Ethnicity, Gender, and Entrepreneurship in Guatemala

Andrés Marroquín

"Free Exchange of Ideas over Lunch"

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Literature

- Klyver, K. & Hindle, K. (2007). The role of social networks at different stages of business formation. *Small Business Research*, 15(1): 22-38.

- Köllinger, P. & Minniti, M. (2006). Not for a lack of trying: American entrepreneurship in black and white. *Small Business Economics*, 27(1): 59-79.

- Guiso, L., Pistaferri, L., & Schivardi, F. (2015). Learning entrepreneurship from other entrepreneurs? NBER Working Paper Series.

Köllinger, P. & Minniti, M. (2006). Not for a lack of trying: American entrepreneurship in black and white. *Small Business Economics*, 27(1): 59-79.

Abstract

- "… our results suggest that the under representation of black Americans among established entrepreneurs is not due to lack of trying but may instead be due to stronger barriers to entry and higher failure rates."

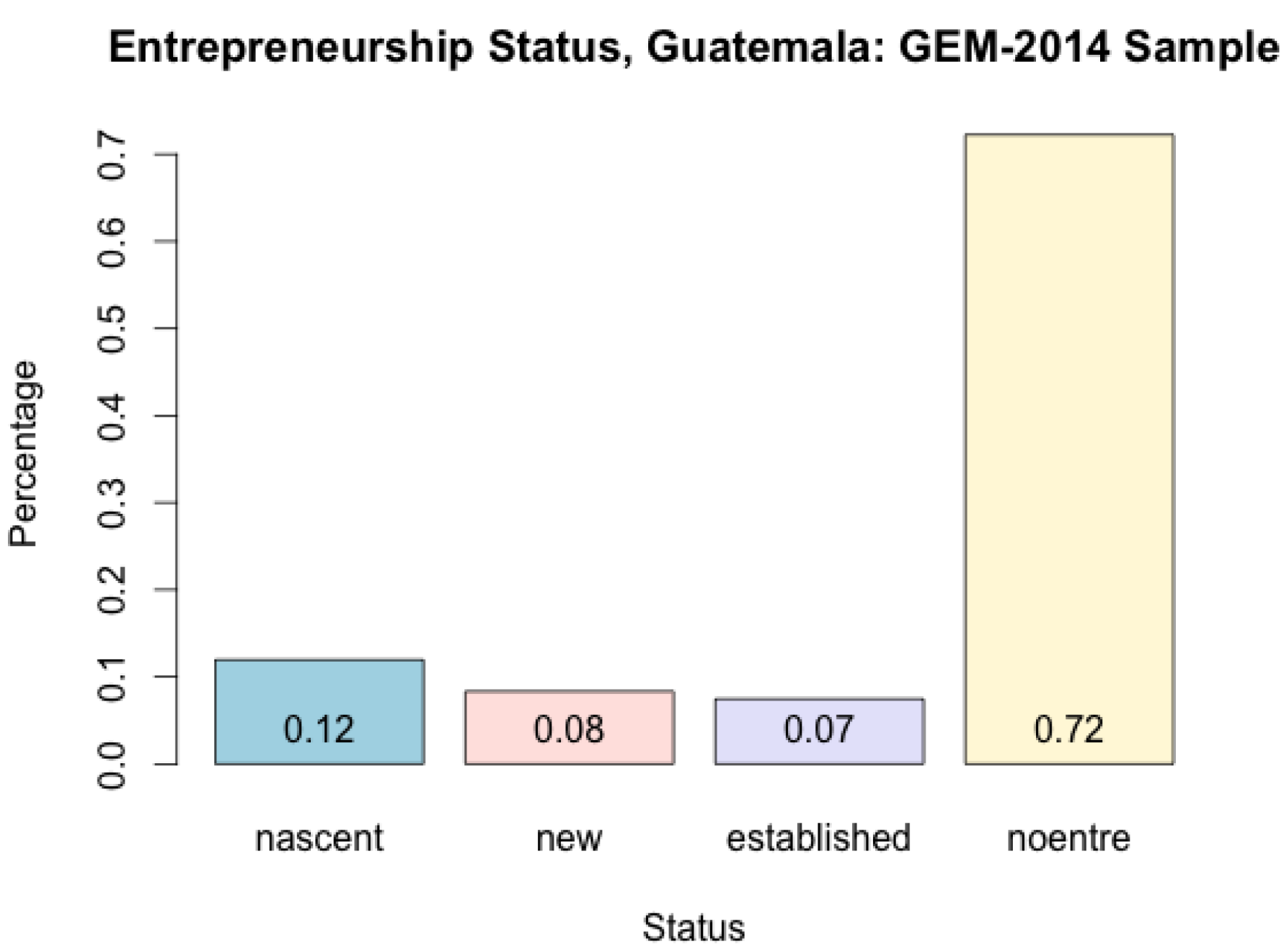
Definitions

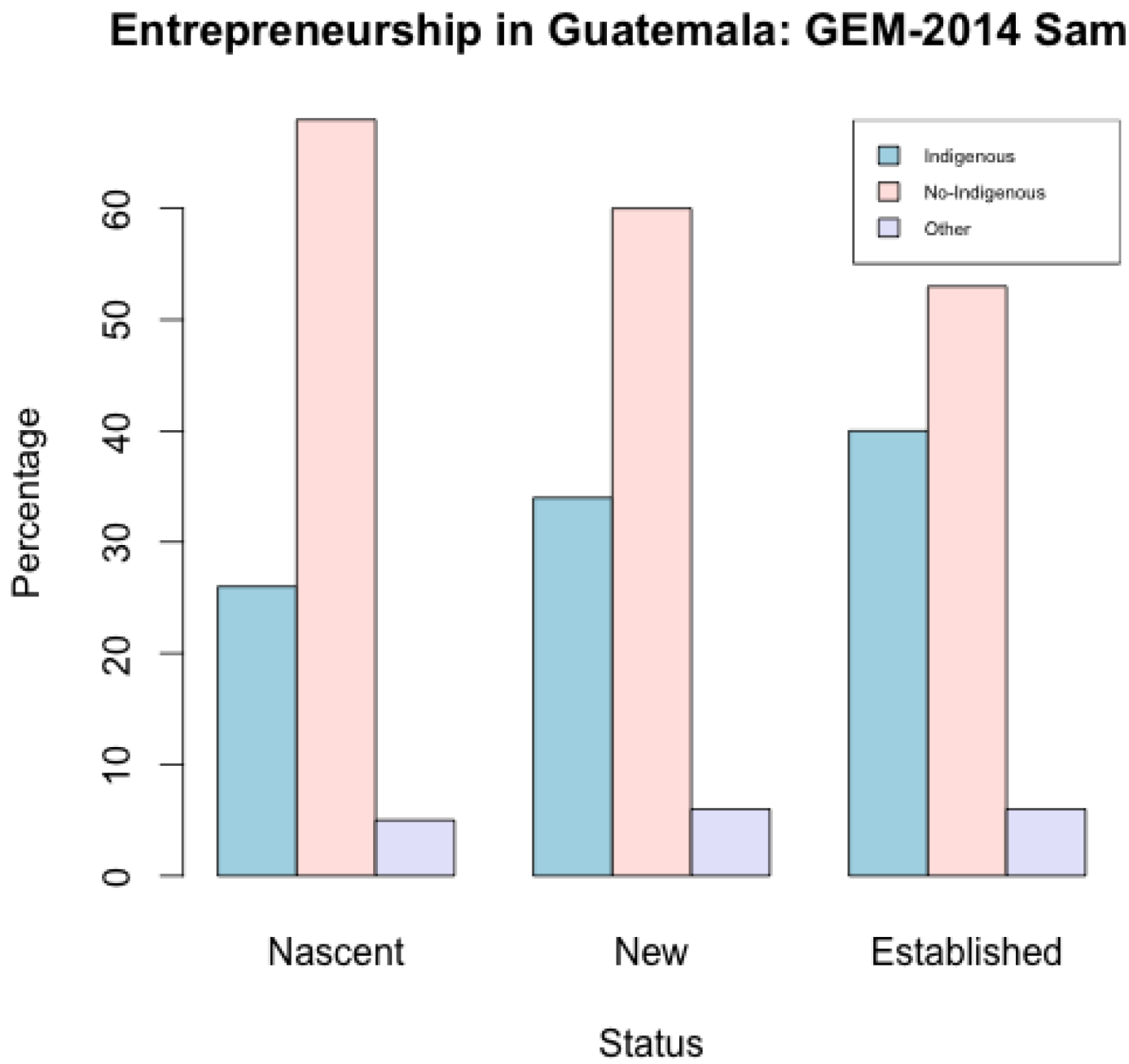
- A person is not an entrepreneur if she is not involved in starting a new business neither owns an existing business.

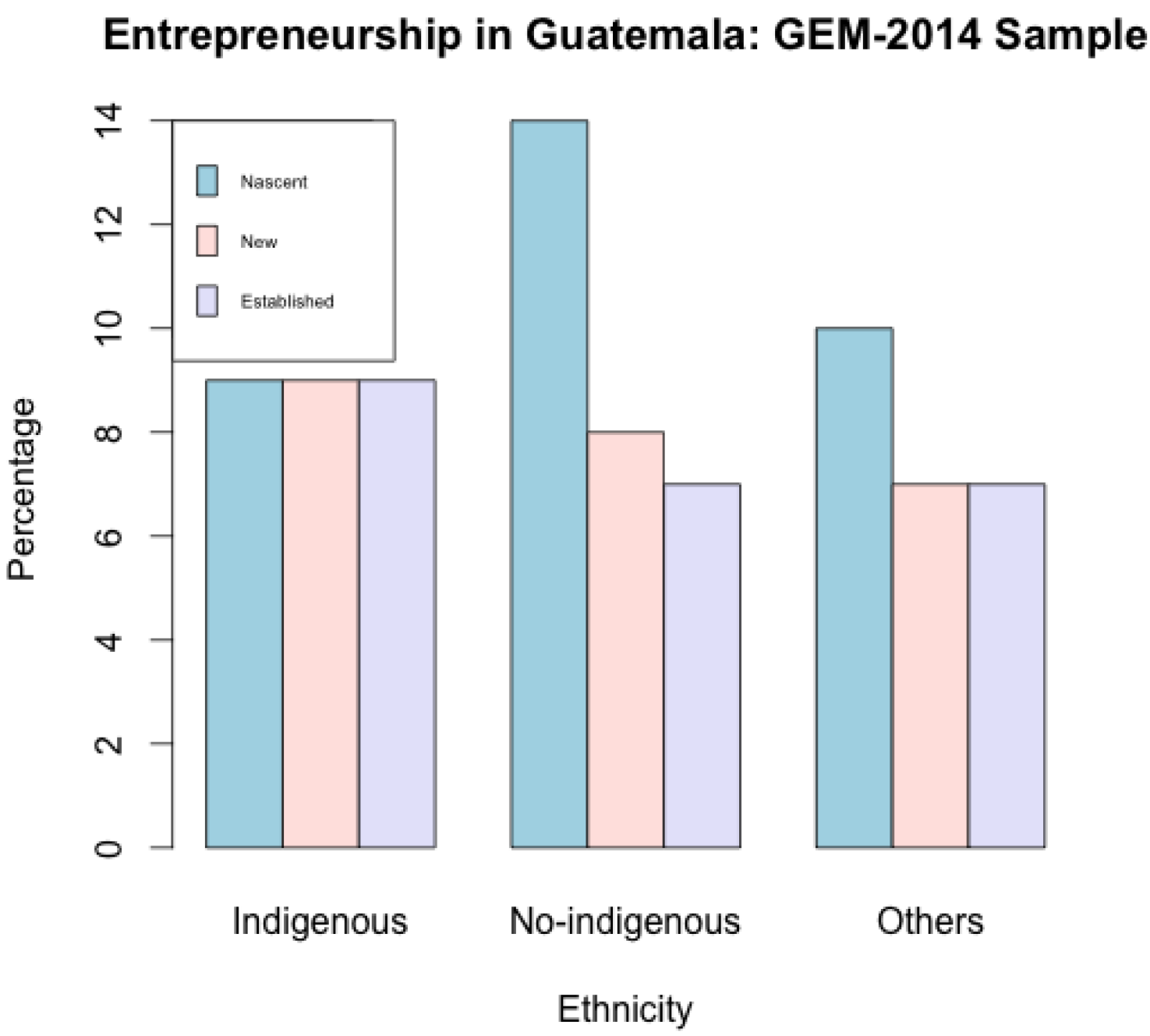
- An established business owner is a person who is “currently owner-manager of an established business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than 42 months.”

- A new business owners is a person who is “currently a owner-manager of a new business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than three months, but not more than 42 months.”

- A nascent entrepreneur is a person “actively involved in setting up a business they will own or co-own; this business has not paid salaries, wages, or any other payments to the owners for more than three months.”


Entrepreneurship Status, Guatemala: GEM-2014 Sample
Percentage
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.12
0.08
0.07
0.72
nascent
new
established
noentre
Status


Entrepreneurship in Guatemala: GEM-2014 Sample
Indigenous
No-Indigenous
Other
Percentage
0
10
20
30
40
50
60
Nascent
New
Established
Status


Entrepreneurship in Guatemala: GEM-2014 Sample
Nascent
New
Established
Percentage
0
2
4
6
8
10
12
14
Indigenous
No-indigenous
Others
Ethnicity

Ethnicity and entrepreneurial status

		Ethnicity							
		Indigenous	%	No-indigenous	%	Others	%	Total	%
Status	Nascent	68	9%	176	14%	14	10%	258	12%
	%	26%		68%		5%		100%	
	New	62	9%	108	8%	10	7%	180	8%
	%	34%		60%		6%		100%	
	Established	65	9%	86	7%	10	7%	161	7%
	%	40%		53%		6%		100%	
	No-entrepreneur	521	73%	930	72%	108	76%	1559	72%
	%	33%		60%		7%		100%	
	Total	716	100%	1300	100%	142	100%	2158	100%
	%	33%		60%		7%		100%	

Variables

- Ethnicity
- Gender
- Type of business
- Entrepreneurial status
- Age
- Education
- Working status
- Household income
- Perceptual variables
- Marital status

Descriptive results
Nascent entrepreneurs (similar results for other types)

	Extractive	Transforming	Business services	Consumer oriented	Other
Indigenous	1	17	2	47	1
(N= 68-classified)	1.50%	25.00%	2.90%	69.10%	1.50%
Non-indigenous	4	30	12	129	1
(N= 176-classified)	2.30%	17.00%	6.80%	73.30%	0.6%
Other	0	1	0	13	0
(N= 14-classified)	0.00%	7.10%	0.00%	92.60%	0.00%
Sample average	5	48	14	189	2
(N= 258-classified)	1.94%	18.60%	5.43%	73.26%	0.78%
X-squared = 0.248, df = 8, p-value = 1 (Independent).					

Descriptive results
Nascent entrepreneurs

	Extractive	Transforming	Business services	Consumer oriented	Other
Male	4	38	10	88	1
(N= 141-classified)	2.80%	27.00%	7.10%	62.40%	0.07%
Female	1	10	4	101	1
(N= 117-classified)	0.90%	8.50%	3.40%	86.30%	0.09%
Sample average	5	48	14	189	2
(N= 258-classified)	1.94%	18.60%	5.43%	73.26%	0.78%

X-squared = 15.7867, df = 4, p-value = 0.003319 (Dependent).

Descriptive results
Nascent entrepreneurs

	Extractive	Transforming	Business services	Consumer oriented	Other
Indigenous male	1	11	1	22	1
(N= 36-classified)	2.80%	30.60%	2.80%	61.10%	0.00%
Indigenous female	0	6	1	25	0
(N= 32-classified)	0%	18.80%	3.10%	78.10%	2.80%
Non-indigenous male	3	26	9	62	0
(N= 100-classified)	3%	26%	9%	62%	0.00%
Non-indigenous female	1	4	3	67	1
(N= 76-classified)	1.30%	5.30%	3.90%	88.20%	1.30%
Other	0	1	0	13	0
N= 14-classified	0.00%	7.10%	0.00%	92.90%	0.00%
Sample average	5	48	14	189	2
(N= 256-classified)	1.95%	18.75%	5.47%	73.83%	0.78%

X-squared = 64.7046, df = 16, p-value = 8.281e-08 (Dependent).

(Similar results for other types – new and established)

Pearson correlations between ethnicity/gender and entrepreneurial activity in Guatemala 2014, individuals 18-64 yrs old

	Nascent entrepreneurs	New business owners	Established business owners
Indigenous (N=716)	-0.0530081	0.008108179	0.04338051
p-value	0.01312	0.7066	0.04391
Unweighted freq.	3%	3%	3%
Non-indigenous (N=1300)	0.06005639**	-0.00148529	-0.03959596*
p-value	0.005258	0.945	0.06591
Unweighted freq.	8%	5%	4%
Other (no ethnic classification) (N=142)	-0.01714863	-0.01246649	-0.00422568
p-value	0.4259	0.5627	0.8445
Unweighted freq.	1%	0%	0%
Male (N=1004)	0.06003766**	0.06805837**	0.06751648**
p-value	0.005272	0.001559	0.0017
Unweighted freq.	7%	5%	4%
Female (N=1152)	-0.05934539**	-0.06748924**	-0.06698035**
p-value	0.005821	0.001707	0.001851
Unweighted freq.	5%	4%	3%

Pearson correlations between ethnicity/gender and entrepreneurial activity in Guatemala 2014, individuals 18-64 yrs old

	Nascent entrepreneurs	New business owners	Established business owners
Indigenous male (N=351)	-0.02308125	0.01690635	0.07078924**
p-value	0.2838	0.4325	0.0009994
Unweighted freq.	2%	2%	2%
Indigenous female (N=365)	-0.04433969	-0.00645937	-0.01520131
p-value	0.03944	0.7643	0.4803
Unweighted freq.	1%	1%	1%
Non-indigenous male (N=591)	0.09398093**	0.05901928**	0.01149962
p-value	1.226e-05	0.006097	0.5934
Unweighted freq.	5%	3%	2%
Non-indigenous female (N=709)	-0.02665259	-0.05758334**	-0.05217636
p-value	0.2159	0.007458	0.01535
Unweighted freq.	4%	2%	2%
Sample average (N=2158)	12%	8%	7%

Note. Unweighted observed frequencies in %, N=2,158 valid observations. Shade denotes significance at >=95%, ** denotes significance at >99%, * denotes significance at >=90%.

Pearson correlations between ethnicity/gender and age in Guatemala 2014, individuals 18-64 yrs old

	Age 18-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64
Indigenous (N= 716)	0.026	0.036*	0.017	-0.032	-0.080***
p-value	0.221	0.091	0.425	0.138	0.000
Unweighted freq.	10%	11%	7%	4%	2%
Non-indigenous (N= 1300)	-0.024	-0.033	-0.018	0.029	0.084***
p-value	0.259	0.126	0.414	0.177	0.000
Unweighted freq.	16%	18%	12%	8%	7%
Other (no ethnic classification) (N=142)	-0.002	-0.004	0.002	0.003	-0.014
p-value	0.923	0.845	0.924	0.882	0.506
Unweighted freq.	2%	2%	1%	1%	1%
Male (N= 1004)	0.012	0.016	-0.018	-0.012	0.002
p-value	0.572	0.468	0.394	0.584	0.943
Unweighted freq.	13%	14%	9%	6%	4%
Female (N= 1152)	-0.011	-0.014	0.019	0.013	-0.001
p-value	0.608	0.504	0.371	0.561	0.965
Unweighted freq.	14%	16%	11%	7%	5%

Pearson correlations between ethnicity/gender and age in Guatemala 2014, individuals 18-64 yrs old

	Age 18-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64
Indigenous male (N=351)	-0.029	0.048	0.001	-0.017	-0.012
p-value	0.183	0.025	0.953	0.431	0.589
Unweighted freq.	4%	6%	3%	2%	1%
Indigenous female (N=365)	0.061	-0.002	0.020	-0.023	-0.089***
p-value	0.004	0.939	0.345	0.277	0.000
Unweighted freq.	6%	5%	4%	2%	1%
Non-indigenous male (N=591)	0.035	-0.018	-0.023	-0.005	0.018
p-value	0.108	0.395	0.286	0.809	0.411
Unweighted freq.	8%	8%	5%	3%	3%
Non-indigenous female (N=709)	-0.058***	-0.017	0.003	0.035	0.071***
p-value	0.007	0.433	0.872	0.102	0.001
Unweighted freq.	8%	10%	7%	5%	4%
Sample average (N=2154)	27%	30%	20%	13%	9%

Note. Unweighted observed frequencies in %, N=2,154 valid observations, ** denotes significance at >99%, * denotes significance at >=90%.

Pearson correlations between ethnicity/gender and educational attainment in Guatemala 2014, individuals 18-64 yrs old

- **Non-indigenous and men have higher levels of education**. In the GEM sample 28 percent, the largest group, has completed highs school (see *table 7*).
- Generally speaking being non-indigenous and man is positively related with higher levels of education.
- Being indigenous and women is positively associated with lower levels of education.
- Indigenous women have the lowest level of education (see *table 7*).

Pearson correlations between ethnicity/gender and working status in
Guatemala 2014, individuals 18-64 yrs old

- **Indigenous and non-indigenous men are more likely to have a full time job**. (See *table 8*).
- Women, on the other hand, are less likely to have a full time job.
- Indigenous men are more likely to have a full time job and indigenous women are less likely to have a full time job.
- Non-indigenous men are more likely to have a full time job and less likely to be unemployed.
- Non-indigenous women are less likely to have a full time job. All this correlations are statistically significant

Pearson correlations between ethnicity/gender and household income in Guatemala 2014, individuals 18-64 yrs old

- **Indigenous people have lower income**.
- Indigenous people are more likely to be in the lowest 33 percentile of income. The opposite is true for non-indigenous people.
- Men are less likely to be in the lowest 33 percentile and more likely to be in the upper 33 percentile. The opposite is true for women.
- Indigenous men are more likely to be in the lowest 33 percentile, and less likely to be in the middle or higher 33 percentile of income; the same applies to indigenous women but at a higher level of correlation.
- Non-indigenous men are less likely to be in the lower 33 percentile, and more likely to be in the middle 33 percentile and higher 33 percentile. All of these correlations are statistically significant (see *table 9*).

Pearson correlations between ethnicity/gender and perceptual variables in Guatemala 2014, individuals 18-64 yrs old

- **Indigenous people are less likely to know people who have opened businesses in the past two years**.
- Being a man is positively related with knowing other entrepreneurs, with holding the perception of seen themselves as having the knowledge, skills, and expertise to open a business, and negatively correlated with fear to fail. The opposite is true for women, and indigenous women as well. (See *table 10*).

Pearson correlations between ethnicity/gender and perceptual variables in Guatemala 2014, individuals 18-64 yrs old

	SKILL (yes)	KNOW (yes)	OP (yes)	FEAR (yes)
Indigenous (N= 716)	-0.018	-0.097***	0.021	0.039*
p-value	0.399	0.000	0.336	0.074
Unweighted freq.	21%	7%	14%	13%
Non-indigenous (N= 1300)	0.024	0.125***	-0.024	-0.018
p-value	0.269	0.000	0.262	0.406
Unweighted freq.	39%	19%	25%	22%
Other (no ethnic classification) (N=142)	-0.012	-0.062***	0.008	-0.038*
p-value	0.562	0.004	0.701	0.079
Unweighted freq.	4%	1%	3%	2%
Male (N= 1004)	0.120***	0.128***	0.053	-0.081***
p-value	0.000	0.000	0.014	0.000
Unweighted freq.	32%	15%	21%	15%
Female (N= 1152)	-0.121***	-0.131***	-0.053	0.080***
p-value	0.000	0.000	0.014	0.000
Unweighted freq.	31%	11%	21%	22%

Pearson correlations between ethnicity/gender and perceptual variables in Guatemala 2014, individuals 18-64 yrs old

	SKILL (yes)	KNOW (yes)	OP (yes)	FEAR (yes)
Indigenous male (N= 351)	0.050	0.010	0.061***	-0.019
p-value	0.021	0.631	0.004	0.369
Unweighted freq.	11%	4%	8%	6%
Indigenous female (N= 365)	-0.072***	-0.132***	-0.034	0.067***
p-value	0.001	0.000	0.110	0.002
Unweighted freq.	9%	2%	6%	8%
Non-indigenous male (N= 591)	0.092***	0.143***	0.006	-0.070***
p-value	0.000	0.000	0.765	0.001
Unweighted freq.	19%	10%	12%	9%
Non-indigenous female (N= 709)	-0.062***	-0.006	-0.031	0.048
p-value	0.004	0.789	0.147	0.026
Unweighted freq.	19%	9%	13%	13%
Sample average (N= 3656)	1371	574	909	802
%	38%	16%	25%	22%

Note. Unweighted observed frequencies in %, N=2,152 valid observations. Blue shade denotes siginficance at >=95%, *** denotes significance at >99%, * denotes significance at >=90%.

Probit estimates for entrepreneurial activity in Guatemala – 2014

	Dependent variable					
Independent variables	Nascent = 1		New = 1		Established = 1	
	Model 1 (#)	Model 2 (#)	Model 3 (#)	Model 4 (#)	Model 5 (#)	Model 6 (#)
18-24	0.242	0.21	-0.037	-0.039	-0.793***	-0.856***
	0.184	0.197	0.178	0.188	0.191	0.202
25-34	0.507***	0.473**	0.171	0.175	-0.360**	-0.391**
	0.175	0.187	0.166	0.175	0.161	0.17
35-44	0.456**	0.390**	0.107	0.042	-0.048	-0.144
	0.179	0.192	0.171	0.181	0.157	0.167
45-54	0.383**	0.386*	-0.03	-0.073	0.269*	0.216
	0.189	0.202	0.19	0.201	0.158	0.167
Female	-0.1	0.005	-0.298***	-0.164*	-0.299***	-0.223**
	0.083	0.088	0.084	0.089	0.09	0.096
No-educ	-0.126	0.043	-0.256	0.012	-0.176	-0.003
	0.256	0.276	0.299	0.323	0.27	0.292
Inc Primary	-0.315	-0.194	-0.046	0.209	-0.128	0.057
	0.219	0.236	0.238	0.259	0.234	0.251
Com Primary	-0.007	0.169	0.056	0.296	-0.065	0.099
	0.196	0.211	0.226	0.245	0.225	0.241
Inc Middle	-0.007	0.117	0.218	0.365	-0.059	0.01
	0.229	0.245	0.255	0.274	0.276	0.294
Com Middle	-0.055	0.059	0.15	0.295	0.076	0.126
	0.205	0.219	0.235	0.253	0.24	0.255
Inc HighS	0.201	0.198	0.044	0.115	0.136	0.085
	0.228	0.243	0.271	0.291	0.288	0.309
Com HighS	-0.071	-0.053	0.06	0.154	-0.119	-0.091
	0.184	0.198	0.217	0.235	0.221	0.235
Inc Univ	0.228	0.214	0.03	0.028	0.387	0.359
	0.2	0.213	0.25	0.27	0.245	0.26
Full Time	0.349***	0.353***				
	0.094	0.1				
Part Time	0.222**	0.195*	0.403***	0.390***	0.098	0.123

Probit estimates for entrepreneurial activity in Guatemala – 2014

Lowest 33	-0.345***	-0.216*				
	0.107	0.114				
Middle 33	-0.179*	-0.099				
	0.106	0.113				
Indigenous	-0.132	-0.105	0.018	0.085	0.209**	0.226**
	0.088	0.093	0.093	0.098	0.098	0.104
Other	-0.107	-0.026	-0.064	-0.077	0.089	0.076
	0.162	0.174	0.178	0.193	0.185	0.199
Married	0.145*	0.168*	0.132	0.156*	0.224**	0.262***
	0.081	0.086	0.088	0.093	0.093	0.099
Skill		0.649***		0.642***		0.736***
		0.101		0.108		0.12
Know		0.565***		0.521***		0.387***
		0.087		0.097		0.106
Opport		0.377***		0.058		0.242**
		0.083		0.092		0.097
Fear		-0.186**		-0.264***		-0.107
		0.088		0.097		0.1
Constant	-1.368***	-2.336***	-1.389***	-2.157***	-1.156***	-1.962***
	0.243	0.28	0.244	0.282	0.238	0.278
Observations	1,835	1,835	1,757	1,757	1,738	1,738
Log Likelihood	-698.687	-617.097	-557.737	-506.731	-487.783	-443.026
Akaike Inf. Crit.	1,439.37	1,284.19	1,151.47	1,057.46	1,011.57	930.053
Pseudo R-squared	0.12	0.22	0.29	0.36	0.38	0.44
Note:				*p<0.1;	**p<0.05;	***p<0.01

Reference categories: age (age 55-64), gender (male), education (complete university), working status (unemployed and other), household income (highest 33%), and ethnicity (no-indigenous).

Probit estimates for nascent entrepreneurial activity among indigenous and non-indigenous Guatemalans by gender – 2014

- **Separated by gender and ethnicity, perceptual variables are the most highly correlated with nascent entrepreneurship.** *Table 12*
- The probability that a person is nascent entrepreneur *and* male is negatively related with having incomplete primary education, positively correlated with being a full time worker. It is positively correlated with know, Op, and Suskill, and negatively correlated with Fear.
- The probability that a person is nascent entrepreneur *and* female is positively correlated with being relatively young with respect with the group of reference of higher age, being apart time worker and being married, Know, Op, and Skill.
- The probability that a person is nascent entrepreneur *and* indigenous is positively correlated with having completed primary education, incomplete university, being a part time worker, married, Skill, and Op.
- The probability that a person is nascent entrepreneur *and* non-indigenous is negatively correlated with having incomplete primary education, being in the lowest 33 percentile of income, and Fear; and positively correlated with having a full time job, Skill, Know, and Op.

Conclusions

- Education does not have a strong relationship with being an entrepreneur in the different phases of business development, or at the most the relationship is weak.
- Perceptual variables do matter to become an entrepreneur and to move to the next stages of business development (new and established business owners).
  - Knowing other entrepreneurs matters a lot to start a business and becoming an established business owner. This suggests that networks and role models play a role at different stages of business formation. See for example Klyver & Hindle (2007) and Guiso, Pistaferri, & Schivardi (2015).

- Being indigenous is negatively correlated with being a nascent entrepreneur, although not at the typical levels of statistical significance, but positively correlated with being an established business owner.
- Women and indigenous women in particular are in worst position when it comes to the different socioeconomic variables explored in this paper.
- In general fear to fail seems to be negatively correlated with starting a business or in becoming a new business owner, but it is less important to become an established business owner.
- Young people tend to start business but they are less successful at becoming themselves established business owners.