2009
1945	Def. 1	0.58	0.64	0.63	0.64	0.56	0.73	0.66
	Def. 2	0.25	0.33	0.33	0.37	0.31	0.42	0.38
	Def. 3	0.06	0.09	0.07	0.06	0.09	0.10	0.09
1947	Def. 1	0.53	0.65	0.61	0.59	0.66	0.61	0.61
	Def. 2	0.20	0.25	0.34	0.32	0.33	0.37	0.35
	Def. 3	0.05	0.07	0.04	0.09	0.05	0.08	0.04
1949	Def. 1	0.58	0.63	0.67	0.55	0.54	0.60	0.61
	Def. 2	0.28	0.29	0.36	0.30	0.26	0.38	0.33
	Def. 3	0.04	0.09	0.09	0.04	0.05	0.06	0.09
1951	Def. 1	0.55	0.59	0.55	0.48	0.61	0.62	0.56
	Def. 2	0.26	0.26	0.35	0.25	0.28	0.32	0.29
	Def. 3	0.04	0.08	0.07	0.03	0.12	0.07	0.08
1953	Def. 1	0.54	0.60	0.54	0.52	0.51	0.55	0.58
	Def. 2	0.27	0.28	0.28	0.27	0.27	0.30	0.33
	Def. 3	0.05	0.10	0.07	0.07	0.07	0.06	0.07
1955	Def. 1	0.51	0.51	0.53	0.50	0.53	0.56	0.59
	Def. 2	0.25	0.27	0.31	0.27	0.27	0.30	0.32
	Def. 3	0.06	0.11	0.09	0.04	0.06	0.06	0.09
1957	Def. 1	0.44	0.48	0.53	0.56	0.48	0.57	0.46
	Def. 2	0.25	0.24	0.27	0.27	0.28	0.32	0.23
	Def. 3	0.07	0.05	0.10	0.06	0.06	0.09	0.06
1959	Def. 1	0.47	0.53	0.53	0.54	0.58	0.47	0.49
	Def. 2	0.26	0.31	0.32	0.24	0.28	0.31	0.25
	Def. 3	0.06	0.10	0.07	0.06	0.08	0.06	0.07
1961	Def. 1	0.48	0.50	0.49	0.54	0.44	0.46	0.58
	Def. 2	0.21	0.23	0.29	0.28	0.26	0.27	0.34
	Def. 3	0.02	0.06	0.08	0.08	0.07	0.05	0.08
1963	Def. 1	0.52	0.45	0.51	0.57	0.45	0.49	0.50
	Def. 2	0.27	0.23	0.27	0.25	0.20	0.30	0.24
	Def. 3	0.06	0.07	0.06	0.08	0.06	0.06	0.04
1965	Def. 1	0.52	0.50	0.49	0.47	0.48	0.51	0.50
	Def. 2	0.26	0.23	0.27	0.24	0.21	0.27	0.28
	Def. 3	0.06	0.07	0.08	0.07	0.05	0.05	0.07
1967	Def. 1	0.42	0.46	0.50	0.45	0.48	0.50	0.46
	Def. 2	0.18	0.18	0.28	0.18	0.23	0.25	0.26
	Def. 3	0.05	0.04	0.07	0.03	0.07	0.07	0.08
1969	Def. 1	0.42	0.44	0.50	0.49	0.45	0.50	0.53
	Def. 2	0.20	0.17	0.27	0.21	0.20	0.26	0.23
	Def. 3	0.05	0.07	0.08	0.07	0.06	0.08	0.07
1971	Def. 1	0.41	0.48	0.48	0.45	0.41	0.44	0.43
	Def. 2	0.18	0.23	0.22	0.23	0.19	0.22	0.22
	Def. 3	0.03	0.10	0.07	0.07	0.02	0.08	0.07
1973	Def. 1	0.37	0.36	0.46	0.36	0.42	0.46	0.40
	Def. 2	0.16	0.17	0.22	0.16	0.19	0.22	0.20
	Def. 3	0.04	0.07	0.07	0.05	0.08	0.06	0.08
1975	Def. 1	0.36	0.35	0.40	0.39	0.37	0.40	0.41
	Def. 2	0.14	0.14	0.17	0.19	0.15	0.19	0.16
	Def. 3	0.03	0.04	0.04	0.06	0.06	0.07	0.04
1977	Def. 1	0.32	0.33	0.34	0.38	0.35	0.40	0.40
	Def. 2	0.12	0.14	0.15	0.11	0.14	0.21	0.16
	Def. 3	0.04	0.05	0.05	0.03	0.05	0.07	0.04
1979	Def. 1	0.33	0.27	0.32	0.29	0.33	0.34	0.38
	Def. 2	0.15	0.08	0.15	0.10	0.15	0.15	0.12
	Def. 3	0.03	0.04	0.06	0.03	0.06	0.05	0.03
1981	Def. 1	0.23	0.28	0.28	0.29	0.30	0.32	0.31
	Def. 2	0.10	0.11	0.11	0.10	0.09	0.14	0.12
	Def. 3	0.01	0.04	0.03	0.03	0.01	0.04	0.03
1983	Def. 1	0.17	0.19	0.22	0.29	0.24	0.28	0.27
	Def. 2	0.07	0.04	0.08	0.12	0.09	0.11	0.12
	Def. 3	0.01	0.00	0.01	0.04	0.02	0.03	0.05
1985	Def. 1	0.12	0.14	0.20	0.17	0.27	0.22	0.22
	Def. 2	0.05	0.03	0.06	0.05	0.10	0.10	0.08
	Def. 3	0.00	0.01	0.02	0.02	0.03	0.04	0.03

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys

Table 29. 3 year cohorts: Share of the 18-65 population under entrepreneur definitions

		Year						
3 year cohorts		2003	2004	2005	2006	2007	2008	2009
1945	Def. 1	0.60	0.63	0.63	0.62	0.57	0.73	0.66
	Def. 2	0.29	0.30	0.37	0.36	0.32	0.42	0.38
	Def. 3	0.06	0.08	0.08	0.05	0.07	0.08	0.09
1948	Def. 1	0.57	0.63	0.63	0.56	0.62	0.60	0.58
	Def. 2	0.25	0.26	0.34	0.29	0.31	0.40	0.33
	Def. 3	0.06	0.07	0.06	0.08	0.06	0.07	0.06
1951	Def. 1	0.54	0.62	0.58	0.52	0.58	0.62	0.60
	Def. 2	0.25	0.27	0.36	0.28	0.27	0.32	0.31
	Def. 3	0.04	0.09	0.08	0.03	0.09	0.07	0.08
1954	Def. 1	0.54	0.58	0.56	0.53	0.52	0.55	0.58
	Def. 2	0.27	0.29	0.30	0.29	0.28	0.30	0.32
	Def. 3	0.06	0.12	0.08	0.06	0.07	0.06	0.08
1957	Def. 1	0.46	0.48	0.52	0.52	0.49	0.57	0.52
	Def. 2	0.24	0.23	0.27	0.25	0.27	0.31	0.27
	Def. 3	0.06	0.05	0.09	0.05	0.05	0.08	0.06
1960	Def. 1	0.49	0.50	0.50	0.54	0.54	0.47	0.52
	Def. 2	0.25	0.26	0.29	0.26	0.28	0.30	0.27
	Def. 3	0.04	0.08	0.08	0.07	0.07	0.06	0.07
1963	Def. 1	0.50	0.48	0.52	0.56	0.44	0.48	0.53
	Def. 2	0.24	0.25	0.29	0.25	0.21	0.29	0.30
	Def. 3	0.05	0.07	0.06	0.07	0.06	0.05	0.05
1966	Def. 1	0.49	0.48	0.47	0.46	0.48	0.51	0.48
	Def. 2	0.23	0.22	0.26	0.21	0.23	0.27	0.26
	Def. 3	0.05	0.06	0.07	0.06	0.06	0.06	0.06
1969	Def. 1	0.42	0.45	0.52	0.48	0.47	0.49	0.51
	Def. 2	0.20	0.16	0.29	0.21	0.21	0.25	0.25
	Def. 3	0.05	0.06	0.09	0.05	0.06	0.08	0.08
1972	Def. 1	0.40	0.45	0.47	0.42	0.41	0.46	0.42
	Def. 2	0.19	0.21	0.22	0.21	0.18	0.22	0.21
	Def. 3	0.04	0.09	0.07	0.06	0.04	0.07	0.08
1975	Def. 1	0.36	0.35	0.42	0.38	0.40	0.41	0.40
	Def. 2	0.13	0.14	0.19	0.18	0.18	0.20	0.18
	Def. 3	0.03	0.04	0.05	0.06	0.08	0.07	0.05
1978	Def. 1	0.33	0.32	0.34	0.36	0.34	0.36	0.40
	Def. 2	0.14	0.12	0.15	0.10	0.14	0.18	0.16
	Def. 3	0.04	0.04	0.05	0.03	0.05	0.07	0.03
1981	Def. 1	0.25	0.27	0.29	0.29	0.31	0.34	0.33
	Def. 2	0.11	0.11	0.12	0.10	0.11	0.14	0.11
	Def. 3	0.01	0.04	0.04	0.03	0.03	0.05	0.03
1984	Def. 1	0.16	0.17	0.22	0.25	0.25	0.28	0.25
	Def. 2	0.07	0.04	0.07	0.10	0.10	0.12	0.10
	Def. 3	0.01	0.01	0.01	0.04	0.03	0.04	0.04

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys

Table 30. 5 year cohorts: Share of the 18-65 population under entrepreneur definitions

		Year						
5 year cohorts		2003	2004	2005	2006	2007	2008	2009
1945	Def. 1	0.61	0.63	0.64	0.62	0.58	0.73	0.66
	Def. 2	0.29	0.29	0.35	0.36	0.32	0.42	0.38
	Def. 3	0.06	0.09	0.07	0.06	0.06	0.08	0.09
1950	Def. 1	0.55	0.63	0.61	0.53	0.59	0.62	0.60
	Def. 2	0.25	0.26	0.36	0.27	0.27	0.36	0.33
	Def. 3	0.05	0.08	0.06	0.05	0.06	0.07	0.07
1955	Def. 1	0.53	0.56	0.54	0.52	0.54	0.56	0.58
	Def. 2	0.26	0.28	0.30	0.29	0.29	0.30	0.31
	Def. 3	0.05	0.10	0.08	0.05	0.08	0.06	0.08
1960	Def. 1	0.47	0.49	0.51	0.54	0.52	0.51	0.50
	Def. 2	0.25	0.26	0.29	0.26	0.28	0.30	0.25
	Def. 3	0.05	0.07	0.09	0.07	0.07	0.07	0.07
1965	Def. 1	0.51	0.49	0.51	0.52	0.45	0.49	0.52
	Def. 2	0.24	0.24	0.28	0.25	0.21	0.28	0.29
	Def. 3	0.05	0.07	0.07	0.07	0.06	0.05	0.06
1970	Def. 1	0.42	0.47	0.50	0.46	0.45	0.49	0.49
	Def. 2	0.19	0.19	0.26	0.20	0.21	0.25	0.25
	Def. 3	0.05	0.07	0.07	0.05	0.06	0.08	0.08
1975	Def. 1	0.38	0.37	0.43	0.40	0.40	0.43	0.40
	Def. 2	0.16	0.16	0.20	0.19	0.17	0.20	0.18
	Def. 3	0.03	0.06	0.06	0.06	0.06	0.06	0.06
1980	Def. 1	0.31	0.30	0.32	0.33	0.33	0.36	0.37
	Def. 2	0.13	0.11	0.15	0.10	0.13	0.17	0.14
	Def. 3	0.03	0.04	0.05	0.03	0.04	0.06	0.03
1985	Def. 1	0.15	0.20	0.22	0.24	0.27	0.26	0.26
	Def. 2	0.07	0.06	0.07	0.09	0.09	0.11	0.10
	Def. 3	0.01	0.02	0.02	0.03	0.02	0.04	0.04

Source: Author's calculations based on Fundacion ARU's set of harmonized surveys

Table 31. 7 year cohorts: Share of the 18-65 population under entrepreneur definitions

		Year						
7 year cohorts		2003	2004	2005	2006	2007	2008	2009
1942	Def. 1	0.67	0.64	0.64	0.63	0.61		
	Def. 2	0.29	0.27	0.31	0.34	0.34		
	Def. 3	0.08	0.08	0.06	0.07	0.03		
1949	Def. 1	0.57	0.64	0.64	0.59	0.59	0.65	0.63
	Def. 2	0.26	0.28	0.36	0.33	0.30	0.39	0.35
	Def. 3	0.05	0.08	0.07	0.06	0.06	0.08	0.07
1956	Def. 1	0.52	0.56	0.55	0.52	0.54	0.57	0.57
	Def. 2	0.26	0.27	0.30	0.27	0.28	0.30	0.31
	Def. 3	0.06	0.09	0.08	0.05	0.08	0.06	0.08
1963	Def. 1	0.49	0.48	0.51	0.54	0.48	0.49	0.51
	Def. 2	0.24	0.25	0.29	0.26	0.25	0.30	0.27
	Def. 3	0.05	0.07	0.07	0.07	0.06	0.06	0.06
1970	Def. 1	0.45	0.48	0.50	0.46	0.46	0.49	0.49
	Def. 2	0.21	0.20	0.27	0.21	0.21	0.26	0.26
	Def. 3	0.05	0.07	0.08	0.06	0.05	0.07	0.07
1977	Def. 1	0.36	0.36	0.41	0.39	0.38	0.42	0.40
	Def. 2	0.15	0.15	0.19	0.16	0.16	0.20	0.17
	Def. 3	0.04	0.05	0.05	0.05	0.06	0.07	0.05
1984	Def. 1	0.23	0.24	0.27	0.28	0.29	0.31	0.31
	Def. 2	0.10	0.08	0.11	0.10	0.11	0.13	0.11
	Def. 3	0.02	0.03	0.03	0.03	0.03	0.05	0.03

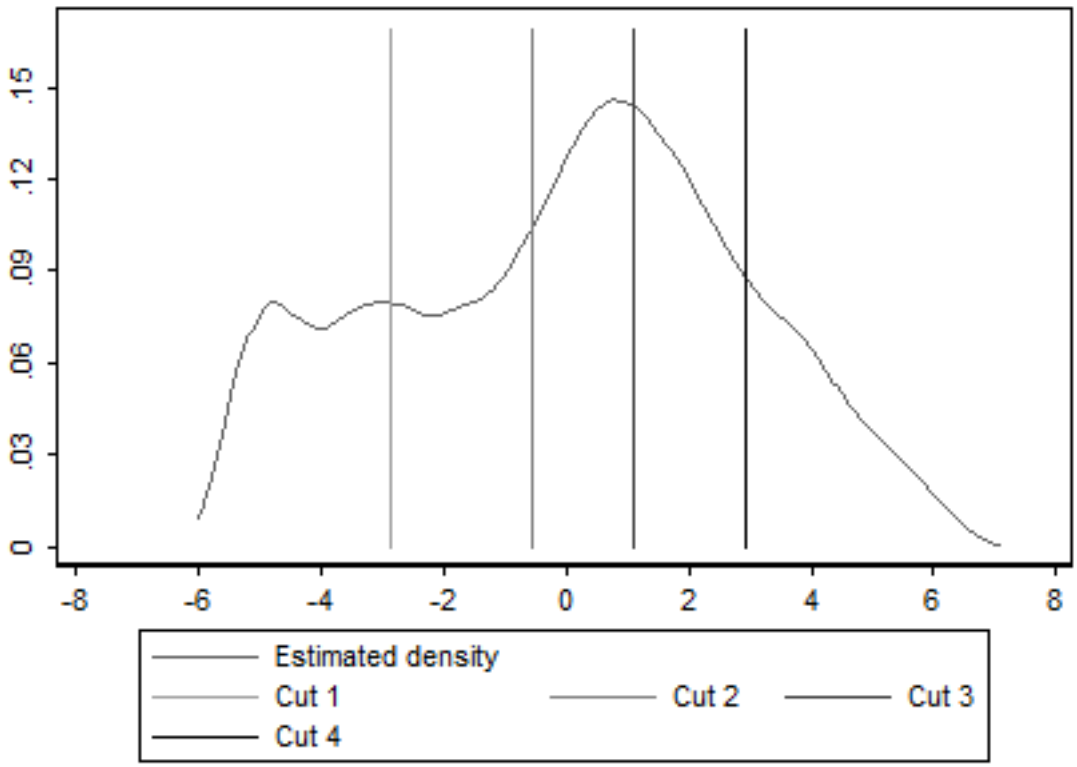
Source: Author's calculations based on Fundacion ARU's set of harmonized surveys

Table 32. Wealth index estimation

Variable	Component 1	Mean	Std. Dev.
Owns bicycle	0.001	0.399	0.490
Owns motorcycle	0.041	0.058	0.234
Owns vehicle	0.133	0.109	0.312
Owns refrigerator	0.232	0.363	0.481
Owns closet	0.203	0.646	0.478
Owns dining set	0.191	0.464	0.499
Owns living room set	0.213	0.224	0.417
Owns stove	0.219	0.804	0.397
Owns sewing machine	0.100	0.299	0.458
Owns washing machine	0.132	0.055	0.229
Owns video player	0.180	0.341	0.474
Owns microwave oven	0.127	0.048	0.215
Lives in apartment	0.096	0.033	0.179
Lives in room	0.019	0.208	0.406
Lives in improvised house	-0.013	0.001	0.034
Rents house/apartment	-0.061	0.655	0.475
Owns house/apartment	0.043	0.143	0.350
Still pays for house/apartment	0.030	0.045	0.207
Lives under contract	-0.014	0.025	0.155
tipoviv6	0.027	0.072	0.259
Inherited house	0.031	0.012	0.111
High quality materials for walls	0.204	0.444	0.497
reboque	0.158	0.786	0.410
High quality materials for roof	0.107	0.350	0.477
High quality materials for floor	0.202	0.225	0.417
Access to pump water	0.222	0.776	0.417
Access to open source water	-0.220	0.213	0.409
Other type of toilet	-0.025	0.011	0.106
Water pipes inside house	0.221	0.300	0.458
Water pipes outside of house	-0.011	0.461	0.498
No water pipes	-0.225	0.238	0.426
Has toilet	0.209	0.686	0.464
Has exclusive bathroom	0.146	0.467	0.499
Has sewage system	0.230	0.411	0.492
Has latrine	-0.068	0.204	0.403
Other type of toilet	-0.010	0.006	0.075
Access to electricity	0.194	0.651	0.477
Uses wood for cooking fuel	-0.258	0.291	0.454
Uses other type of cooking fuel	0.257	0.701	0.458
Does not use cooking fuel	-0.006	0.008	0.090
Number of rooms	0.161	2.799	1.596
Number of room used for sleeping	0.165	1.899	1.096

Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.

Figure 17. National wealth index distribution 2003-3009



Source: Author's calculation based on Fundacion ARU's set of harmonized surveys.