
OPPORTUNITY COSTS AND ENTREPRENEURIAL ACTIVITY

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EXECUTIVE SUMMARY

We provide empirical support for the hypothesis that the lower the opportunity costs of individuals, the more likely they are to undertake entrepreneurial activity. This prediction emerged from earlier theoretical work in which we modeled the decision of individuals to develop new ventures on their own, seek the backing of a venture capitalist, or remain as paid employees. We use a large sample, drawn from the 1992 Canadian

*Labor Market Activity Survey. We find that paid employees who choose to leave their employment to become entrepreneurs earned, prior to leaving, substantially less on average than those whose employment status did not change and who remained paid employees throughout the survey period. Specifically, we establish that the wages of those workers who chose to remain paid employees throughout the survey period were, on average, 12% higher than the wages of those who left their employment to become entrepreneurs. To obtain this result, we performed a multivariate regression analysis in which we isolated the effect of employment status by controlling for gender, age, education, marital status, and region of the country. The employment-status coefficient was 2349 ($t = 2.644$; $p = .008$), indicating that new entrepreneurs earned in 1988, on average, \$2349 less than paid workers, *ceteris paribus*. In other words, 1988 paid employees who chose to become*

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entrepreneurs in 1989 and/or 1990 earned, at the time they made the decision to switch, significantly less than those whose employment status did not change and who remained paid employees throughout the survey period.

The causality in our result has not been established. It is possible that would-be entrepreneurs are not doing well in their current jobs for reasons that are unrelated to their entrepreneurial attributes or inclination. Their performance may be adversely affected by some coincidental factors. Given that their wages are relatively low, some of these individuals may be seriously considering the development of their own business.

Conversely, it is possible that their entrepreneurial abilities and attitudes are such that they do not fit into a corporate setting. These behavioral dimensions may have contributed to poor job performance, relative to their peers. Thus, it is the very fact that they are independent entrepreneurs that causes the compensation differential.

If the latter explanation is incorrect and we are left with the former, then it is likely that inasmuch as earnings can be used as a rough indication of the competence or ability of different individuals, our findings could imply that, on average, those employees who choose to become entrepreneurs are less capable than other employed individuals. This could in part explain the high failure rate of new ventures. Future work should be directed at establishing causality more definitely. Such research would contribute to a deeper understanding of some of the reasons for the high failure rate of newly established enterprises.

INTRODUCTION

The Canadian writer Stephen Leacock (1922), in one of his short stories, asks the question of how one becomes a millionaire. A sure way to become one, he claims, is to come to town with just five cents in your pocket. This he heard again and again from men with millions and millions of dollars. He has tried it himself several times. He borrowed five cents, got out of town, got back, and if he had not come across a bar when he entered town, he could have been a very rich man. Stephen Leacock was better known as a writer than as a professor of economics.¹ The story, however, has more than its share of economic thought.

The significance of the sum of five cents, of course, is not in the fact that the individual has five cents in his pocket but that she/he has *only* five cents in his pocket. Thus, the would-be millionaire (named “entrepreneur” for short) has *nothing to lose* other than these five cents. A person who enters town with five cents in one pocket, and a VISA gold card in another, is risking much more. If the business venture fails, the person is likely to lose the use of the VISA credit line in addition to the nickel.

The significance of the line of credit lies in the *opportunities* it opens up to its holder. These opportunities might very well be of lower expected returns, but more importantly, lower risk. The stranger with five cents, therefore, has very low opportunity costs and, moreover, it is the very fact that the opportunity costs are so low, that pushes the stranger to become an entrepreneur.

The above discussion presumably might lead to two distinct hypotheses. The first one deals with *causality*: does one become an entrepreneur (partly) because of one’s low opportunity costs? The second one points to the *correlation* between low opportunity costs and the decision to become an entrepreneur. The objective of this article is to empirically validate the second hypothesis.

¹ Stephen Leacock was a Professor of Economics and Political Science at McGill University from 1903–1936.

We have developed the theoretical background for this empirical study elsewhere (Amit, Glosten, and Muller 1990, 1994; see also our review article 1993). Amit, Glosten, and Muller (1994) have analyzed a model that extends the Rothschild and Stiglitz (1976) framework to include: (1) fixed costs of striking the deal between the venture capitalist and the entrepreneur; (2) a formal revelation game in which we can distinguish between two regimes—one a regime in which the entrepreneur initiates venture activities and the other in which the venture capitalist initiates the activities; and (3) the participation of the venture capitalist in the venture is assumed to positively affect the expected outcome of the entrepreneurial activity.

While the main results of the Amit, Glosten and Muller (1994) article relate to deriving the institutional structure of the venture capital industry that is likely to yield more and better entrepreneurial activity, the model has, in addition, implications regarding opportunity costs. In their model, all equilibria (pooling and separating) are constructed such that the compensation schemes of entrepreneurs with different abilities could always be compared to the no-risk case, i.e. the case in which the entrepreneurs are assured of their income regardless of the eventual outcome. Such assurance is achieved when the venture capitalist assumes all the risk in the venture. Such assurance is also achieved, however, if the entrepreneur decides not to develop the venture but become an employee and thereby enjoy a guaranteed alternative compensation. The larger the alternative compensation, the more attractive must be the expected reward associated with venturing.

Thus, the larger the alternative compensation of the entrepreneur, the less likely he/she is inclined to engage in entrepreneurial activities. Although the *level* of alternative compensation at which the entrepreneur would give up the venture activity differs according to ability and risk aversion, the fact that the larger the alternative compensation the less likely is the entrepreneur to start a new venture, is *independent* of her/his ability or the level of risk aversion.

This analysis, which emerged from a game-theoretic model developed in the above cited article, leads us to the following observation, which is the empirical hypothesis we investigate in this paper:

Hypothesis: The lower the opportunity costs of entrepreneurs, the more likely they are to undertake entrepreneurial activities.

Although in theory the concept of opportunity costs is well-defined, it is a somewhat more elusive concept in practice. To estimate the opportunity costs of an individual who remains a paid employee throughout her/his career, one should measure the discounted present value of future earnings in the individual's most desirable career path. Empirically, it is not possible to operationalize this theoretical concept. Thus, as a proxy to an individual's opportunity costs we measure the wages the employee decided to forego immediately prior to becoming an entrepreneur. One should note that the individual's real opportunity costs could be somewhat lower if, for example, he/she got laid off just prior to starting the business. Alternatively, it could be slightly higher if a better job offer materialized at that time.

Specifically, we use the 1992 Labor Market Activity Survey to test the hypothesis that self-employed individuals had lower wages prior to switching into self-employment when compared to paid workers who did not make the switch. Indeed, we find that the wages of the latter group were on average 12% higher as compared to the first group, thus supporting our hypothesis of correlation between low opportunity costs and the tendency to engage in entrepreneurial activity.

LITERATURE REVIEW

Estimating the wage differentials between groups of individuals is a frequently used practice in labor economics. Because comparing observed mean earnings could reflect differences in attributes of individual workers, rather than the direct effect being tested, other characteristics that are related to the wage (such as age, education, and gender) should be controlled for. The process commonly involves testing a simple Ordinary Least Squares Regression (OLS) model, though more sophisticated approaches are sometimes preferred (Green 1991). In the study of entrepreneurship, earning differentials studies have shown, among other findings, that minority self-employed individuals have lower incomes than white self-employed workers (Borjas and Bronars 1989). Further, whereas self-employed blacks earn less than self-employed whites, over two-thirds of the earnings gap can be accounted for by differences in individual characteristics of black and white workers (Sexton and Robinson 1989). In addition, education and age have been shown (see Rees and Shah 1986) to be important determinants of employment status (self-employed versus paid workers). Lastly, Sexton and Robinson (1989) show that returns to education are higher for the self-employed sector.

Numerous earlier studies compare earnings between self-employed and paid workers (e.g., Borjas and Bronars 1989; Evans and Leighton 1989; Hamilton 1992; Rees and Shah 1986), yet most of these have not focused on the performance of the would-be self-employed, *before* his/her decision to start a new business. Those studies that do address this issue come up with conflicting conclusions. In their study based on the National Longitudinal Survey of Young Men for 1966–1981 and the Current Population Surveys for 1968–1986, Evans and Leighton (1989) found that people who switched from wage work to self-employment tended to be those who received relatively low wages, who have changed jobs frequently, and who experienced relatively frequent or long spells of unemployment as wage workers. These findings support the hypothesis tested here. In the same study, Evans and Leighton also reported the following findings: (1) the probability of switching into self-employment is independent of age and labor market experience for the first 20 years of employment; (2) about 50% of entrants to self-employment return to wage work within seven years—the probability of departing from self-employment decreases with the duration in self-employment, falling to 0 by the 11th year; (3) the fraction of the labor force that is self-employed increases with age until the early 40s, and remains about constant thereafter, until retirement years.

In a recent study, Hamilton (1992) uses the 1984 panel of the Survey of Income and Program Participation to examine the hourly wages of 2.2% of nonprofessional paid employees in 1984 who entered self-employment in 1985, and concludes, contrary to our hypothesis, that the newly self-employed earned higher (not statistically significant) wages than those who stayed on as paid workers. Knusden and McTavish (1989) found that the higher the income and education of a person, the higher the interest in opening a new business. Further, Borjas and Bronars (1989) found that among whites the most able persons enter self-employment, whereas among several minority groups, the least skilled ones do. These conflicting results are far from conclusive and leave the issue open to further investigation.

METHODS

Data Source

The data used in this study were extracted from a micro data set for Canadian workers, the Longitudinal 1988–1990 Labor Market Activity Survey (LMAS) (Statistics Canada 1992). LMAS is conducted by Statistics Canada with the cooperation and support of Employment

and Immigration Canada. It is designed to collect information about the labor market participation pattern and the characteristics of the jobs held by Canadians during a three-year period.

The LMAS represents the civilian population aged 16–69, with the exception of residents of the Yukon, the Northern territories, and persons living in Indian reserves. The same group of respondents was interviewed in January of 1989, 1990, and 1991 to collect information for the 1988, 1989, and 1990 calendar years, respectively. The first interview was conducted as a supplement to the Labor Force Survey (LFS), which was also the source for the demographic information. Persons responding to the initial interview, who later moved and could be traced to another dwelling located in Canada, were interviewed in the second and third years at their new locations.

The LMAS questionnaire identified the total number of jobs held by every respondent during each calendar year and collected detailed information about the first five jobs in a given year. The file for 1988–1990 contains 97,081 records for 55,434 respondents.²

Variable Definition

Each individual in the LMAS could have up to five different job records in a particular year, each classified into one of seven categories by type of employment: paid worker; unpaid family worker; and five categories of self-employment: incorporated or non-incorporated business, with or without paid help, and unspecified self-employed. Thus, for each of the survey years—1988–1990, we have classified individuals into the following categories in Table 1.

To evaluate the opportunity costs of those individuals who became self-employed following a period of employment, we focused on the group of individuals, labeled “new entrepreneurs,” who meet any of the criteria shown in Table 2.

New entrepreneurs are those who, after a switch from being a paid worker to self-employment, have hired workers to help in the creation of a new business. They have either incorporated or chosen another legal structure, but all have hired others into the new business. The control group, labeled paid workers, is composed of individuals who were classified as PE during all three years (1988–1990). Individuals were classified into these groups using a single variable, employment status, with two categories: PAIDWORK (paid workers) and NEW ENT (new entrepreneurs).

In order to isolate the effect of employment status, we used several categorical variables as controls, including age, gender, and education. These were found to be the key factors affecting wage levels (see Meyer 1990; Van-Ophem 1991; Vijverberg 1986). In addition, we controlled for the marital status (to eliminate any effects of another income source on the decision to become an entrepreneur), and the geographic region within Canada where the individual lived in 1988 (to eliminate the effect of regional differences in income). We used the age categories as they appear in the LMAS survey, except that we combined the first two age groups (16 and 17–19), and omitted those individuals in the 65–69 age group in 1988, and thus ended up with six age categories. We used precisely the same education categories as in the LMAS survey; the education variable was broken into six categories. The key for variable coding is presented in Table 3.

² It should be noted that self-reported employment status information may be subject to coding biases and thus introduces a potential limitation of the empirical findings.

TABLE 1 Worker Classification

No.	Mnemonics	Definition	Description
1	SEIH	Self-employed in an incorporated business <i>with</i> help	If at least one of their job records in the given year was classified into this category;
2	SEI	Self-employed in an incorporated business <i>without</i> help	If they were not included in (1) and at least one of their job records in that given year was classified into this category,
3	SENH	Self-employed in a non-incorporated business <i>with</i> help	If they were not included in (1) or (2) and at least one of their job records in that given year was classified into this category;
4	SEN	Self-employed in a non-incorporated business <i>without</i> help	If they were not included in (1), (2) or (3) and at least one of their job records in that given year was classified into this category;
5	PE	Paid employees	If they were not included in (1), (2), (3) or (4) above, and at least one of their job records in that given year was classified into this category;
6	UFW	Unpaid family workers	If they were not included in (1), (2), (3), (4) or (5) and at least one of their job records in that given year was classified into this category;
7	OTHER	Other	If they were not included in (1), (2), (3), (4), (5), or (6).

Data Analysis

The analysis encompassed data concerning *all* 352 individuals included in the LMAS who fit the new entrepreneur definition. Due to the low proportion of new entrepreneurs out of the total database, randomly sampled data on only 1480 individuals (5%) of those who fit the paid workers category were used as a control group.

Table 4 presents descriptive statistics for the sample as a whole, and the same statistics broken down into the two sub-groups: new entrepreneurs versus paid workers. Panel (a) suggests that the new entrepreneurs had slightly higher earnings than the paid workers: \$21,981.48 per year versus \$20,196.89 (not statistically significant). Note, however, that there are differences in

TABLE 2 Employment Status

Classification in 1988	Classification in 1989	Classification in 1990
PE	PE	SENH
PE	PE	SEIH
PE	SENH	SENH
PE	SEIH	SEIH
PE	UFW	SENH
PE	UFW	SEIH
PE	OTHER	SENH
PE	OTHER	SEIH
SEN	SEN	SENH
SEN	SEN	SEIH
SEN	SENH	SENH
SEN	SEIH	SEIH
SEI	SEI	SEIH
SEI	SEIH	SEIH

TABLE 3 Variable Definitions

Variable Name	Variable Definition
Age	
AGE1 ^a	16–19 years ^a
AGE2	20–24 years
AGE3	25–34 years
AGE4	35–44 years
AGE5	45–54 years
AGE6	55–64 years
Education	
EDUC1 ^a	0–8 years ^a
EDUC2	Some secondary education
EDUC3	Graduated from high school
EDUC4	Some post-secondary education
EDUC5	Post-secondary certificate or diploma
EDUC6	University education
Gender	
SEX1	Male
SEX2 ^a	Female ^a
Marital status	
MARIT1	Married
MARIT2 ^a	Other ^a
Province	
PROV1	Quebec
PROV2	Ontario
PROV3	Manitoba, Saskatchewan, Alberta
PROV4	British Columbia
PROV5 ^a	Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick ^a
Employment status	
PAIDWORK	Paid workers
NEW ENT ^a	New entrepreneurs ^a

^a Denotes the base case in the regression.

the demographic characteristics of the individuals in the two groups. Panel (b) depicts the distribution of the individuals according to the demographic variables, and shows that in comparison to the paid workers group, the new entrepreneurs in the sample were somewhat older, better educated, more likely to be males and married. There are well-established correlations between these factors and earnings. A simple comparison of the mean annual earnings of the two groups without controlling for these factors is therefore erroneous.

A correct comparison of the mean annual earnings in 1988 between the new entrepreneurs and the paid workers groups can be obtained by controlling for these demographic differences using multiple regression analysis. The data were analyzed using a multivariate least squares regression model, with indicator (dummy) variables. Because we were interested in detecting the difference in mean earnings between the two groups before the decision to become self-employed had been made, the variable representing annual earnings for 1988 (EARN88) was regressed on a categorical variable (named employment status) that distinguishes between new entrepreneurs and paid workers.

Because the variables of interest to us, employment status as well as the age, education,

TABLE 4 Descriptive Statistics and Sample Characteristics

	Paid workers	New entrepreneurs	Whole sample
(a) 1988 Earnings			
Mean	20,196.89	21,981.48	20,539.78
Min	37.00	0.00	0.00
Max	113,436.00	263,700.00	263,700.00
SD	15,081.42	24,263.55	17,235.86
(b) Demographic Variables			
(Table entries are the percentage of the relevant total falling into that category)			
Age			
16–19	10.0	1.7	8.4
20–24	12.2	8.0	11.4
25–34	30.3	32.1	30.7
35–44	26.4	37.8	28.5
45–54	15.9	17.0	16.2
55–64	5.2	3.4	4.9
Education			
0–8 years	10.1	9.1	9.9
Some secondary education	25.8	19.9	24.7
Graduated from high school	23.6	27.8	24.4
Some post-secondary education	11.4	13.1	11.7
Post-secondary certificate or diploma	17.0	18.5	17.3
University	12.1	11.6	12.0
Gender			
Male	51.8	67.0	54.7
Female	48.2	33.0	45.3
Marital Status			
Married	66.3	81.3	69.2
Other	33.7	18.7	30.8
Province			
Quebec	16.5	11.8	15.5
Ontario	23.1	22.4	23.0
Manitoba, Saskatchewan, Alberta	28.3	34.1	29.4
British Columbia	10.8	15.7	11.7
Newf.; P.E.I; N.S.; N.B.	21.4	16.0	20.3
Number of observations	1480	352	1832

gender, marital status and geographic region variables, were presented in categorical form, regression over indicator (dummy) variables had to be performed.³

We have no strong priors about the true functional form of the earnings equation, and so we obtained regression results using two functional forms: linear and semi-log. Model I (the linear model) can be represented by the following equation:

³ Because AGE has a natural metric, it could be transformed (with error) into a continuous variate by, for example, assigning midpoints of each category. No such natural transformation exists for the other variables.

$$(\text{EARN88}) = \alpha + \beta_{1,i}\text{Age}_i + \beta_{2,j}\text{Education}_j + \beta_{3,k}\text{Gender}_k + \beta_{4,m}\text{Marital status}_m + \beta_{5,p}\text{Region}_p + \beta_{6,n}\text{Employment status}_n + \varepsilon$$

$$i = 1, \dots, 6$$

$$j = 1, \dots, 6$$

$$k = 1, 2$$

$$m = 1, 2$$

$$n = 1, 2$$

$$p = 1, \dots, 5$$

ε is a random error that captures omitted variables which affect earnings such as experience, unmeasured variation in the skills or ability of the individual, race, etc., plus errors of measurement. ε is assumed to have the usual desirable properties (independent, identically distributed, mean 0). Each categorical variable was transformed into $(q-1)$ binary subvariables, where q equals the number of categories of each variable. Hence, the constant α in the regression equation would represent the base-case mean 1988 earnings of the group of individual whose profile is: 17–19 age group, 0–8 years of education, female, unmarried, Atlantic Canada, new entrepreneurs. The different coefficients of each of the subvariables can be interpreted directly as the dollar amount of the incremental earnings, over and above the base case, of individuals belonging to each category. For example, for the employment status variable, the base case reflects the mean earnings of new entrepreneurs. Thus, the coefficient of employment status in the regression equation ($\beta_{6,1}$) represents the incremental 1988 earnings of paid workers, over and above the new entrepreneurs, *ceteris paribus*. That is, when the coefficient of employment status is positive, equals \$X, and is statistically significant, it implies that those who stayed on as paid employees had mean 1988 earnings that are higher than the mean 1988 earnings of those who chose to become entrepreneurs by exactly \$X.

Model II (the semi-log model) is given by:

$$\ln(\text{EARN88}) = \alpha + \beta_{1,i}\text{Age}_i + \beta_{2,j}\text{Education}_j + \beta_{3,k}\text{Gender}_k + \beta_{4,m}\text{Marital status}_m + \beta_{5,p}\text{Region}_p + \beta_{6,n}\text{Employment status}_n + \varepsilon$$

$$i = 1, \dots, 6$$

$$j = 1, \dots, 6$$

$$k = 1, 2$$

$$m = 1, 2$$

$$n = 1, 2$$

$$p = 1, \dots, 5$$

The regression coefficients in this formulation may be interpreted as the percentage change in earnings attributable to the categorical variable. For example, a positive β coefficient of employment status represents the percent increment in 1988 earnings of paid workers over the base case (new entrepreneurs).

RESULTS

Tables 5 and 6 summarize the results of estimating Model I and Model II by ordinary least squares. As is depicted in Table 5, the constant α represents the mean 1988 annual earnings of the base-case group: females who were in the 17–19 age group, with 0–8 years of education, who were not married, lived in Atlantic Canada, and were new entrepreneurs. Had the survey included any, the regression model predicts negative earnings of \$10,402. The employment status coefficient was 2349.7 ($t = 2.644$; $p = .008$), indicating that new

TABLE 5 OLS Regression Results: Dependent Variable = EARN88

Variable	Coefficient	SE	t-ratio	Pr > t	Robust SE	Robust "t"	Pr > "t"
CONST	-10402.3	2028.55	-5.128	<0.001	1797.5	-5.787	<0.001
AGE2	6493.2	1599.5	4.060	<0.001	1062.2	6.113	<0.001
AGE3	13023.4	1511.6	8.616	<0.001	1076.1	12.103	<0.001
AGE4	15376.4	1596.7	9.630	<0.001	1286.8	11.950	<0.001
AGE5	15842.6	1681.3	9.422	<0.001	1309.8	12.096	<0.001
AGE6	16744.4	2125.4	7.878	<0.001	2183.4	7.669	<0.001
EDUC2	2216.4	1315.8	1.685	0.092	1051.8	2.107	0.035
EDUC3	5026.1	1346.1	3.734	<0.001	1282.7	3.918	<0.001
EDUC4	3622.0	1535.4	2.359	0.018	1195.0	3.031	0.002
EDUC5	8290.1	1394.4	5.945	<0.001	1181.3	7.018	<0.001
EDUC6	15812.7	1497.3	10.561	<0.001	1697.8	9.313	<0.001
SEX1	11728.9	697.5	16.815	<0.001	627.0	18.706	<0.001
MARIT1	1489.2	913.9	1.629	0.103	879.7	1.693	0.091
PROV1	4027.7	1117.5	3.604	<0.001	1137.2	3.542	<0.001
PROV2	5910.9	1004.8	5.883	<0.001	985.9	5.996	<0.001
PROV3	4778.7	941.1	5.078	<0.001	1042.4	4.584	<0.001
PROV4	4215.0	1245.2	3.385	<0.001	1312.8	3.211	0.001
PAIDWORK	2349.7	888.7	2.644	0.008	1245.8	1.886	0.059

1832 observations; Mean of dependent variable = 20539.8; SD of dependent var. = 17235.9; SE of regression = 14546.7; $R^2 = .294$; Adjusted $R^2 = .288$; Durbin-Watson statistic = 1.96; F-Statistic (zero slopes) = 44.504.

entrepreneurs earned in 1988, on average, \$2349.7 less than paid workers, *ceteris paribus* (controlling for gender, age, education, marital status, and region). In other words, 1988 paid employees who chose to become entrepreneurs in 1989 and/or 1990 earned, at the time they made the decision to switch, significantly less than those whose employment status did not change and remained paid employees throughout the survey period.

A very similar conclusion can be drawn from the estimates of the semi-log regression (Model II). The coefficient of employment status is .117 ($t = 2.210$, $p = .027$), indicating that the mean 1988 earnings of paid workers is 12% higher than the mean 1988 earnings of new entrepreneurs. That is, new entrepreneurs earned approximately 10.5% ($= 1 - 1 / 1.117$) less than paid workers in 1988.

Our confidence in these results is increased by their consistency with previous work. The R^2 of the regressions, 0.29 and 0.37, are consistent with previous estimates of earnings equations from data sets of this size (see for example Evans and Leighton 1989), and the coefficients on the demographic variables conform to prior beliefs: older, more educated, male individuals are predicted to have higher earnings.

In a large cross-sectional analysis such as this, there is always the possibility that the OLS standard errors are spuriously small due to heteroscedasticity of the error term. To account for this, and other possible violations of the standard assumptions on the distribution of the error term in the OLS regression model, we also calculated robust standard errors for the parameter estimates, using the Eickert-White formula (White 1980). The standard errors reported in the columns of Tables 5 and 6 labeled "ROBUST SE" are consistent estimates of the true standard errors of the parameters of the model under a wide variety of departures from homoscedasticity and independence. The robust standard errors are a little larger than those obtained by OLS, and results are a little less significant. But our key variable, PAIDWORK, is still significant enough, and our conclusions remain unchanged.

TABLE 6 OLS Regression Results: Dependent Variable = $\ln(\text{EARN88})$

Variable	Coefficient	SE	t-ratio	Pr > t	Robust SE	Robust "t"	Pr > "t"
CONST	7.266	0.118	61.834	<0.001	0.140	52.083	<0.001
AGE2	0.987	0.091	10.841	<0.001	0.113	8.770	<0.001
AGE3	1.463	0.086	16.994	<0.001	0.104	14.076	<0.001
AGE4	1.567	0.091	17.204	<0.001	0.109	14.391	<0.001
AGE5	1.599	0.096	16.644	<0.001	0.112	14.222	<0.001
AGE6	1.592	0.121	13.122	<0.001	0.124	12.814	<0.001
EDUC2	0.047	0.076	0.627	0.531	0.080	0.591	0.554
EDUC3	0.271	0.078	3.498	<0.001	0.082	3.308	<0.001
EDUC4	0.139	0.088	1.575	0.115	0.093	1.493	0.136
EDUC5	0.425	0.080	5.308	<0.001	0.081	5.248	<0.001
EDUC6	0.693	0.086	8.048	<0.001	0.087	7.976	<0.001
SEX1	0.647	0.040	16.142	<0.001	0.407	15.898	<0.001
MARIT1	0.076	0.052	1.453	0.146	0.053	1.439	0.150
PROV1	0.218	0.064	3.400	<0.001	0.064	3.402	<0.001
PROV2	0.360	0.058	6.246	<0.001	0.055	6.505	<0.001
PROV3	0.279	0.054	5.158	<0.001	0.055	5.085	<0.001
PROV4	0.232	0.072	3.227	0.001	0.082	2.846	0.004
PAIDWORK	0.117	0.053	2.210	0.027	0.058	2.035	0.042

1792 observations; Mean of dependent variable = 9.568; SD of dependent variable = 1.040; SE of regression = .827; $R^2 = .373$; Adjusted $R^2 = .367$; Durbin-Watson statistic = 1.99; F-statistic (zero slopes) = 62.210

SUMMARY

We empirically tested the hypothesis that the lower the opportunity costs of individuals, the more likely they are to undertake entrepreneurial activities. Using the 1992 Labour Market Activity Survey, we observed that the wages of self-employed individuals prior to switching into self-employment were, on average, 10.5% lower than those of paid workers who did not make the switch.

The causality in our result has not been established. It is possible that would-be entrepreneurs are not doing well in their current jobs for reasons that are unrelated to their entrepreneurial attributes or inclination. Their performance may be adversely affected by some coincidental factors. Given that their wages are relatively low, some of these individuals may be seriously considering the development of their own business.

Conversely, it is possible that their entrepreneurial abilities and attitudes are such that they do not fit into a corporate setting. These behavioral dimensions may have contributed to their poor job performance, relative to their peers. Thus, it is the very fact that they are independent entrepreneurs that causes the compensation differential.

If the latter explanation is incorrect and we are left with the former, then it is likely that inasmuch as earnings can be used as a rough indication of the competence or ability of different individuals, our findings could imply that, on average, those employees who choose to become entrepreneurs are less capable than other employed individuals. This could, in part, explain the high failure rate of new ventures. Future work should be directed at establishing causality more definitely. Such research would contribute to a deeper understanding of some of the reasons for the high failure rate of newly established enterprises.

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