



PÉCSI TUDOMÁNYEGYETEM
UNIVERSITY OF PÉCS



The Global Entrepreneurship and Development Index: Panama

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Promocion de la Innovacion para la mejora de las Competitividad

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Panama City, Panama



Imperial College
London
BUSINESS SCHOOL

Back to the Future: The World in 2050

- Surging, Shifting Populations
- Abundance of human capital
- Role of entrepreneurship?
- World is operating @ 30%!



Where are we?

Entrepreneurship is commonplace.

Definition(s) of entrepreneurship, and implications of those definitions.

Entrepreneurship is a team sport.

Entrepreneurship can be innovative or replicative.

Skills development and candidate skills useful for business-building.

Distinctive competence (and its implications for recognition, evaluation, and exploitation).

Master skills: networks, double-loop learning, pattern recognition.



Four conjectures (so far)

1. How you conceptualize entrepreneurship influences your perspective on who can do it, why it is important, whether or not it can be taught, and what skills to develop.
2. One becomes world-class at entrepreneurship in the same way that one becomes world-class at anything.
3. Self-understanding (person-opportunity fit) and creativity are at the core of learning to “think and act like an entrepreneur.”
4. Entrepreneurial skills are valuable skills, period.



What is the big deal here?

The relationship between
entrepreneurship and
economic growth is

OBVIOUS...

isn't it?

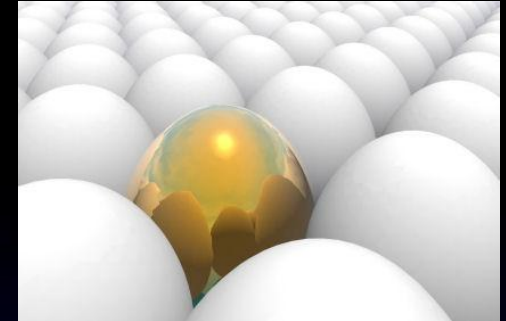




New Firm
Subsidies



Government
Venturing



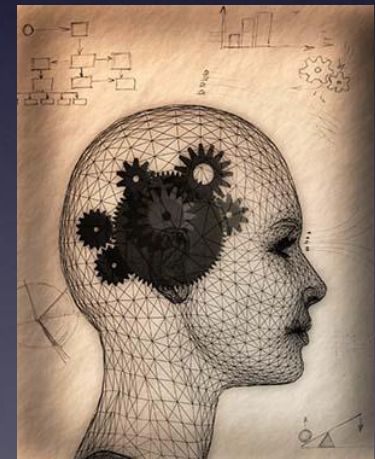
Business
Incubators



Creative
Class



Education



IP Protection

Why is this so tough?

- We need good **theory** (we have a plethora of theories to choose from).
- We need good **data** (we have a dearth of good data to choose from).

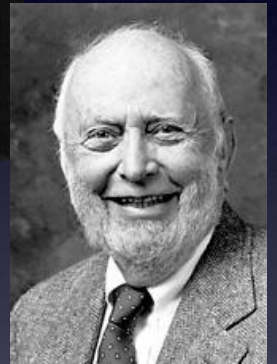
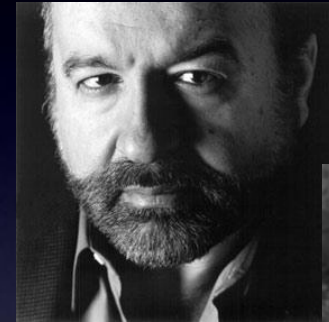
Some good theorie(s)



Solow
Neoclassical



Romer
Endogenous
Growth



De Soto & North
Evolutionary
Institutional



1950s: Neoclassical Theory



Buddy Holly

- Solow & Swan
- National economic growth? Simple! Product of growth in supply of labor, capital, and technology improvement (the rate at which raw materials -> finished goods).
- Mixed support for the model. Gap between developed and developing countries is increasing (counter to the predictions of the model). US growth rate lower in 19th century than 20th.
- Does not take institutions into account (updates to model added investments in education, but could not explain heterogeneity in returns on that investment).
- The model does not explain how or why technological progress occurs and treats growth as exogenous (it happens, but no explanation for why it happens).



1980s: New Growth Theory



Duran Duran

- Paul Romer developed a new model in which investment in human capital did not depreciate. Instead, investment in knowledge production costlessly spilled over to non-investors.
- Implication is that investment in research and development allows output of **all** firms to grow. Explains why knowledge-intensive countries benefit disproportionately compared to others.
- The model underscores that investment in innovation is linked to economic growth, and supports the international diffusion of knowledge (globalization is good).
- But some countries with high levels of research and development investment had low rates of growth and little entrepreneurship. What gives?
- Despite being more complex, new growth theory has been no more successful at explaining income divergence between the developing and developed world than old-school neoclassical models.

1990s: Institutional and Evolutionary Models



Jay-Z



- North examined the role of institutions (for example law and property rights) in society. He argues that strong institutions make it possible for the inventor to benefit from the application of their creative energy to a problem.
- Institutions solve the incentive problem that stalls development.



De Soto examined economic development around the world and concluded that property rights and levels of corruption explain the difference between the haves and the have-nots.



- **Neo-classical growth models** suggest that where you invest - big firm, small firm - does not matter.
- Most **models of entrepreneurship** say that you should fund the small firm.
- **Alternative models** suggest that the odds of picking successful small firms are small, thus it is better to fund the general environment.

Are you serious? Is this the best
that economists can do?



Why Nations Fail



Daron Acemoglu
James A. Robinson

Joseph
Schumpeter

One issue is lack of relevant data

- We need good data (it is scarce and valuable). While it is getting better, we still lack the data we need to test and refine our ideas.
 - How do you measure corruption?
 - Is self-employment “entrepreneurship”?
 - Do you count all “firms” or only those with employees?
 - How do you track investment? Does government investment “count” (i.e. tax subsidies).



Turun yliopisto
University of Turku

THIS IS SMALL BUSINESS



Tu

COUNTRY RANKINGS ON FIVE ENTREPRENEURSHIP INDICATORS

Rank	GEM, TEA		WBGES		COMPENDIA		Euro-barometer		OECDs	
1	Iceland	11.3	Iceland	11.6	Italy	21.0	USA	28.8	Greece	36.3
2	<u>USA</u>	<u>10.0</u>	Norway	9.7	Greece	19.7	France	21.3	Italy	26.7
3	Norway	9.1	Netherlands	9.0	Spain	13.3	UK	21.0	Spain	17.9
4	Greece	7.9	Spain	6.9	Netherlands	11.5	Ireland	19.9	Ireland	16.5
5	Ireland	7.4	Denmark	6.0	Iceland	11.3	Belgium	19.8	Iceland	14.7
6	Spain	7.3	Ireland	5.6	UK	11.2	Germany	19.3	Belgium	14.7
7	UK	5.8	Sweden	5.0	Ireland	11.1	Sweden	19.1	Austria	13.6
8	Netherlands	5.4	UK	5.0	Belgium	11.1	Italy	17.8	UK	13.2
9	Denmark	5.3	Belgium	4.8	<u>USA</u>	<u>10.1</u>	Austria	16.3	Finland	12.9
10	Finland	5.0	Italy	4.4	Germany	9.7	Netherlands	15.7	Germany	12.2
11	France	4.4	Finland	3.2	Austria	9.1	Denmark	13.8	Netherlands	11.0
12	Germany	4.2	Austria	3.1	Norway	8.8	Spain	13.1	Sweden	10.0
13	Italy	3.5	France	3.0	Finland	8.6	<u>Iceland</u>	<u>11.8</u>	France	9.0
14	Sweden	3.4	<u>USA</u>	<u>2.6</u>	Sweden	8.5	Norway	10.1	Denmark	8.9
15	Belgium	2.7	Germany	0.8	France	8.4	Finland	7.6	Norway	8.5
16	Austria	2.4	Greece	0.4	Denmark	6.9	Greece	6.0	<u>USA</u>	<u>7.4</u>

TEA=Total early-stage entrepreneurial activity the among adult population, 2006

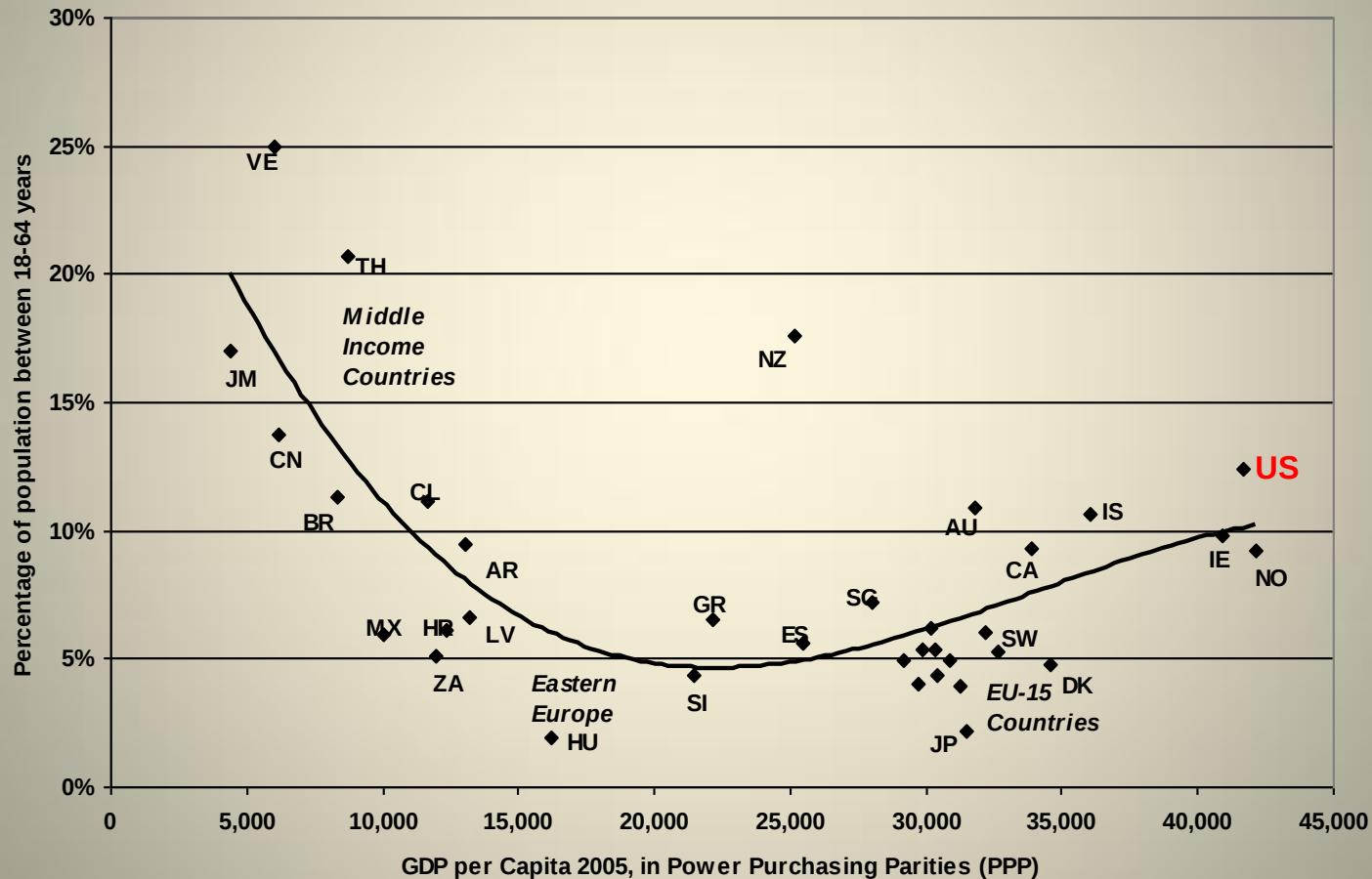
WBGES=The percentage of newly registered limited-liability firms (less than one year old), as a percentage of the adult population, 2003–2005

COMPENDIA=The business-ownership rate = the number of business owners divided by the total labor force. Only persons who are self-employed as their main occupation are included in the ownership numbers, 2006

EUROBAROMETER=The total percentage of adult respondents (n=20.674) who were currently starting a business, 2007

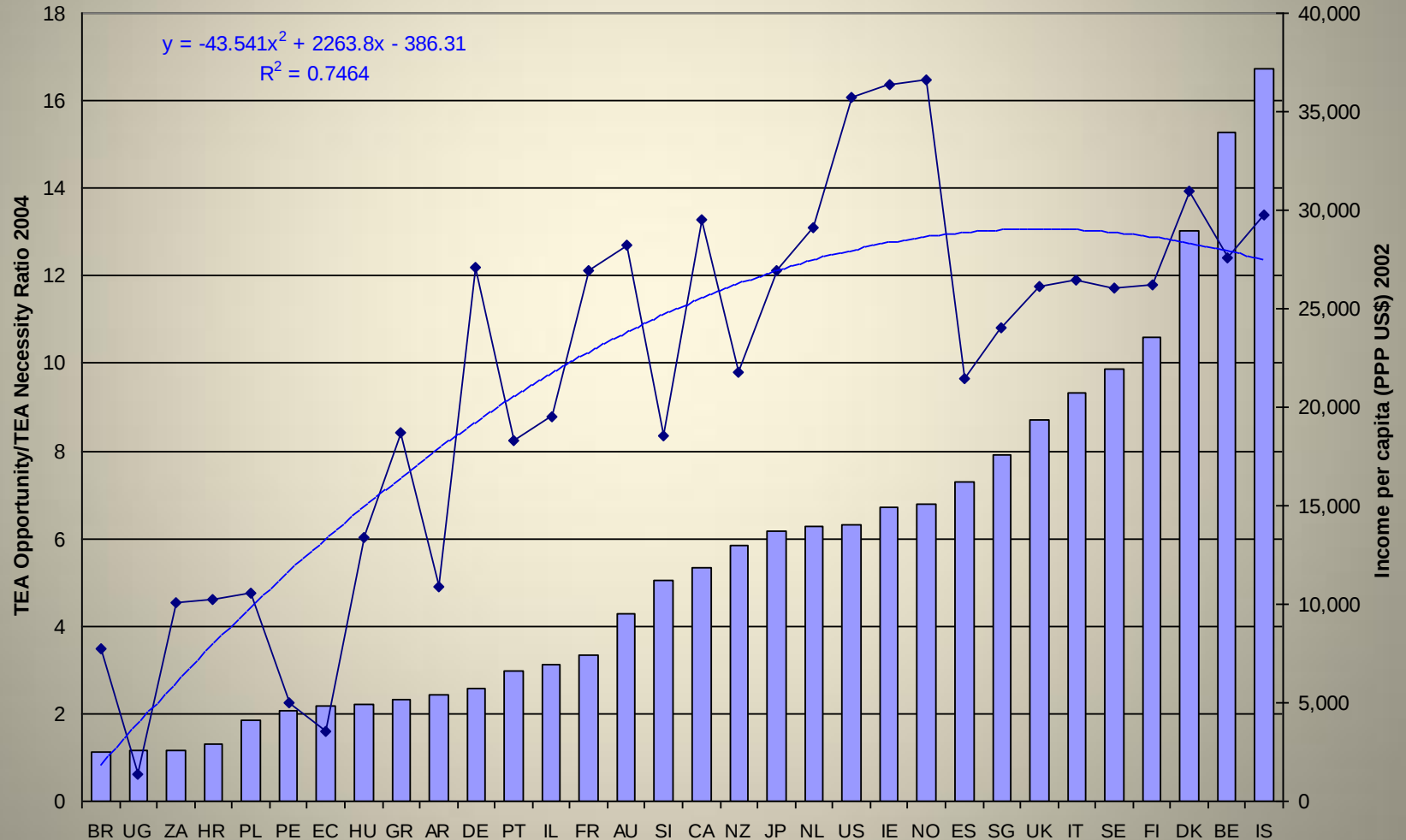
OECD=Self-employment as a percentage of total civilian employment, 2006

Early-Stage Entrepreneurial Activity, by Country and GDP



Opportunity Ratio

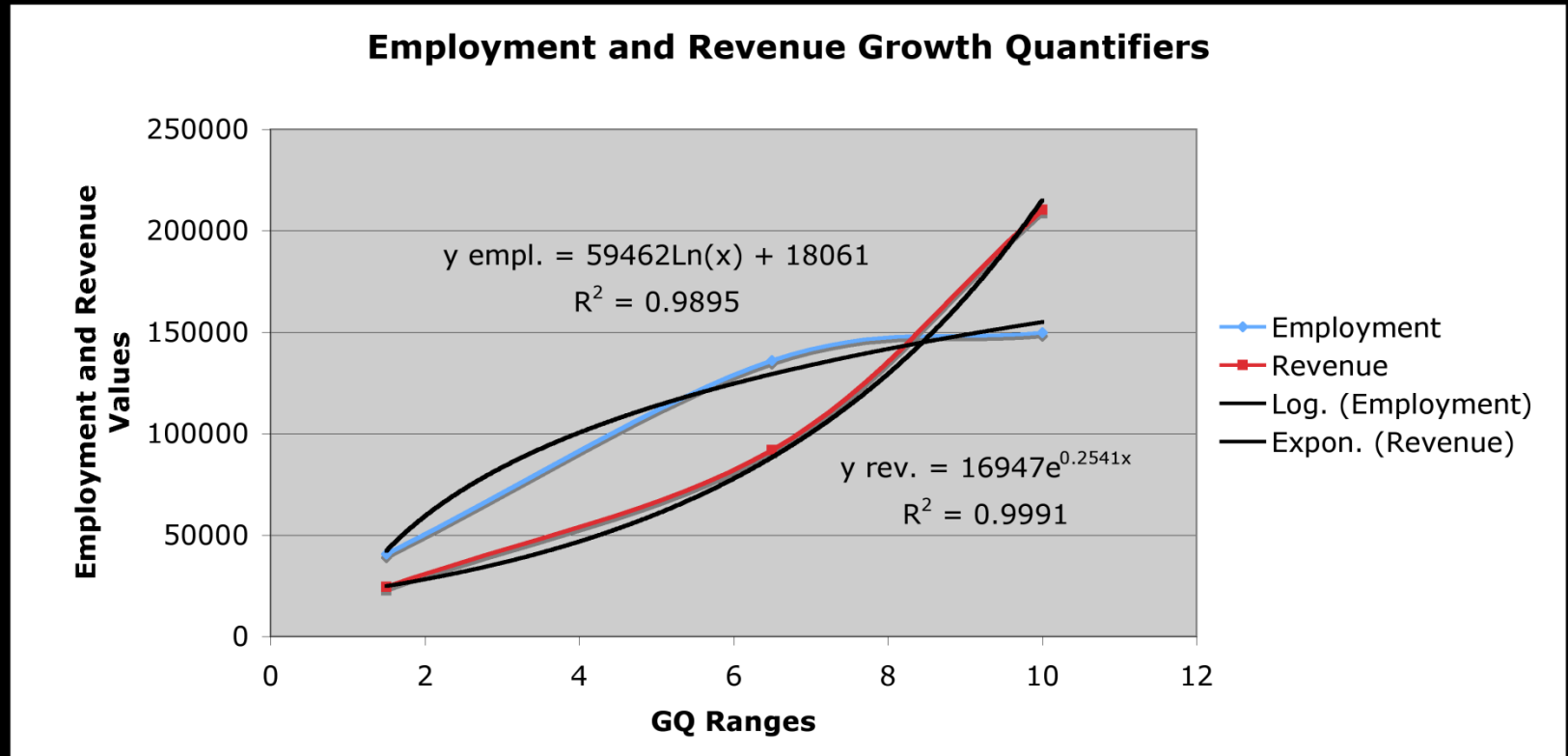
Opportunity ratio 2004 and GDP per capita (PPP) 2002



Mice—Gazelles—Elephants



350,000 High Impact Firms in US.



Purpose of GEDI

- GEDI Index is a policy tool.
- The purpose of the GEDI Index is to give the world a “tool to support sustainable growth, and increased standards of living by **measuring** the contextual nature of successful entrepreneurship.

Global Partners



Inter-American Development Bank



What do we mean by entrepreneurship?

High Impact
Firms:

- Microsoft
- Lenovo
- Infosys

NOT: coffee
shops, home
based
businesses,
and self-
employed

Some call them Gazelles,
because they grow fast,
employ people, growing
partners/suppliers, &
generally have deep impact
on regional, national, or
even

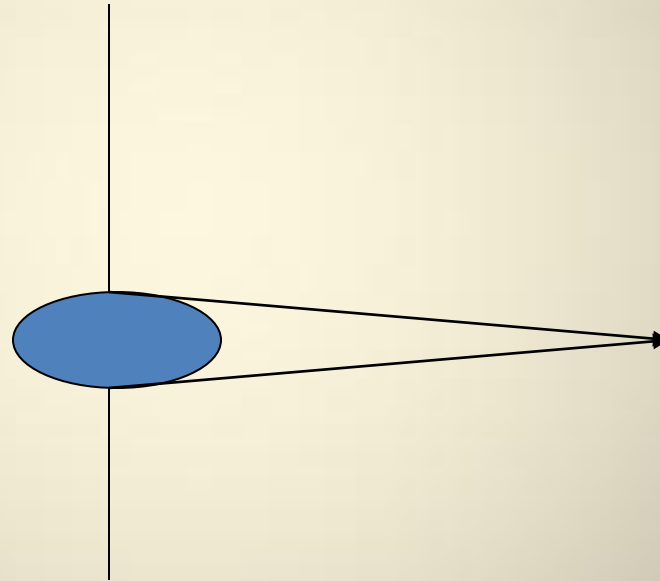
Jedi Warrior – Killer App



Knowledge as a Source of Entrepreneurial Opportunity

- History
 - Knowledge
 - R&D

t Future



Window of
opportunity.



National Systems of Entrepreneurship: The GEDI Approach

*Opportunity perception
Startup skills
Networking
Nonfear of failure
Cultural support*

Attitudes

Aspirations

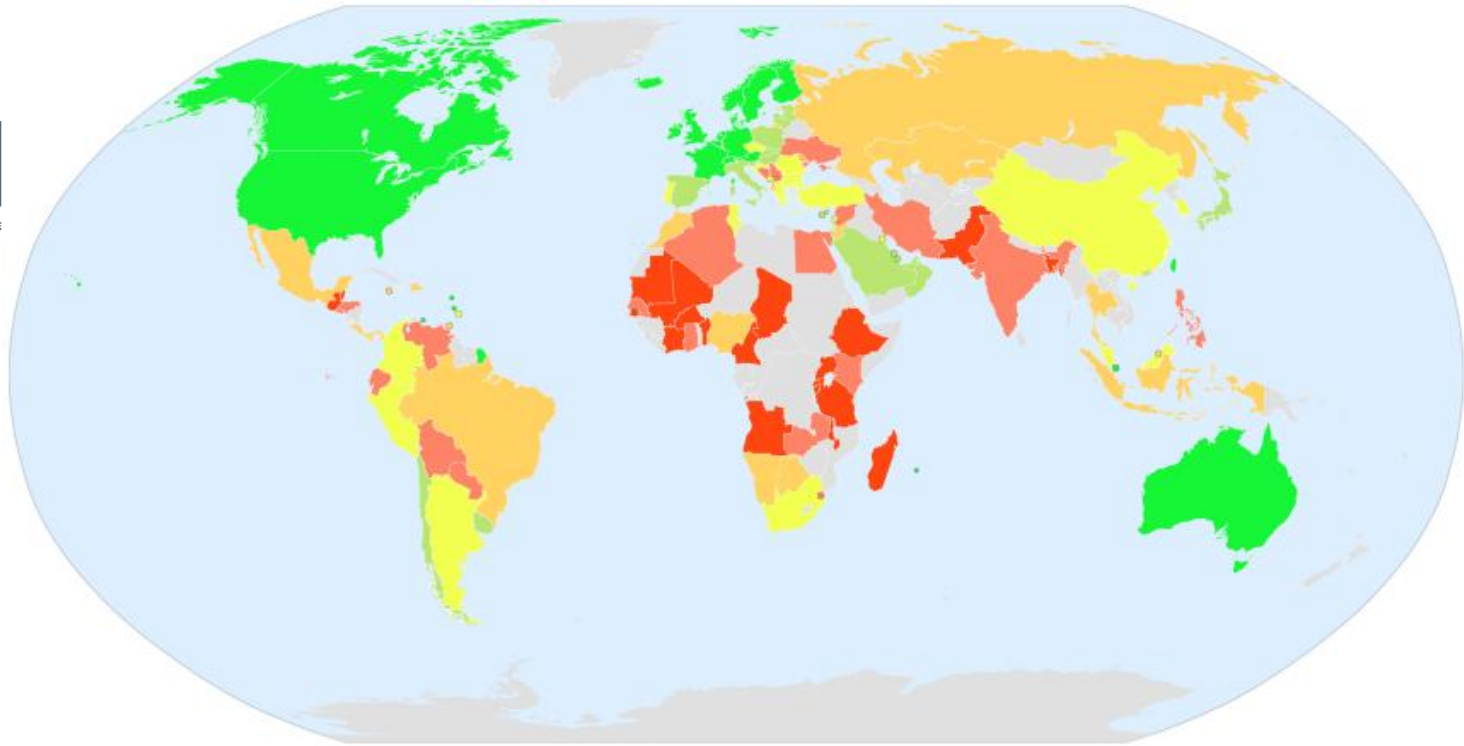
Activities

*Risk capital
Internationalisation
High-growth ambition
Process Innovation
Product Innovation*

*Competition
Quality of human resources
Technology sector
Opportunity start-ups*



**Productive
Entrepreneurship**



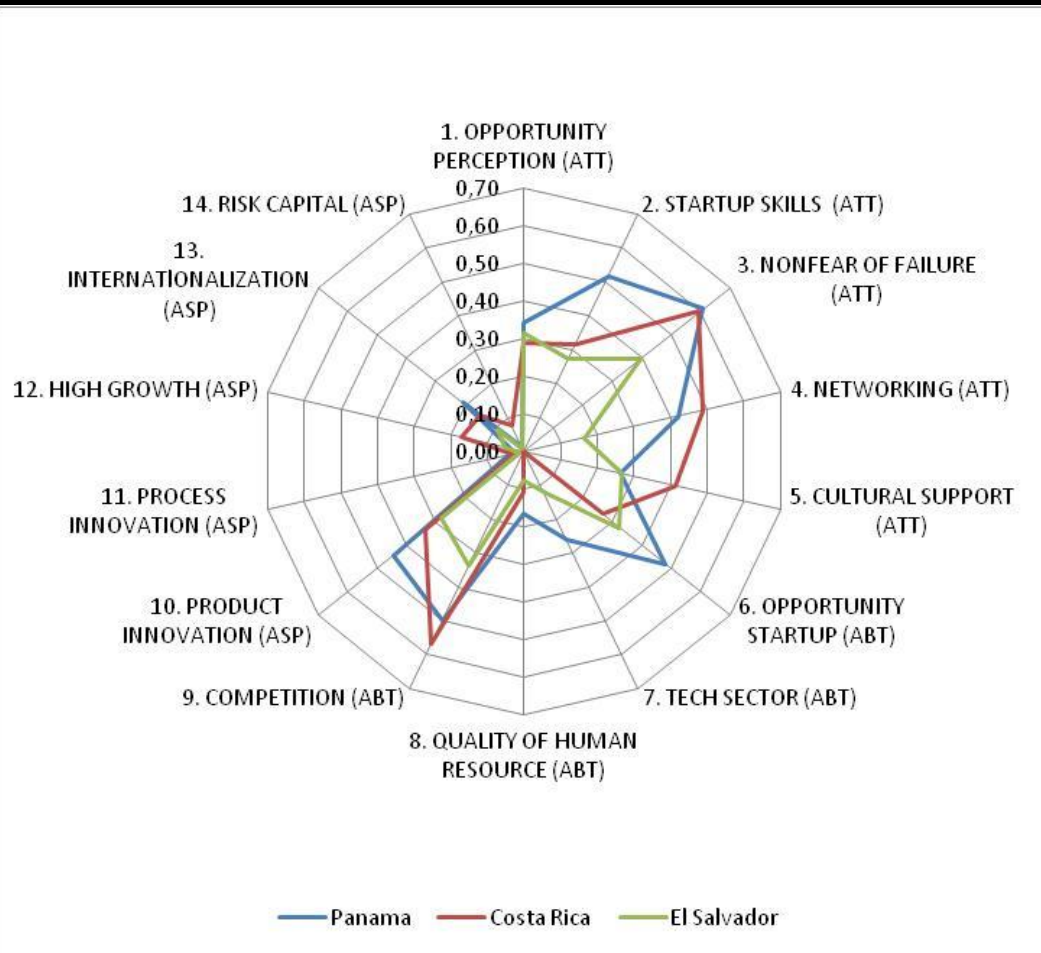
Top
Top 1/3
Top 1/2
Bottom 1/2
Bottom 1/3
Bottom

Rank	Country	GDPPC	Score	Rank	Country	GDPPC	Score	Rank	Country	GDPPC	Score	Rank	Country	GDPPC	Score	Rank	Country	GDPPC	Score
1	United States	\$47,184	0.67	25	Estonia	\$20,033	0.41	49	Bulgaria	\$13,780	0.31	73	Moldova	\$3,087	0.22	97	Honduras	\$3,890	0.15
2	Sweden	\$38,947	0.63	26	Cyprus	\$25,299	0.40	50	Romania	\$14,287	0.30	74	Morocco	\$4,668	0.22	98	Kenya	\$1,635	0.15
3	Denmark	\$39,558	0.63	27	Spain	\$32,070	0.39	51	Barbados	\$19,252	0.30	75	Jamaica	\$7,839	0.21	99	Cameroon	\$2,264	0.14
4	Australia	\$39,407	0.62	28	Bahrain	\$25,799	0.38	52	Peru	\$9,470	0.29	76	Indonesia	\$4,293	0.21	100	Angola	\$6,035	0.14
5	Canada	\$38,915	0.59	29	Saudi Arabia	\$22,545	0.38	53	South Africa	\$10,486	0.29	77	Kazakhstan	\$12,050	0.21	101	Guatemala	\$4,740	0.14
6	Netherlands	\$42,475	0.58	30	Oman	\$26,554	0.37	54	Lebanon	\$13,948	0.28	78	Nigeria	\$2,363	0.21	102	Benin	\$1,576	0.14
7	Iceland	\$34,949	0.57	31	Lithuania	\$18,184	0.37	55	Tunisia	\$8,524	0.27	79	Ukraine	\$6,658	0.21	103	Rwanda	\$1,155	0.14
8	Switzerland	\$46,215	0.56	32	Poland	\$19,747	0.37	56	Malaysia	\$14,591	0.27	80	Serbia	\$11,488	0.20	104	Pakistan	\$2,674	0.14
9	Taiwan	\$37,931	0.55	33	Slovakia	\$23,897	0.36	57	Macedonia	\$11,072	0.27	81	Syria	\$5,248	0.20	105	Gambia	\$1,400	0.13
10	Norway	\$56,894	0.55	34	Hungary	\$20,307	0.35	58	Argentina	\$15,893	0.26	82	Paraguay	\$5,152	0.19	106	Tanzania	\$1,423	0.13
11	France	\$33,820	0.53	35	Japan	\$33,994	0.35	59	China	\$7,536	0.26	83	Egypt	\$6,281	0.19	107	Uganda	\$1,263	0.12
12	Belgium	\$37,448	0.53	36	Latvia	\$16,312	0.35	60	Panama	\$13,877	0.26	84	Bolivia	\$4,816	0.19	108	Madagascar	\$961	0.12
13	Singapore	\$57,505	0.53	37	Italy	\$31,555	0.34	61	Botswana	\$13,786	0.26	85	Ecuador	\$8,105	0.18	109	Mali	\$1,057	0.12
14	United Kingdom	\$35,860	0.52	38	Hong Kong	\$46,157	0.34	62	Mexico	\$14,566	0.26	86	Iran	\$11,467	0.18	110	Côte d'Ivoire	\$1,885	0.12
15	Germany	\$37,591	0.51	39	Uruguay	\$14,277	0.34	63	Brunei	\$49,494	0.26	87	Venezuela	\$11,956	0.18	111	Malawi	\$876	0.11
16	Finland	\$36,660	0.50	40	Portugal	\$25,573	0.34	64	Thailand	\$8,490	0.24	88	Bosnia and Herzegovina	\$8,750	0.18	112	Belize	\$6,566	0.11
17	Ireland	\$39,727	0.50	41	Croatia	\$19,516	0.34	65	Jordan	\$5,706	0.24	89	India	\$3,586	0.18	113	Burkina Faso	\$1,247	0.11
18	Puerto Rico	\$16,300	0.49	42	Czech	\$30,728	0.34	66	Costa Rica	\$11,351	0.23	90	Algeria	\$8,322	0.18	114	Ethiopia	\$1,033	0.10
19	Austria	\$39,698	0.49	43	Korea	\$29,004	0.34	67	Namibia	\$6,426	0.23	91	Philippines	\$3,940	0.17	115	Mauritania	\$1,930	0.10
20	Israel	\$28,546	0.47	44	Kuwait	\$52,657	0.33	68	Dominican Republic	\$9,280	0.23	92	El Salvador	\$6,692	0.17	116	Bangladesh	\$1,643	0.09
21	Chile	\$15,044	0.45	45	Turkey	\$15,340	0.32	69	Russia	\$19,840	0.23	93	Ghana	\$1,625	0.16	117	Burundi	\$405	0.08
22	Qatar	\$80,229	0.45	46	Montenegro	\$12,676	0.32	70	Trinidad and Tobago	\$25,539	0.22	94	Swaziland	\$5,033	0.16	118	Chad	\$1,360	0.07
23	Slovenia	\$27,556	0.43	47	Greece	\$28,154	0.31	71	Albania	\$8,817	0.22	95	Senegal	\$1,917	0.16				
24	UAE	\$38,089	0.42	48	Colombia	\$9,392	0.31	72	Brazil	\$11,127	0.22	96	Zambia	\$1,550	0.15				

Panama

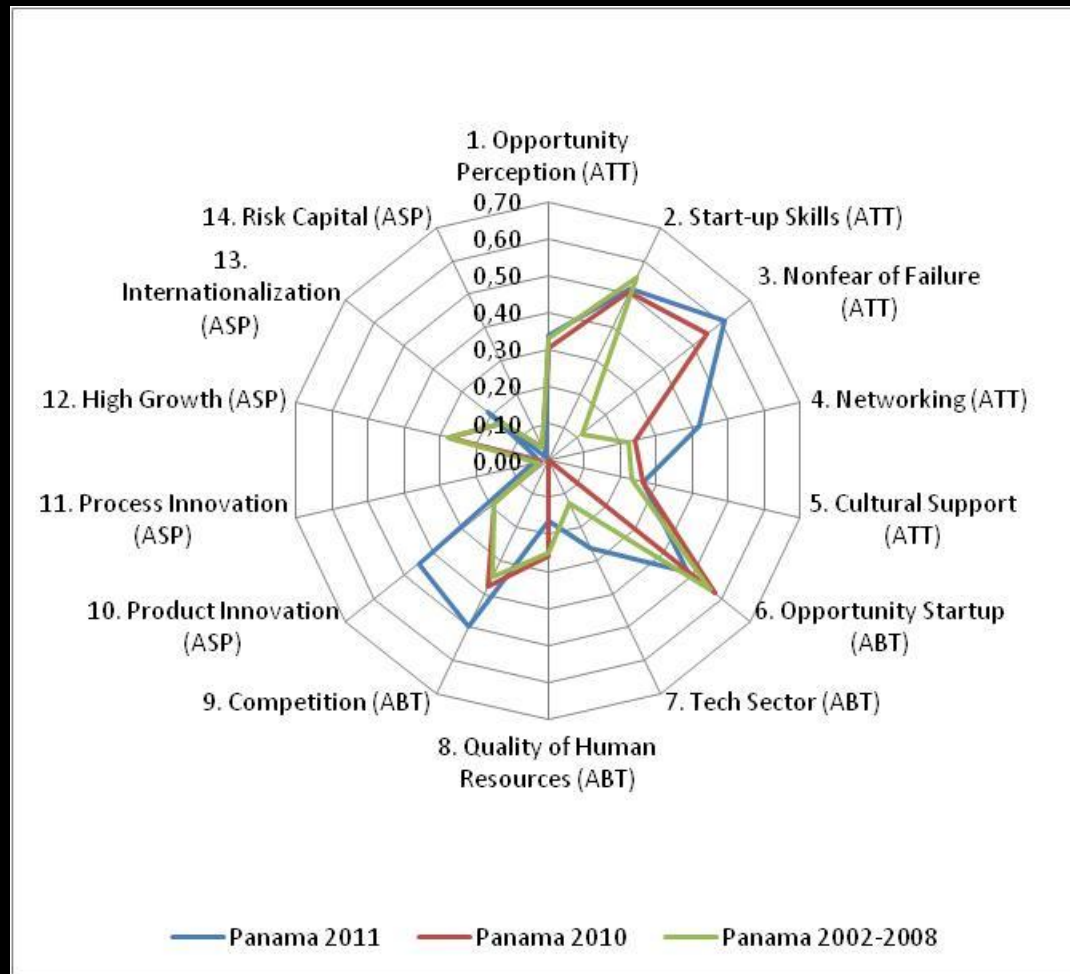
	0.26
Size of population 2011 (in million):	3.5
Per capita GDP in international US\$ 2009 (PPP, World Bank):	13,877
Level of development:	efficiency driven
Rank in Doing Business Index 2010-2011:	61/183
Rank in Global Competitiveness Index 2010-2011:	49/139
Rank in Economic Freedom Index 2010-2011	60/179
Global Entrepreneurship and Development Index rank (point):	60 (118)
Entrepreneurial Attitudes sub-index rank (point):	44 (0.36)
Entrepreneurial Action sub-index rank (point):	53 (0.30)
Entrepreneurial Aspirations sub-index rank (point):	82 (0.13)
Weakest pillar to improve (value):	Risk Capital(0.01)
Weakest variable to improve (value)	Informal Investment (0.01)

Panama, Costa Rica, El Salvador



Panama:

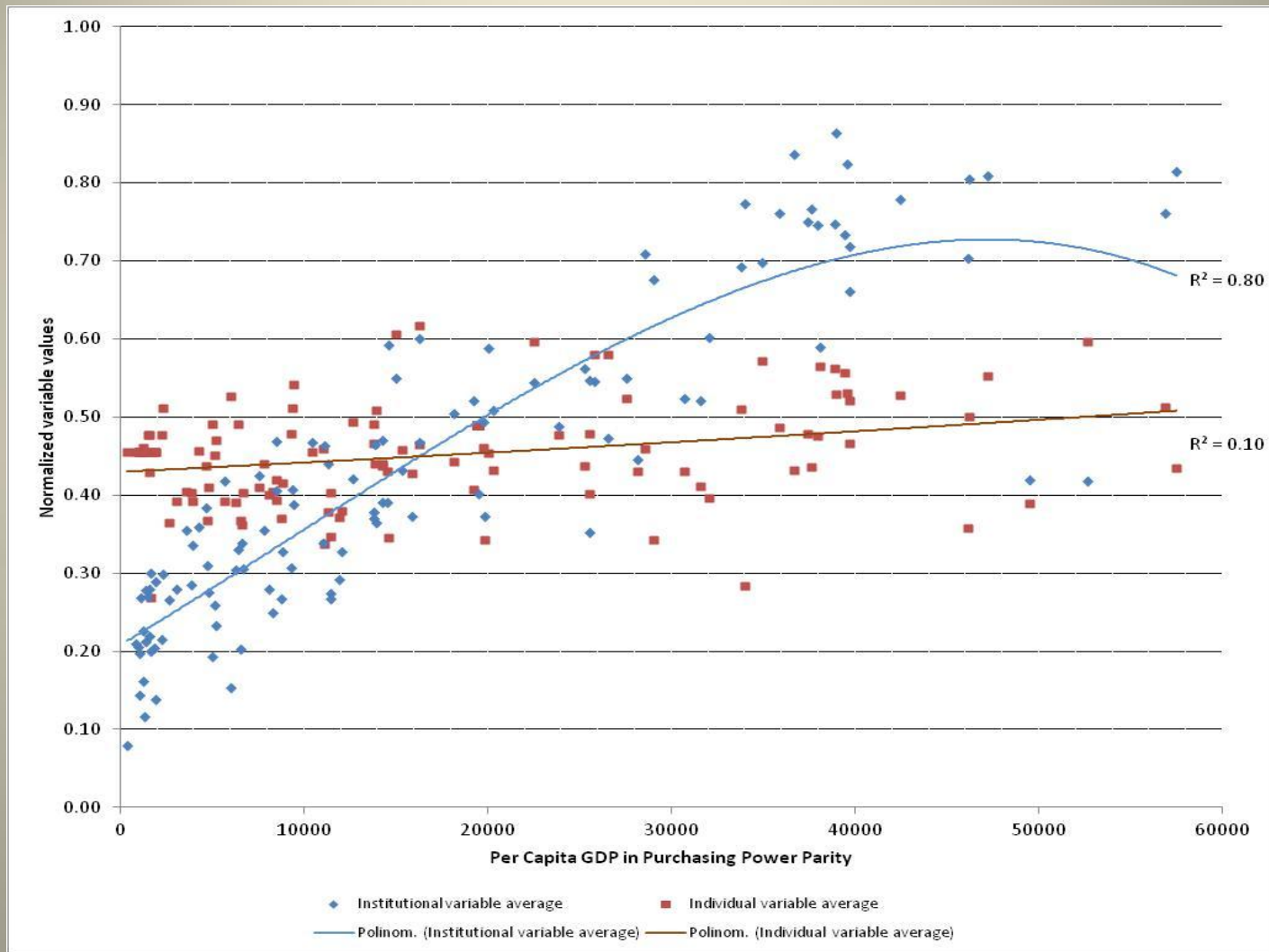
2009 – 2010 vs. 2010 – 2011



What's Panama's target? GEDI can help you get there....

- 52th place like PERU (0.29)
- 38th place like HONG KONG (0.34)
- 21th place like CHILE (0.45)

GEDI Values for 118 Counties

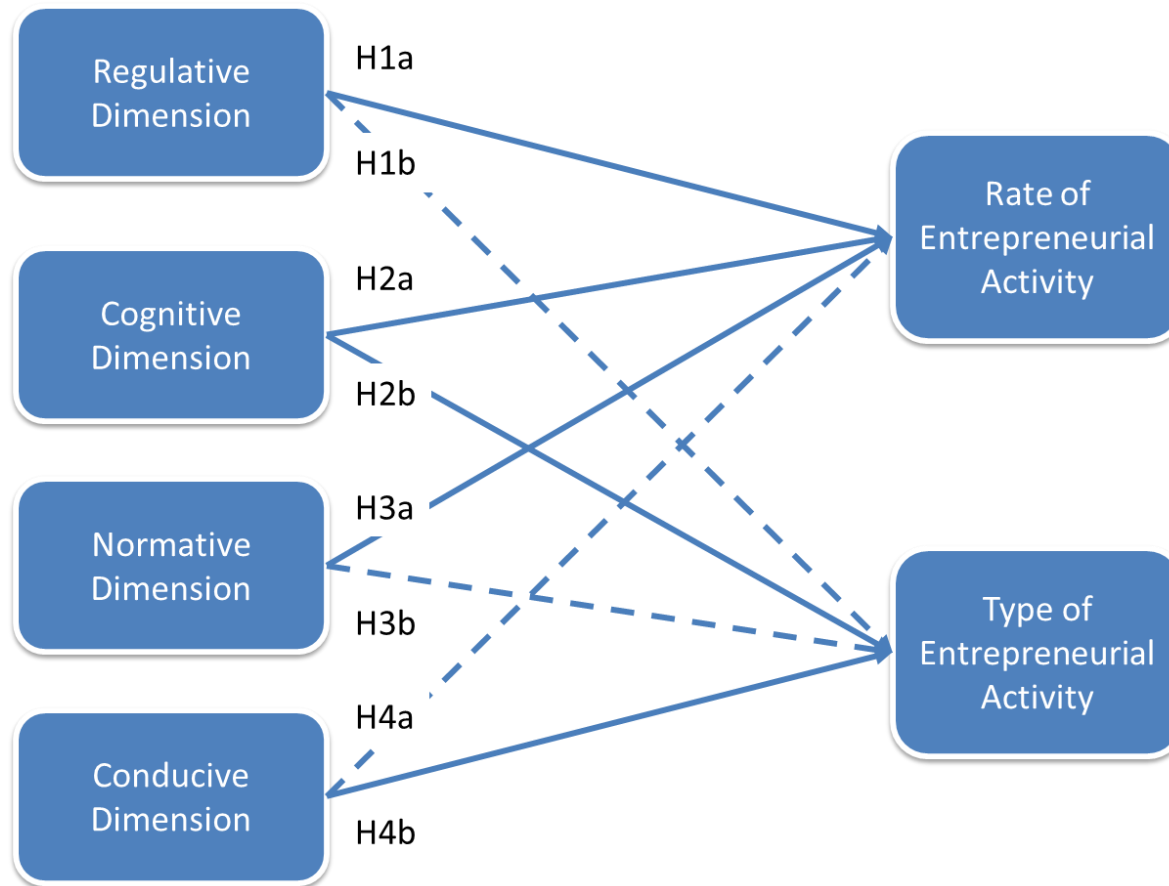


Support for entrepreneurs
and entrepreneurship
policy appears to be
gaining acceptance
globally

However, a real understanding
of entrepreneurship & the
successful implementation of
policies that actually support
and lead to the development of
high impact firms is rare

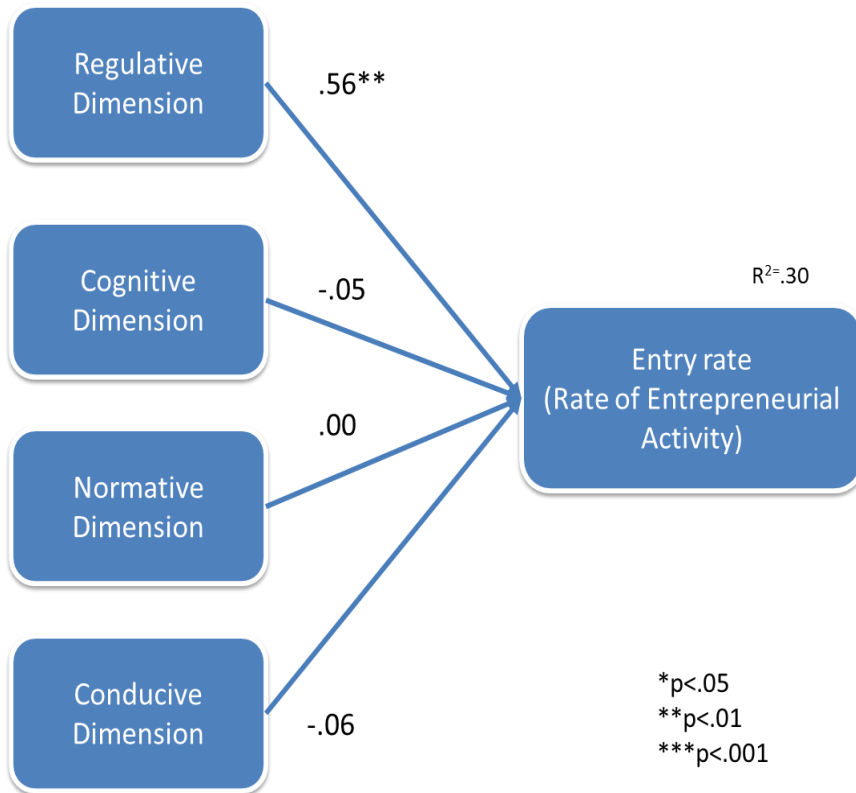


HYPOTHESIZED MODEL

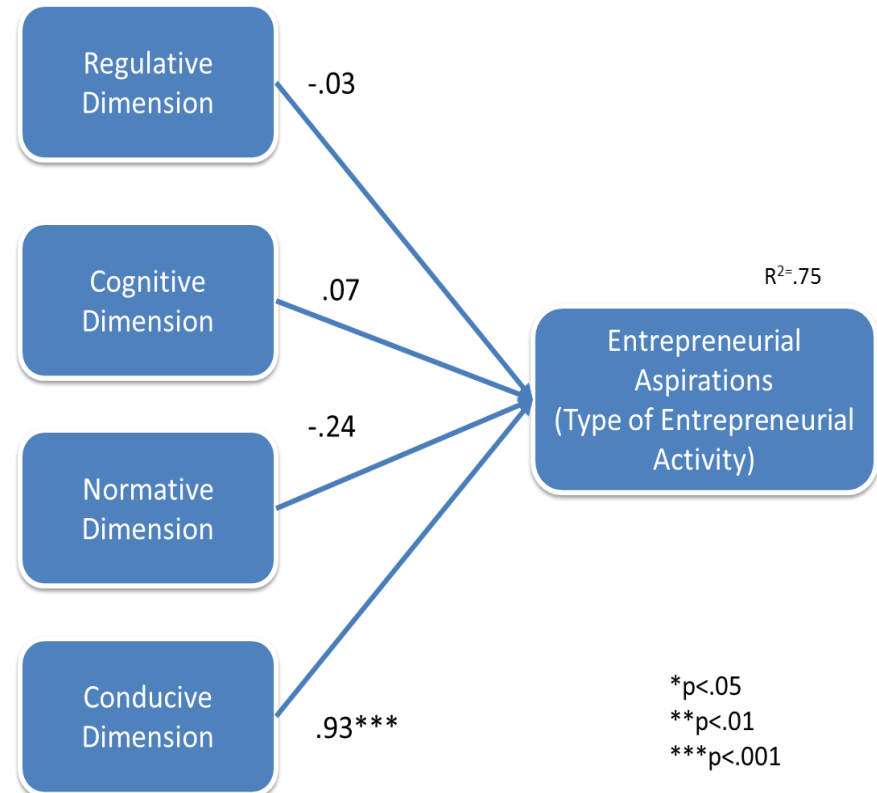




RESULTS



$X^2(78)=110.89$ $p<.05$, CFI=.94, NFI=.84, TLI=.91, RMSEA=.08

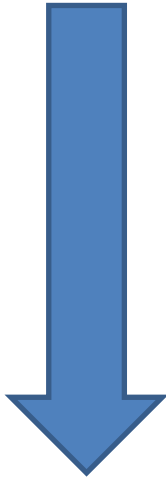


$X^2(78)=99.04$ $p>.05$, CFI=.97, NFI=.86, TLI=.95, RMSEA=.07



Adjusting
Conductive
Environment

HIGH-IMPACT
ENTREPRENEURS



Adjusting
Regulative
Environment

ENTREPRENEURS



Bottleneck Sensitivity Analysis

Pillar	Pillar Increase	GEDI %	GEDI Incr.
Risk Capital	0.175	12.6%	0.057
Process Innovation	0.117	5.1%	0.023
High Growth	0.113	5.0%	0.023
Product Innovation	0.102	4.9%	0.022
Internationalisation	0.094	4.7%	0.022
Opportunity Production	0.083	1.9%	0.008
Networking	0.074	1.8%	0.008
Quality of HR	0.070	1.6%	0.007
Start-up Skills	0.064	1.6%	0.007
Tech Sector	0.057	1.4%	0.007
Cultural Support	0.046	1.4%	0.006
NonFear of Failure	0.030	1.2%	0.006
Competition	0.024	0.9%	0.004
Opportunity Startup	0.008	0.7%	0.003

'Optimal' Policy Portfolio

Targeted GEDI Change

25%

	Required Increase in Pillar	% of Additional Effort ¹
<i>Opportunity Perception</i>	0.09	7%
<i>Start-up Skills</i>	0.00	0%
<i>Networking</i>	0.09	7%
<i>NonFear of Failure</i>	0.00	0%
<i>Cultural Support</i>	0.00	0%
<i>Opportunity Startup</i>	0.00	0%
<i>Tech Sector</i>	0.00	0%
<i>Quality of HR</i>	0.02	2%
<i>Competition</i>	0.00	0%
<i>Product Innovation</i>	0.11	9%
<i>Process Innovation</i>	0.21	17%
<i>High Growth</i>	0.19	16%
<i>Internationalisation</i>	0.09	8%
<i>Risk Capital</i>	0.40	33%



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Questions and Comments?

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