Entrepreneurial Experience, Careers and Wages[1]

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Abstract | This study uses detailed longitudinal matched employer-employee data to examine the impact of entrepreneurial experience on job assignments, careers, and wages. The results suggest that there are significant differences in career mobility between former business owners and individuals who were always wage employees. While former business owners are, on average, paid less than other workers in the same hierarchical level, they enter firms at higher job levels and progress faster up the hierarchy, earning a labor market premium for entrepreneurial experience. The worker-firm match plays a significant role in generating this result, which contradicts previous empirical works on the subject.

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1. Introduction

A considerable amount of theoretical and empirical work in economics focuses on individual choices between wage employment and entrepreneurship (or business ownership). Seminal work by Lucas (1978) and Jovanovic (1982) provide the basis for a significant stream of literature linking entrepreneurial ability to firm size dynamics, and the evolution of markets. Another literature stream examines the role played by pecuniary and non-pecuniary rewards in the occupational choice between self-employment and wage employment (see, for instance, Rees and Shah, 1986; and Taylor, 1996).

Conversely, only a few recent studies examine how well individuals who forsake business ownership and return to wage employment fare in the labor market. Research comparing earnings of former business owners who have become wage employees with those of others of similar age and educational background who did not experience self-employment over their careers provides mixed results and generally fails to account systematically both for the matching between worker and firm characteristics, and the specifics of career dynamics within firms.

This study uses longitudinal matched employer-employee data that include detailed information about individuals' backgrounds, job assignments, and career progress within firms to examine the impact of business ownership experience on job assignments, careers and wages. We largely follow the broad empirical strategy employed by Baker et al. (1994a; 1994b), asking three main questions that seek to account for the main features of the impact of business ownership experience on careers and wages:

Are former business owners more or less likely to be assigned to higher levels in the firms' hierarchies at the time of hiring than other workers of comparable characteristics?

Do former business owners progress up the job ladder faster or slower than other workers of comparable characteristics?

What is the impact of business ownership experience on wages, and how much of this impact is related with differences in job assignment?

The following section provides the background for this study and surveys the empirical literature examining wage incomes and the labor market performance of former business owners. The third section describes the data used in this study. Section four presents empirical evidence on the role played by business ownership experience in the internal economics of the firm with regard to careers, while section five focuses on wages. Section six concludes by proposing an explanation for the main empirical results.

2. Background

2.1 Business Ownership Experience and Theories of Job Assignment, Wage, and Promotion Dynamics

While entrepreneurship's links with risk/uncertainty and innovation have lately taken the spotlight, entrepreneurial activities have also been connected with coordination and supervision tasks at least since the work of Say (1803/1971). For Marshall (1890/1930), within the firm, the owner/entrepreneur bears all the responsibility and exercises all control. He directs production, and he is both the manager and employer. Kaldor (1934) stresses that, in addition to uncertainty-bearing, the "entrepreneurial function" includes supervision and coordination. Supervision is necessary in the case of cooperative production in order to ensure that contracts already entered into should, in fact, be carried out. Coordination, on the other hand, is that part which determines what sort of contracts should be entered into.

It may be argued therefore that the exercise of business ownership should provide former entrepreneurs with experience in organizing, supervising and coordinating activities in firms. This experience may be valued by hiring firms as a positive signal when hiring and promoting to the higher levels of their hierarchy.

Human capital theory (Becker, 1962; 1964/1975) states that individuals can acquire abilities through education and on-the-job training. These positively impact individual productivity and, consequently, earnings (see also Ben Porath, 1967). While some forms of human capital are general and should impact individual productivity in a wide range of jobs, others are specialized (Topel, 1991; Becker and Murphy, 1992), and are associated with specific industries, firms, or tasks. The assignment of workers to jobs in the economy should then occur as a result of the knowledge firms and workers have of the output from each specific worker-job match. However, such knowledge is usually imperfect (Spence, 1975).

One mechanism for job assignment is learning. While workers acquire general human capital through schooling and firm – and task-specific human capital through experience and on-the-job training, firms learn about workers' true abilities and productivity through observation. Workers may be sorted into jobs through mechanisms of screening and signaling (Stiglitz, 1975; Spence, 1973), or a matching process of workers to jobs occurs over time (Jovanovic, 1979; 1984).

Baker et al. (1994a) provide evidence that firms use the job assignments of workers as a signal of ability (see also Waldman, 1984; Bernhardt, 1995). It can then be argued that firms should seek those with organization and supervisory/coordination experience when filling up vacancies in managerial levels of the hierarchy which typically require these abilities. If business ownership is perceived as providing such abilities, then it is possible that entrepreneurial experience may be interpreted as a signal in the employment of supervisors/managers.

The assignment of workers to jobs across firms and industries is also influenced by the scale of operations of firms. More resources, in the form of capital, labor, and supervising and coordinating responsibility, are allocated to workers with greater supervisory/coordination abilities, since these resources will have a greater effect on output when allocated to those workers. This means that workers with greater specific human capital associated with the organization and oversight of resources will be assigned more resources to administer and, through these resources, will have a greater impact on a firm's output. For a fixed number of such workers, the larger the scale of operations of the firm, the larger will be the amount of resources allocated to them and the larger their impact on output (Mayer, 1960; Williamson, 1967; Rosen, 1981; Spurr, 1987).

Human capital and signaling theories hold that wages in firms reward experience acquired in the labor market due to the accumulation of skills (Mincer 1974; Becker, 1964/1975) and its signaling value (Spence, 1973). Individuals can acquire specific skills through on-the-job training, thus increasing their productivity. Under perfect information, or with efficient screening/signaling, the pecuniary value of labor market experience should translate into higher earnings (Mincer 1974) because experienced and educated workers are expected to be more productive and are consequently rewarded with higher earnings. If entrepreneurial experience provides individuals with specific skills in supervisory/coordination tasks, such experience may allow them to have a significant impact on firm productivity as wage employees.

Gibbons and Waldman (1999) provide a general framework integrating job assignment, human-capital acquisition, and learning capturing several empirical findings concerning wage and promotion dynamics inside firms. In particular, their model provides a rationale for some important features of the internal economics of the firm (Baker et al., 1994a; 1994b): job assignments (i.e. hierarchical levels) are a stronger determinant of wage levels than human capital or any other observed characteristic of workers; there is a significant overlap between wages in adjacent hierarchical levels; and wage increases are serially correlated, and promotions are associated with large wage increases, but wage increases at promotion are small relative to the difference between average wages across levels of the job ladder.

In an extension to their model, Gibbons and Waldman (2006), show that the existence of task-specific human capital allows for the explanation of another characteristic of the internal economics of the firm: the existence of cohort effects. The basic explanation for the cohort effect (Gibbons and Waldman, 2004; 2006) is that human capital accumulation is task-specific and its effect on productivity diminishes the further up a worker climbs in the job ladder. Some of a worker's acquired human capital goes unused when a worker is promoted and is assigned a new set of tasks. Hence, workers entering into lower levels in the job ladder accumulate human capital that is specific to the execution of tasks performed in those lower levels – being unlikely to acquire human capital specific to the supervisory/coordination activities required at higher levels. This means that their career progress will be slower than that of individuals who possess such human capital.

2.2 Business Ownership Experience and Wage Earnings

Some recent work has examined the impact of such experience on individuals' wages, while other studies have compared earnings in self-employment with those in paid employment. In general these studies argue that business ownership experience should exert a negative influence on earnings, as wage employees benefit from on-the-job training while former business owners do not (*Williams, 2000*). Business owners may not acquire the kind of firm-specific or industry-specific human capital that represents a positive signal in wage employment. No reference is made to the role played by task-specific human capital.

Evans and Leighton (1989) find no clear evidence that the return to experience in business ownership is different than the return to experience in wage work. When examining the possibility of a labor market 'stigma' for individuals with previous self-employment experience, *Hamilton (2000)* finds that a brief experience as a business owner yields a positive effect on subsequent wages as an employee, but that such effect wears away when long spells of entrepreneurial experience are considered.

Only recently empirical analyses have paid attention primarily to the effects of entrepreneurial experience on individuals' earnings after they exit business ownership and switch into wage employment. Typically, empirical works on this subject find effects of business ownership experience on future employment earnings that are of small magnitude and weakly significant.

Even when positive, the effect of self-employment experience on future wages is found to be smaller than the effect of past experience as a wage employee. Sometimes it is even negative (*Williams*, 2000, *2004*; Bruce and Schuetze, 2004; Hyytinen and Rouvinen, 2008; Kaiser and Malchow-Møller, 2008). However, these studies fail to account for the characteristics of the companies employing the former business owners. In particular, no evidence of where in the job assignment structure of firms do former business owners end up is provided.

The empirical evidence concerning the wage returns to business ownership experience is mixed and suffers from important limitations. In particular, firm-specific determinants of wages are rarely considered due to data unavailability, leading to possible bias in the results. Moreover, the studies do not address features of the internal economics of firms such as job assignments and promotions, thus providing an incomplete picture of the role played by business ownership experience on wage and career dynamics. This study contributes to the literature by addressing these issues.

3. Data

This study uses the *Quadros de Pessoal* (QP) micro-data, a Portuguese longitudinal matched employer-employee data set including extensive information on the mobility of workers and business owners for the period 1986-2003. QP is gathered annually by the Portuguese Ministry of Labor and Social Solidarity and includes data from all private firms (and establishments) with at least one wage-earner. The data do not cover public administration. The survey collects detailed information on each individual employee (regular wages, subsidies, hours worked, date of admission, age, gender, schooling, qualification level, part-time status, job assignment, and type of collective agreement, among others). It also collects basic information about the establishment and the firm, such as size, ownership, sales turnover, International Standard Industrial Classification (ISIC) codes, and location.

This analysis uses information concerning the period 1995 until 2003[2]. The employment and wage data refer to the month of October. The raw data used is organized in two data sets corresponding to the level of aggregation of the information: individual level and firm level[3]. There are over 250,000 firms and two million workers in each annual survey who can be tracked over time through a unique identification number. Data on business owners[4] and employees for each firm and establishment includes income,[5] gender, age, occupation, tenure, educational attainment, and hierarchical levels. For both business owners and employees, records of wage employment and entrepreneurial experience can be collected, as well as information concerning their labor market experiences following business ownership[6].

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2 However, QP does not have information for all years. Along the period in analysis there is one gap in the workers' files, namely in the year 2001.

3 QP enables a third dimension which respects establishments, but the present empirical work focuses exclusively on the individual and the firm as units of analysis.

4 For the purpose of this study, a broad definition of entrepreneur is used, which deliberately overlaps with that of business owner, not delving into a conceptual distinction between those terms. The same applies for the definition of entrepreneurship, which must be understood in a broad economic sense. The terms 'entrepreneur' and 'business owner', as well as 'entrepreneurship experience' and 'business ownership experience' will be used interchangeably in this work as including those individuals who report themselves as business owners, regardless of whether they have full or partial ownership, and have started, acquired or inherited the business.

5 Data on incomes for business owners is incomplete, as most business owners do not report any income, or assign themselves a small wage.

6 The variable measuring experience as wage employee reflects the potential experience while in wage employment. Thus, potential experience as an employee is equal to age minus six, years of education, tenure, and experience as business owner.

3.1 Sample

Our sample comprises all young male individuals present in 1995 who appear as employees in at least one year from 1986 to 2003, including those individuals who remain ever as employees and those who experience both wage employment and business ownership occupations at different points in time. We trace backwards the individuals' experiences in the labor market between 1986 and 1995, including their complete work history in their current firms, and then observe hourly wages and other variables over the period 1995-2003. As an initial condition, it is guaranteed that this variable captures not only the number of years individuals are observed as employees or business owners in the data set, but goes back to the individuals' complete work history in their current firms[7].

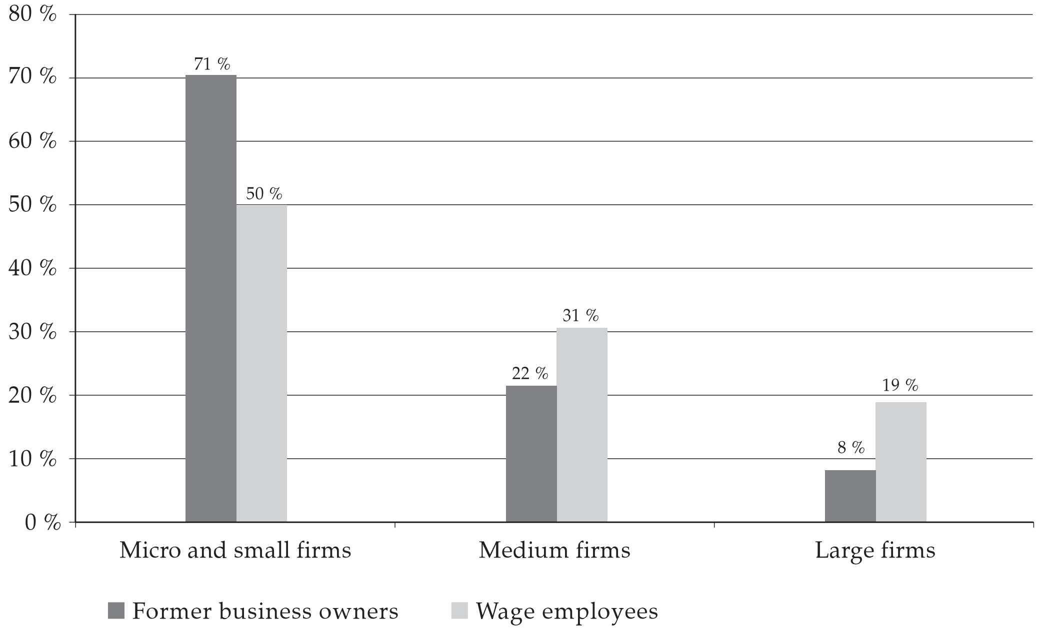
The analysis is restricted to males, who account for 61 percent of all individuals present in the data set in 1995 who were aged between 16 and 25 in 1986, corresponding to 40 percent of the original sample. By excluding individuals over 25 years old, the analysis focuses on young individuals who have finished their formal education and have already entered the labor market. Furthermore, it mitigates the issue of initial conditions arising from comparing individuals with very dissimilar work experiences and ages.

3.2 Former Business Owners and Wage Employees

Part of the motivation of this study is based on the contention that former business owners own human capital that is distinguishable from that of wage employees. The descriptive statistics (not reported here but available upon request) for the complete sample (1995-2003), comparing former business owners with those individuals who were always wage employees, show that, generally, ex-entrepreneurs are better educated on average than individuals who were always on wage employment. Focusing exclusively on the higher level of education, only a very small percentage of individuals have this degree and the proportion of former business owners with tertiary education is twice the same proportion for individuals who were always wage employees. Finally, average experience in wage employment of former business owners is higher than for individuals who were never business owners, but former business owners are, on average, older than wage employees. The majority of former business owners find employment in smaller firms when compared with wage employees (as can be seen in Figure 1).

7 This is possible since the data set provides information on workers' admission date to the firm. Hence, we gauge individuals' complete experience even when it goes back to a time before the first year of observations of the data set (i.e. 1986).

Figure 1 Distribution of former business owners and employees by firm size

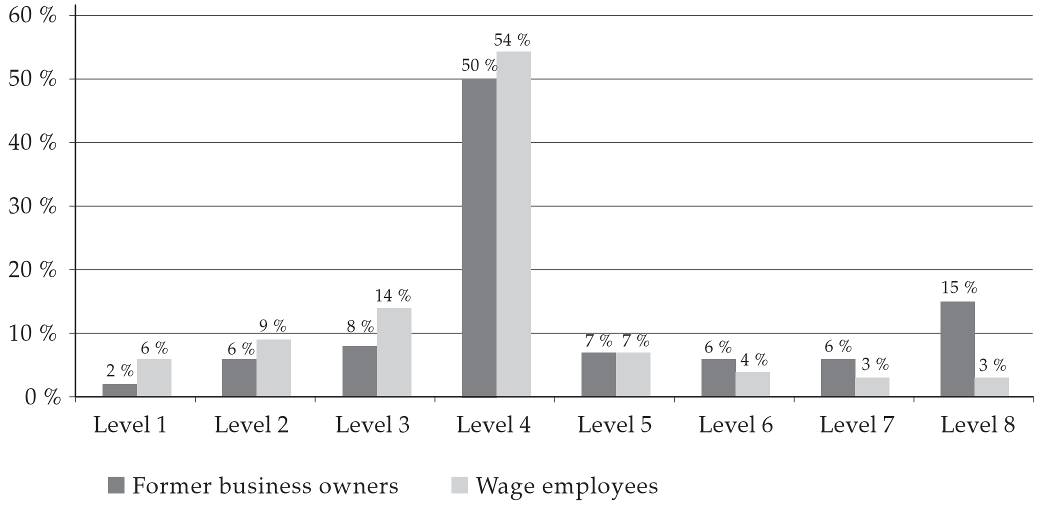


4. Evidence on Job Assignments

The distribution of hierarchical levels is different for former business owners than wage employees (descriptive tables are available upon request). As can be seen in Figure 2, a striking feature of the data is that the allocation of ex-business owners to top hierarchical levels is exceptionally high when compared with that of individuals who were always wage employees, especially ex-business owners are particularly concentrated in the top three hierarchical levels, even when former business owners who have remained with the same business after selling it are excluded from the data[8]. These may be considered the 'managerial' levels, i.e. the ones where organizing, supervisory and coordinating tasks are likely to represent the majority of requirements. The same pattern of job assignment is present across firm size; however, the differences in the top levels between former business owners and wage employees are more obvious in micro and small firms.

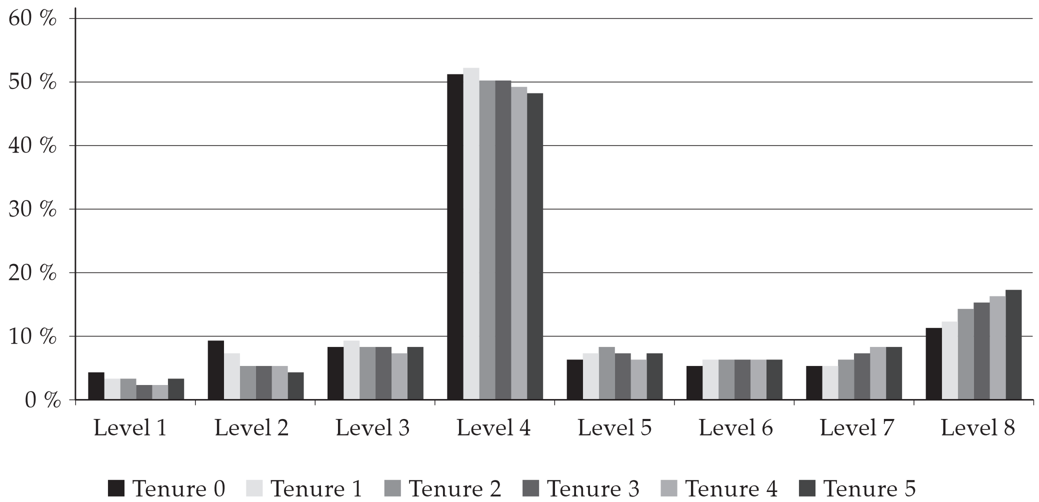
8 All business owners in the sample under analysis have changed firms. This way we exclude possible cases of business owners who sold their firm but stayed on as top managers.

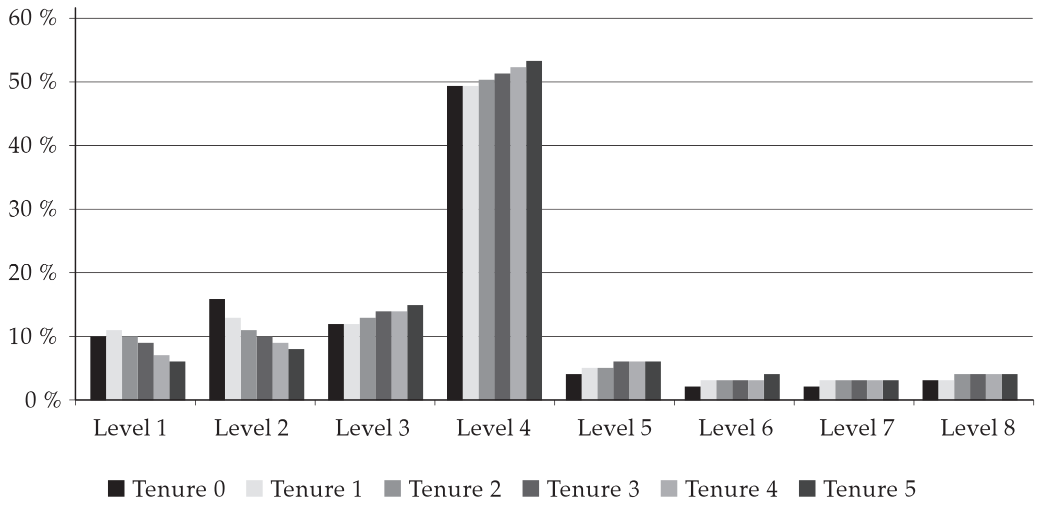
Figure 2 Job assignment distribution



It is important to check whether a relationship between the hierarchical level and worker tenure within the firm is identifiable. Figure 3 shows that for the higher hierarchical levels – from highly-skilled professionals to top managers – the proportions at time of entry of former business owners are higher than those of individuals who were always wage employees. As years of tenure increase, we observe the expected movement up the hierarchy for both types of workers, but former business owners are promoted more frequently than the workers who were never business owners.

Figure 3 Career progression





4.1 Entry

We begin by analyzing the job assignment at entry in order to determine if the differences observed between the two types of workers – with and without business ownership experience – are reflected in the estimates on past experience, controlling for the remaining individual attributes and the characteristics of the firm. Job assignment at entry figures can be seen in Figure 3 when tenure equal to zero. We also estimate a probit model where the dependent binary variable equals one if the worker is assigned to one of the top three hierarchical levels (the managerial levels, where supervisory/coordination tasks dominate) and zero otherwise, at the moment of hiring (that is, when tenure equals zero). The results (not reported here but available upon request) strongly suggest that business ownership experience is more valued at the moment of hiring than prior wage work experience, regardless of the hiring firm's size.

4.2 Promotions

In the previous subsection it became clear that former business owners are more likely to be assigned to higher levels in the firms' hierarchies at the time of hiring than wage employees of comparable characteristics. In this context, one plausible question arises: once entering a firm, do former business owners progress faster up the hierarchy? Figure 4 shows the average years to promotion across the hierarchy and it is possible to infer that former business owners spend less time at each hierarchical level than individuals who were always wage employees. It can also be said, when we disaggregate this information by firm size, that for former business owners, the larger the firm, the shorter the time spent in the same hierarchical level.

Figure 4 Average years to promotion across the hierarchy

While for small– and micro-firms the differences are insignificant, in large firms, former business owners take less time to move from intermediary to top manager. These pattern fits into the concept of promotion 'fast tracks' in larger firms: those individuals who are promoted sooner are more likely to be promoted sooner again (Baker et al., 1994a; Ariga et al., 1999; and Seltzer and Merrett, 2000).

It is important to check whether the pattern of promotions identified above is particularly significant for the top three hierarchical levels (where supervisory/coordination abilities are likely to be of greater importance). We also estimate a probit model for the probability of being promoted to the top-three hierarchical levels (supervisors, intermediate and top managers) from non-managerial levels, where the dependent binary variable is equal to one if the worker is promoted from non-managerial/supervisory hierarchical levels to the top three levels, and zero otherwise. The estimations results (not reported here but available upon request) provide evidence of the differences observed between the partial effect of past experience as former business owner and as wage employee. These results show that one year of past business ownership experience holds a higher effect on the probability of being promoted to the top levels of the hierarchy than one year of past experience as wage employee. As firm size increases, the probability of a former business owner being promoted to a managerial position decreases, but is always superior to the probability of a wage employee being promoted to a managerial position.

5. Evidence on Earnings

Individual earnings are compared using hourly wages (while in wage employment) over the period 1995-2003 as the variable of interest[9]. We investigate whether experience as a business owner (including the necessary skills to start a business and the skills acquired during business ownership) has a significant impact on the individuals' labor market earnings while wage employees. Years of experience as a business owner and as a wage employee are included as explanatory variables. The coefficients of experience are used to determine the value of the two types of human capital. Other explanatory variables include individual characteristics such as education; tenure; hiring firm characteristics, including size, industry, and administrative region; and also the hierarchical levels to which the workers are assigned.

5.1 Earnings at Entry

This subsection introduces wage equations at the moment of entry. Only workers with one year of tenure are included in the regressions. The advantage of estimating wages at entry is that the results are not affected by tenure, but only by the worker-firm match at the moment of hiring.

Table 1 *(complete results available upon request)* displays the results for the estimation of wage equations at the hiring year. Of course, this regression only includes one year by worker-firm which is the first year in the firm of newcomers. Column 1 explains wages based on individual characteristics, such as education, experience as business owner, and experience as employee, and firm characteristics including size and dummy variables for industrial sector and administrative region. Column 2 includes dummy variables accounting for the assignment of workers to hierarchical levels.

9 The data provide no information with regard to individuals' earnings while in business ownership. As an example, if one individual has a brief experience as a wage employee and, after 1995, he switches into business ownership and remains so in the data set, the model will drop this observation since there is no available information on this individual's earnings after 1995.

Table 1 Wage equations at entry – pooled OLS

Variables	**(1)**	**(2)**
Experience as business owner	0.0225***	-0.0042
	[0.0040]	[0.0034]
Experience as business owner^2 x 10^{-2}	-0.0587	0.0091
	[0.0486]	[0.0393]
Experience as employee	0.0467***	0.0269***
	[0.0006]	[0.0005]
Experience as employee^2 x 10^{-2}	-0.0872***	-0.0531***
	[0.0017]	[0.0015]
Year / Industry / Region dummies	Yes	Yes
Hierarchical level dummies	No	Yes
Observations	295,408	287,772
R-squared (F test)	0.375 (2404.73)	0.490 (3418.18)

Notes: Dependent variable is the logarithm of hourly wage in the year of hiring. The following variables are omitted: 9-years of education, secondary education, and college education (dummies); and firm size (log). Robust standard errors are in brackets. Significant at 10 %; ** significant at 5 %; *** significant at 1 %.

When both individual and firm characteristics at the moment of entry are considered, employers seem to value entrepreneurship less than wage employment experience, thus penalizing entrepreneurial experience with a lower wage premium. Ex-business owners see their wage increased by almost 2.3 percent for every additional year of entrepreneurial experience, while every additional year of previous experience as an employee increases wages by 4.7 percent, though the negative quadratic term is higher.

When information about employees' hierarchical levels is added, the linear coefficient of experience as a business owner becomes negative, but not significant. However, we know that ex-entrepreneurs have a higher probability of being assigned to higher hierarchical levels at entry. That is, the evidence seems to show that individuals with entrepreneurial experience capture higher earnings at entry not by a direct reward to that same experience, but rather by being hired to higher places in the hierarchy.

5.2 Rewards to Business Ownership Experience

In order to understand the effect of business ownership experience on wages, this subsection presents wage equations for all individuals (without any restriction on tenure). Table 2 *(complete results available upon request)* presents wage regressions comparing the explanatory power of human capital variables and level dummy variables. As with a typical wage regression, the variables associated with the accumulation of human capital have a positive, statistically significant effect on wages.

Column 1 and column 2 correspond, respectively, to column 1 and column 2 of Table 1. In the regression in column 2 which includes also information about employees' hierarchical levels, wages decrease by 2.3 percent for every additional year of previous experience as business owner. There is an increase of about 1.6 percent for every additional year of previous experience as an employee. These results show that the increase in wage associated with one more year of experience as a business owner is less than would be achieved if that additional year was spent in wage employment. Therefore, at first glance, evidence seems to confirm the idea that past experience as a business owner may be associated with a penalty, or a stigma of failure. This would, however, be at odds with the results concerning entry levels and promotions.

Table 2 Wage equations – pooled OLS, 1995-2003

Variables	**(1)**	**(2)**
Experience as business owner	0.0311***	-0.0226***
	[0.0029]	[0.0026]
Experience as business owner^2 x 10^{-2}	-0.0888**	0.1925***
	[0.0367]	[0.0315]
Experience as employee	0.0254***	0.0162***
	[0.0003]	[0.0002]
Experience as employee^2 x 10^{-2}	-0.0205***	-0.0194***
	[0.0010]	[0.0008]
Year / Industry / Region dummies	Yes	Yes
Hierarchical level dummies	No	Yes
Observations	2,414,602	2,366,191
R-squared (F test)	0.514 (14158.56)	0.613 (19659.73)

Notes: Dependent variable is the logarithm of hourly wage. The following variables are omitted: tenure (linear and squared terms); 9-years of education, secondary education, and college education (dummies); and firm size (log). Robust standard errors are in brackets. Significant at 10 %; ** significant at 5 %; *** significant at 1 %.

5.3 Rewards Accounting for Worker-firm Fixed Effects

The focus of this subsection is on fixed effects estimation, given the panel of individuals and firms, which allows us to account for individual and firm unobserved heterogeneity. Table 3 *(complete results available upon request)* shows results for the estimation of wage equations with the worker-firm fixed effects specification. In this regression, the identification of the coefficients is only possible by the variation of the individual characteristics under consideration within a spell in a specific firm.[10]

Focusing on the results of column 2, employers seem to value entrepreneurship experience higher than wage employment experience, thus rewarding former business owners with a wage premium: individuals see their wage increased by almost 3.3 percent for every additional year of previous experience as business owners, while for every additional year of previous experience as an employee, the partial effect is close to zero. This is an important result, since previous studies of this topic in the literature (who have found generally opposite effects) have taken into account variables concerning tenure and human capital indicators, but left out firm-level variables and, therefore, the specific worker-firm match.

Table 3 Wage equations – worker-firm fixed effects, 1995-2003

Variables	**(1)**	**(2)**
Experience as business owner	0.0405***	0.0325***
	[0.0116]	[0.0123]
Experience as business owner^2 x 10^{-2}	-0.0648	0.0986
	[0.2608]	[0.3044]
Experience as employee	-0.0046***	-0.0043***
	[0.0005]	[0.0005]
Experience as employee^2 x 10^{-2}	0.0164***	0.0145***
	[0.0013]	[0.0014]
Year / Industry / Region dummies	Yes	Yes
Hierarchical level dummies	No	Yes
Observations (number of worker-firm)	2,414,602 (757,081)	2,366,191 (748,257)
R-squared (F test)	0.210 (4141.88)	0.219 (3790.7)

Notes: Dependent variable is the logarithm of hourly wage. The following variables are omitted: tenure (linear and squared terms); 9-years of education, secondary education, and college education (dummies); and firm size (log). Robust standard errors are in brackets. Significant at 10 %; ** significant at 5 %; *** significant at 1 %.

10 This specification accounts for specific effects of each worker in each firm (or firms) where the individual worked. Thus, the unit of analysis is pair worker-firm, which means that if one individual, during the period in analysis, were employed in three different firms, then there will be three worker-firm pairs.

6. Concluding Remarks

This study examines the effect of business ownership experience on careers and earnings in firms, compared with wage employment experience. We look at the moment of entry and at career and wage progression within firms for individuals who were business owners for at least one year and for individuals who are never business owners. The results suggest that there are significant differences in career mobility between former business owners and individuals who were always wage employees. Former business owners have a greater probability of entering a firm at a high job level than other individuals and progress faster up the job ladder. Moreover, while the direct effect of business ownership experience on wages does not seem to be higher than the effect of wage employment experience, former business owners capture a wage premium through better career prospects, as they are more concentrated at the top of the hierarchy and hold lower tenure in between promotions. This suggests that even if former business owners may receive lower wages than individuals occupying the same hierarchical position who have no entrepreneurial experience, the labor market rewards former business owners with higher hierarchical positions, leading to an overall earnings premium.

Results confirm that wage earnings are, to a large extent, determined by job assignment, or hierarchical position (Baker et al., 1994; Gibbons and Waldman, 1999). There is a considerable gain in wage when an employee progresses from one hierarchical level to the one above it, regardless of individual or firm-level characteristics. A particularly interesting result is that, while former business owners progress faster than the remaining employees, they typically move to lower wage levels in their new job level, being also more likely to move up from a wage in the bottom half of the distribution of their previous level. Former business owners then benefit from the features of internal labor markets to earn a premium for their entrepreneurial experience, even though they may not earn more than other workers in the same level of the hierarchy.

A possible explanation for these results is that former business owners may possess a kind of task-specific human capital (Gibbons and Waldman, 2004; 2006). In particular, entrepreneurial experience may allow individuals to accumulate greater experience in organizing, supervising, coordinating and planning activities. Firms may use business ownership experience as an outside signal about the workers' ability (Waldman, 1984; Bernhardt, 1995) to perform in higher hierarchical levels, and thus hire former business owners to higher level jobs. The higher the job level a worker is assigned to, the more likely he is to acquire more supervisory/coordination ability. If this ability is an important requirement for career progress, then former business owners, being more likely to have initially been assigned to a higher job level, should also progress faster up the job ladder. This effect is akin to the cohort effect highlighted by Gibbons and Waldman (2006).

Results also suggest that human capital and imperfect information play the main role in generating a labor market premium for entrepreneurial experience.

The fact that former business owners possess an observable characteristic that leads them to be hired to higher job levels (regardless of firm size, although the effect is stronger in small firms) provides them with an important advantage which is amplified by the fact that such assignment increases the amount of task-specific human capital required to progress up the job ladder. Even though wages increase with firm size (a common result in the literature), most former business owners are hired by micro and small firms, suggesting that scale of operations is not a central determinant of the labor market premium awarded to former business owners.

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