Opportunity vs Necessity: Understanding the Heterogeneity of Female Microentrepreneurs

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June 15, 2015

Annual Bank Conference on Development Economics 2015

Research Questions

We analyze the heterogeneity of female microentrepreneurs in urban Mexico by comparing "opportunity" vs "necessity" ones

Why Opportunity vs Necessity?

More than 7 million of microentrepreneurs according to ENAMIN

Debate: Whether being a microentrepreneur in developing countries is:

> Voluntary and the first step to become larger, successful entrepreneur OR
> Involuntary while queueing for a salaried job

For Mexico, Bosch and Maloney (2007) find transitions from formal salaried employment to self-employment are pro-cyclical, thus providing some support to the first view.

Under the first view, support programs for entrepreneurs could help them grow and generate jobs.

Data- Sample and Description

Baseline survey conducted in 2014 in 8 urban areas in Mexico.

> Areas: Aguascalientes, Dolores Hidalgo, Irapuato, León, Mexico City, Querétaro, San Juan del Río and Toluca
>
> Part of a RCT to evaluate "Mujeres Moviendo México" a large business training program by Crea (Mexican NGO)
>
> Sample of 10,275 female owners of firms with 5 or fewer employees

The survey was conducted at the establishment and has information on:

> Business characteristics and performance
>
> Management practices
>
> Cognitive skills and non-cognitive skills of the entrepreneur
>
> Sociodemographics

Brief Descriptives of our Sample

We exclude the top 1% in daily profits.

Some mean characteristics:

Age: 45 years old
Schooling: 8.6 (some secondary education)
Poor: 14%
Capital: 1166 USD (17,500 MXP). Median=430 USD (6,500 MXP)
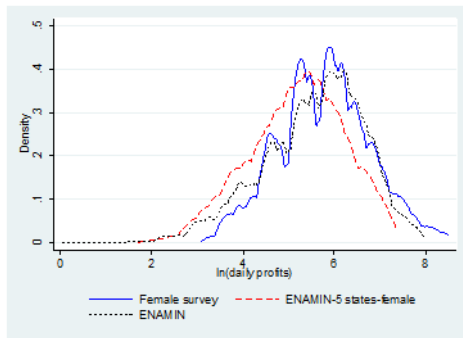Age of business: 107 months (9 years). Median=60 months (5 years); 25% a year or less
Self-employed: 75% (no employees)
Economic sector: Retail (62%); services (33%); production (5%)
Daily profits: 270 MXP (4 MW). Median=150 MXP (2.3 MW); Q1=80 MXP; Q3=300 MXP. Max=2,800 MXP
Reason for opening business: Opportunity (18%), Necessity (69%), Family (7%), Other (6%)

Comparison with ENAMIN (INEGI)

Variables for Analysis

Business performance measures: Self-reported weekly profits.

Business practices: Composite business practice (CBP) score.

Measures marketing, stock and financial planning, and records-keeping (Fa rbakepna,5d (Woo)auf26nG0 g 0 fasure.3ifinancmon Business performance measures: Self-reported weekly profits.

Opportunity vs Necessity Classification

An "opportunity" entrepreneur opened her business either because:

She wanted to become independent OR
She had money and found a good opportunity OR
She wanted to work in her profession or devtedw procareop39(w)1 OR

Mean differences between opportunity and necessity entrepreneurs

Discriminant analysis

Analyze if observable traits are good predictors

OLS regression

Other factors, besides personal or business characteristics, that could explain the difference between these two types of entrepreneurs

Mean difference Opportunity vs Necessity (full sample)

	Opportunity group mean	Necessity group mean	Mean difference	t-test p-value
Measures of performance				
Weekly profits (self reported)	1937.635	1349.177	588.4576***	1.26e-12
Weekly sales (self reported)	4507.258	3540.586	966.6726***	1.31e-07
Weekly sales/workers	4395.353	4302.254	93.09963	.7776329
Composite Business Practice score (standarized)	.3060325	-.0842768	.3903093***	1.29e-51
Business characteristics				
Age of entrepreneur	41.81658	45.92807	-4.111494***	4.77e-31
Age of business in months	90.59086	103.6411	-13.05026***	.0000466
Proportion with one worker or more	.3185	.2278	.0907***	.0000
Costs: monthly salary expenses	1025.357	498.751	526.6064***	5.84e-12
Cognitive skills				
Total score of raven test (standarized)	.0827833	-.0211648	.1039482***	.0000841
Total score of digit span test (standarized)	.1459293	-.0328984	.1788277***	5.72e-12
Years of schooling	9.789416	8.251668	1.537748***	1.31e-45
Non-cognitive skills				
Extraversion (standarized)	-.0365413	.0155396	-.0520809**	.0430861
Agreeableness (standarized)	-.0093652	.0075027	-.0168679	.5074504
Conscientousness (standarized)	-.069074	.0121551	-.0812292***	.0015348
Neuroticism (standarized)	-.0246642	.0130341	-.0376982	.1432771
Intellect/imagination (standarized)	.0074094	-.0046432	.0120526	.635746
Self efficacy (standarized)	-.0957561	.0110521	-.1068082***	.0000364
Locus of control (standarized)	.0954217	-.0202922	.1157139***	8.77e-06
Impulsiveness (standarized)	.0480202	-.0170598	.06508**	.0116913
Self confidence (standarized)	.1074716	-.0390423	.1465139***	1.49e-08
Attitude towards risk (standarized)	.0975181	-.0298163	.1273345***	1.44e-06
Self satisfaction (standarized)	.1163573	-.0443902	.1607475***	7.42e-10
Optimism (standarized)	.138387	-.0400507	.1784377***	1.21e-11
Attitude towards trust (standarized)	.0137271	-.0011845	.0149116	.5669594
Attitude towards growth (standarized)	.0621355	-.0119533	.0740888***	.0046092
Observations	8949			

p-values from mean difference t-test: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Discriminant Analysis

Variable set used in classification	Opportunity correctly classified (%)	Necessity correctly classified (%)	Classified as opportunity (%)	Classified as necessity (%)
Full sample				
Measures of performance only (1)	52.37	62.85	40.37	59.63
Business characteristics only (2)	59.18	56.19	46.48	53.52
Cognitive skills only (3)	59.06	56.45	47.17	52.83
Non-cognitive skills only (4)	57.13	53.53	48.78	51.22
All variables combined	60	62.75	42.06	57.94

OLS regressions

VARIABLES	(1) CBP score	(2) Weekly profits
Opportunity	0.271***	0.267***
	(0.033)	(0.038)
Age of business in months	0.000**	0.001***
	(0.000)	(0.000)
Age of entrepreneur	-0.003***	-0.009***
	(0.001)	(0.001)
Raven test score (standarized)	0.008	0.036**
	(0.014)	(0.016)
Digit span test score (standarized)	0.066***	0.107***
	(0.015)	(0.018)
Years of schooling	0.058***	0.017***
	(0.004)	(0.005)
Locus of control (standarized)	-0.004	-0.023
	(0.013)	(0.015)
Attitude towards risk (standarized)	0.124***	0.071***
	(0.014)	(0.017)
Self satisfaction (standarized)	0.094***	0.141***
	(0.015)	(0.020)
Optimism (standarized)	-0.017	0.052***
	(0.015)	(0.019)
Constant	-0.443***	6.741***
	(0.069)	(0.087)
Observations	5,383	4,549
R-squared	0.143	0.105

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

IV Regression

The Instrumental Variable is the GDP growth rate per year observed in the state and in the year when the microentrepreneur started her business.

First Stage:

$$opportunity_i = \alpha_1 + \beta_1 GDPgrowth\_t_{0s} + \gamma_1 BusinessPract_i$$
$$+ \gamma_2 CognitiveSkills_i + \gamma_3 NonCognitiveSkills_i$$
$$+ \gamma_4 OtherMicroEntrepreneurCharact_i + \gamma_5 BusinessCharact_i + \epsilon_i$$

Second Stage:

$$performance_i = \alpha_2 + \delta_2 opportunity_i + \theta_1 BusinessPract_i$$
$$+ \theta_2 CognitiveSkills_i + \theta_3 NonCognitiveSkills_i$$
$$+ \theta_4 OtherMicroEntrepreneurCharact_i + \theta_5 BusinessCharact_i + \mu_i$$

i is individual, and $GDPgrowth\_t_{0s}$ is the GDP growth per year observed in the state and in the year when the micro-entrepreneur started her business.

IV Regressions

VARIABLES	(1) CBP score	(2) Weekly profits
Opportunity	2.636*	2.685
	(1.437)	(1.799)
Age of business in months	0.000*	0.001***
	(0.000)	(0.000)
Age of entrepreneur	0.003	-0.002
	(0.004)	(0.005)
Raven test score (standarized)	0.035	0.062**
	(0.026)	(0.029)
Digit span test score (standarized)	0.051**	0.108***
	(0.023)	(0.025)
Years of schooling	0.032*	-0.009
	(0.017)	(0.021)
Locus of control (standarized)	-0.031	-0.056*
	(0.025)	(0.032)
Attitude towards risk (standarized)	0.129***	0.075***
	(0.020)	(0.023)
Self satisfaction (standarized)	0.064**	0.133***
	(0.029)	(0.026)
Optimism (standarized)	-0.037	0.035
	(0.024)	(0.029)
Constant	-1.016***	6.162***
	(0.364)	(0.447)
F-test	17.37	12.96
Observations	5,383	4,549

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

IV Regressions: Robustness tests (Restricting to business opening up to 2010)

VARIABLES	(1) CBP score
Opportunity	3.512*
	(1.822)
Age of business in months	0.001
	(0.001)
Age of entrepreneur	0.005
	(0.006)
Raven test score (standarized)	0.059
	(0.041)
Digit span test score (standarized)	0.031
	(0.039)
Years of schooling	0.018
	(0.021)
Locus of control (standarized)	-0.043
	(0.031)
Attitude towards risk (standarized)	0.157***
	(0.033)
Self satisfaction (standarized)	0.043
	(0.043)
Optimism (standarized)	-0.047
	(0.036)
Constant	-1.198**
	(0.516)
F-test	10.86
Observations	3,242

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Conclusions

Our results suggest that a single view –either *optimistic* or *pessimistic*- cannot be applied to female microentreprenetl Tf 198.lehb.e

Table 1: Mean diff. Opportunity vs Necessity's top 25% of daily profits

	Opportunity group mean	Necessity group mean	Mean difference	p-value
Measures of performance				
Weekly profits (self reported)	1937.635	3398.169	-1460.534***	2.52e-20
Weekly sales (self reported)	4507.258	8898.376	-4391.117***	7.84e-36
Weekly sales/workers	4395.353	7558.159	-3162.806***	9.17e-11
Composite Business Practice score (standarized)	.3060325	.2559537	.0500788	.2083584
Business characteristics				
Age of entrepreneur	41.81658	43.3497	-1.533121***	.0013669
Age of business in months	90.59086	111.8615	-21.27061***	1.01e-06
Proportion with one worker or more	.3185935	.3748925	-.056299***	041.8i5*ion-278(top)-

Mean difference Opportunity and Necessity vs Necessity incorrectly classified

	Mean Opportunity	Mean Necessity	Mean Necessity incorrectly class.	Opp - Nec. incorrect	Nec - Nec. incorrect
Measures of performance					
Weekly profits (self reported)	1937.64	1349.18	1695.27	242.36**	-476.57***
Weekly sales (self reported)	4507.26	3540.59	4514.88	-7.62	-1335.31***
Weekly sales/workers	-155.58	4302.25	4550.94	.7776	-305.79
CBP score (standarized)	.3060	-.0843	.6524	-.3463***	-.9997***
Business characteristics					
Age of entrepreneur	41.82	45.93	38.00	3.81***	10.76***
Age of business in months	90.59	103.64	77.86	12.73***	35.09***
Costs: monthly salary expenses	1025.36	498.75	1012.41	12.95	-741.54***
Cognitive skills					
Total score of raven test	.0828	-.0212	.1169	-.0341	-.1907
Total score digit span test	.1459	-.0329	.2606	-.1146***	-.3990***
Years of schooling	9.7894	8.2517	11.1381	-1.3487***	-3.9420***
Non-cognitive skills					
Extraversion (standarized)	-.0365	.0155	.0219	-.0698**	-.0240
Agreeableness (standarized)	-.0094	.0075	-.0872	-.0312	-.0194
Conscientousness (standarized)	-.0691	.0121	-.0094	.0182	.1346***
Neuroticism (standarized)	-.0247	.0130	.0112	-.0152	.0304
Intellect/imagination (standarized)	.0074	-.1451	.0121	-.0038	-.0214
Self efficacy (standarized)	-.0958	.0111	.1754	.0494	.2116
Locus of control (standarized)	.0954	-.0203	.1010	-.0710**	-.2652***
Impulsiveness (standarized)	.0480	-.0170	.2225	-.0529	-.1599***
Self confidence (standarized)	.1075	-.0390	.1713	-.1150***	-.3548***
Attitude towards risk (standarized)	.0975	-.0298	.2962	-.0738***	-.2767***
Self satisfaction (standarized)	.1164	-.0444	.2612	-.1798***	-.4639***

Optimism (standarized)8B4-(1o.0170)-5imism4818(.0480)-5699(-.1-5691221(-.4639***)]T*)] -11.955 Td [(Age)-250(o250(to)25(w)10(ards)-250(