

Entrepreneurship, Population and Growth: a Structural Equation Model

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Is Small Beautiful? Every EU Separatist Movement



Deutinger, Cieloch and de Usera (2005)

Is Small Beautiful? pro and cons of Size

Pro

- Economies of scale of public goods
- Larger Market size
 - More Skills
 - More Entrepreneurs
 - More Competition
- Resilience to external shocks
 - Higher diversification

Cons

- Congestion costs
- Flexibility and Accountability
 - The lesser the people, the more their individual voices resonate in the corridors of power.
- Heterogeneity of population
 - “Ethnolinguistic”: Mine first
 - “Wealth” : Rich areas prefer being alone

Adapted from Alesina and Spalaore, (2003)

Research question

How much do country size and entrepreneurship matter for economic growth?

Model and data

Model

Structural Equation Model –SEM- (Bollen 1989; Kline 2011) allows estimating simultaneously the measurement of entrepreneurship and the structural relationship between entrepreneurship, size and economic growth.

Data

Global Entrepreneurship Monitor 2017 are merged with International Monetary Fund and UN population data. The final dataset is made of 54 countries, of which 7 have less than 3.5 million inhabitants.

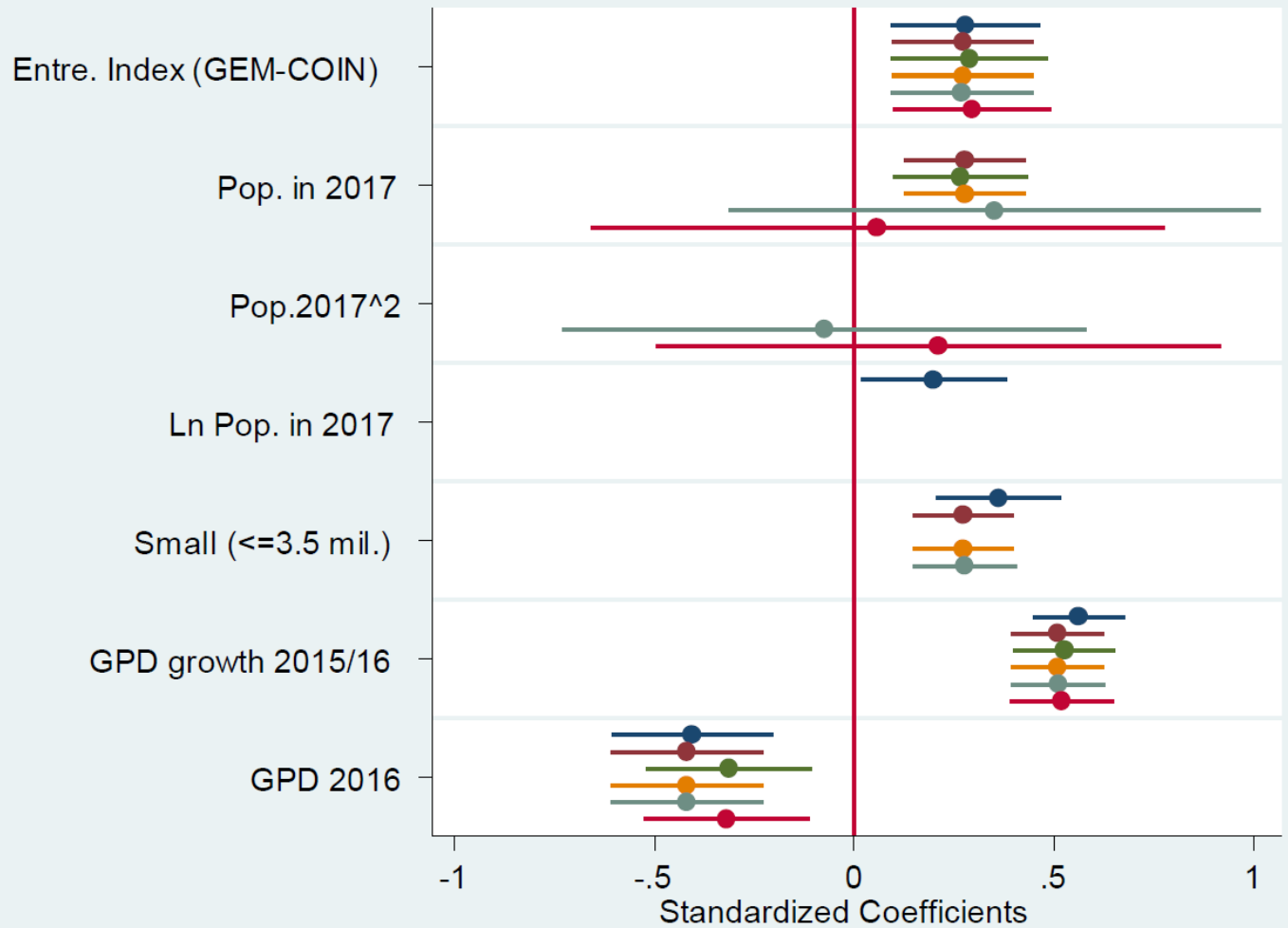
SEM: Measurement

- The SEM adopt a formative approach to combine several measures of entrepreneurship and construct one entrepreneurship Composite Index for each country (GEM-COIN).
- Measures of entrepreneurship:
 - Nascent independent entrepreneur/s (0-3 months)
 - New independent entrepreneurs (3-42 months)
 - Established independent entrepreneurs (42+ months)
 - Intrapreneurial (Entrepreneurial as employee)

SEM: Structural

- *Dependent variable:*
 - GDP growth 2017/2016 (GDP is per capita at purchase power parity).
- *Variables of interest :*
 - Size (population)
 - Entrepreneurship score (GEM-COIN).
- *Control variables :*
 - GDP 2016 level and the stages of economic developments. The stages of economic developments range from 1 for factor driven economies to 5 for innovation driven economies, according to the WEF.
 - GDP growth 2016/2015 (short term fluctuations of GDP)

SEM results



SEM results

	(1)	(2)	(3)	(4)	(5)	(6)
	GPD	GPD	GPD	GPD	GPD	GPD
	growth	growth	growth	growth	growth	growth
	2016/17	2016/17	2016/17	2016/17	2016/17	2016/17
Entre. (GEMCOIN)	0.316**	0.326**	0.321**	0.272**	0.261**	0.270**
	(2.22)	(2.22)	(2.22)	(2.33)	(2.28)	(2.27)
Pop. 2017	0.266**		0.068	0.278***		0.349
	(2.53)		(0.15)	(2.87)		(0.79)
Ln Pop. 2017		-0.023			0.199*	
		(-0.21)			(1.70)	
(Pop. 2017) ²			.202			-0.0720
			(0.43)			(-0.16)
Small (<=3.5 mil)				0.274***	0.361***	0.277***
				(3.16)	(3.32)	(3.08)
GPD growth 2015/16	0.527***	0.579***	0.520***	0.509***	0.562***	0.511***
	(5.36)	(5.72)	(5.20)	(5.64)	(6.14)	(5.55)
GPD 2016	-0.313**	-0.338**	-0.318**	-0.419***	-0.405***	-0.419***
	(-2.38)	(-2.37)	(-2.39)	(-3.37)	(-3.11)	(-3.33)
Dev. Stages	Yes	Yes	Yes	Yes	Yes	Yes
Observations	54	54	54	54	54	54
r2	0.655	0.613	0.656	0.717	0.690	0.717

Standardized beta coefficients; *t* statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Results

- An increase of one standard deviation entrepreneurship score results, on average, in an increase of 25%-30% in GDP growth.
- Population and growth are more mixed:
 - Population as a continuous variable -> size positive correlates with growth or not statistically significant.
 - When using a dummy for countries (with less than 3.5 million of inhabitants), small countries have 20% more growth than other countries. (Non-linearity, heterogeneity?).

Conclusions

Entrepreneurship matters for the economic growth.

Mix of policies:

Large countries can decentralize

Small countries may join economic union

Principle of subsidiarity ? Global problem → Global solution

Local problem -> Local solution

Future developments :

- Panel data (and causality)
- Non-linearity
- GDP vs. GNP

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*Govern a great nation as you would cook a small
fish -Lao-Tzu-*

Thank you
Villmols merci
Merci
Danke Schön

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Guest editor of “The Hidden Drivers of Growth: Standardization, Innovation and Entrepreneurship” at International Journal of Standardization Research (IJSR)