Natural Resources, Learning and Risk

WILLIAM MALONEY

SANTIAGO, DECEMBER 2, 2016

WORLD BANK PRODUCTIVITY PROJECT: HTTP://WWW.WORLDBANK.ORG/EN/EVENTS/2016/09/23/SECOND-GENERATION-PRODUCTIVITY-ANALYSIS-AND-POLICIES

Plan

1. Industrial Policy
2. What Heterogeneity in production, quality and development impact tell us
3. The critical market failures around learning and risk

INDUSTRIAL POLICY

Identifying product related externalities is extremely hard

1. Few credible studies: www.worldbank.org\externalities?
2. Demand side?
3. Alternative: Look for rules of thumb
   - Resource curse: countries rich in NR grow slower
   - High tech goods
   - Complex goods

4. Doesn't mean there aren't more spillovers elsewhere, but not obvious.

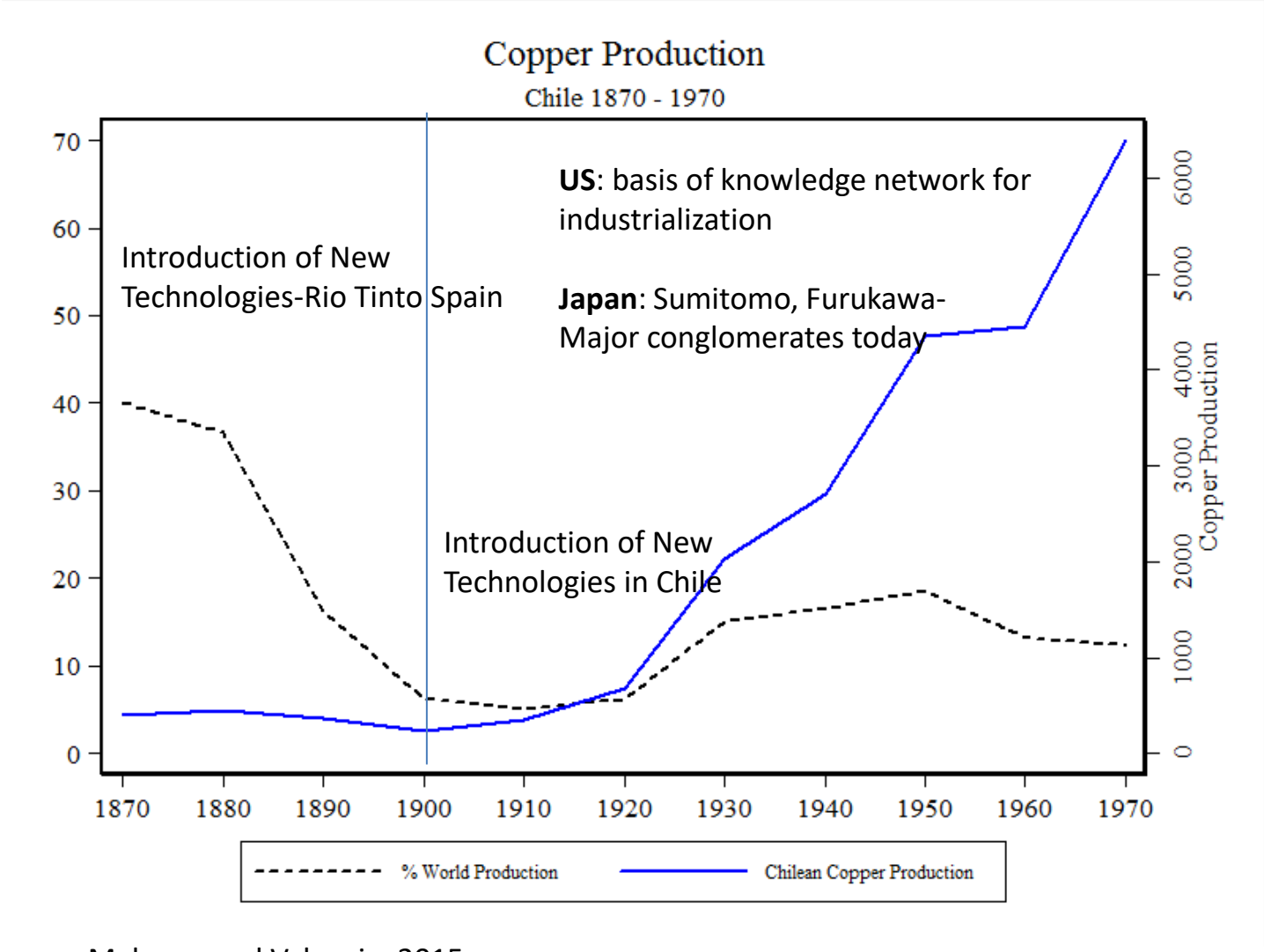
Central Question: Is this the most critical MF?

These rules of thumb are generally not robust, especially in NRs

- Most resource curse findings are fragile (eg. Sachs and Warner)
  - Lederman & Maloney (2007, 2008), Alexeev and Conrad (2009)
- Subsoil mineral wealth endowments correlated positively with growth:
  - Davis (1995), Sala-i-Martin et al. (2004), Stijns (2005), Brunnschweiler (2008, 2009).

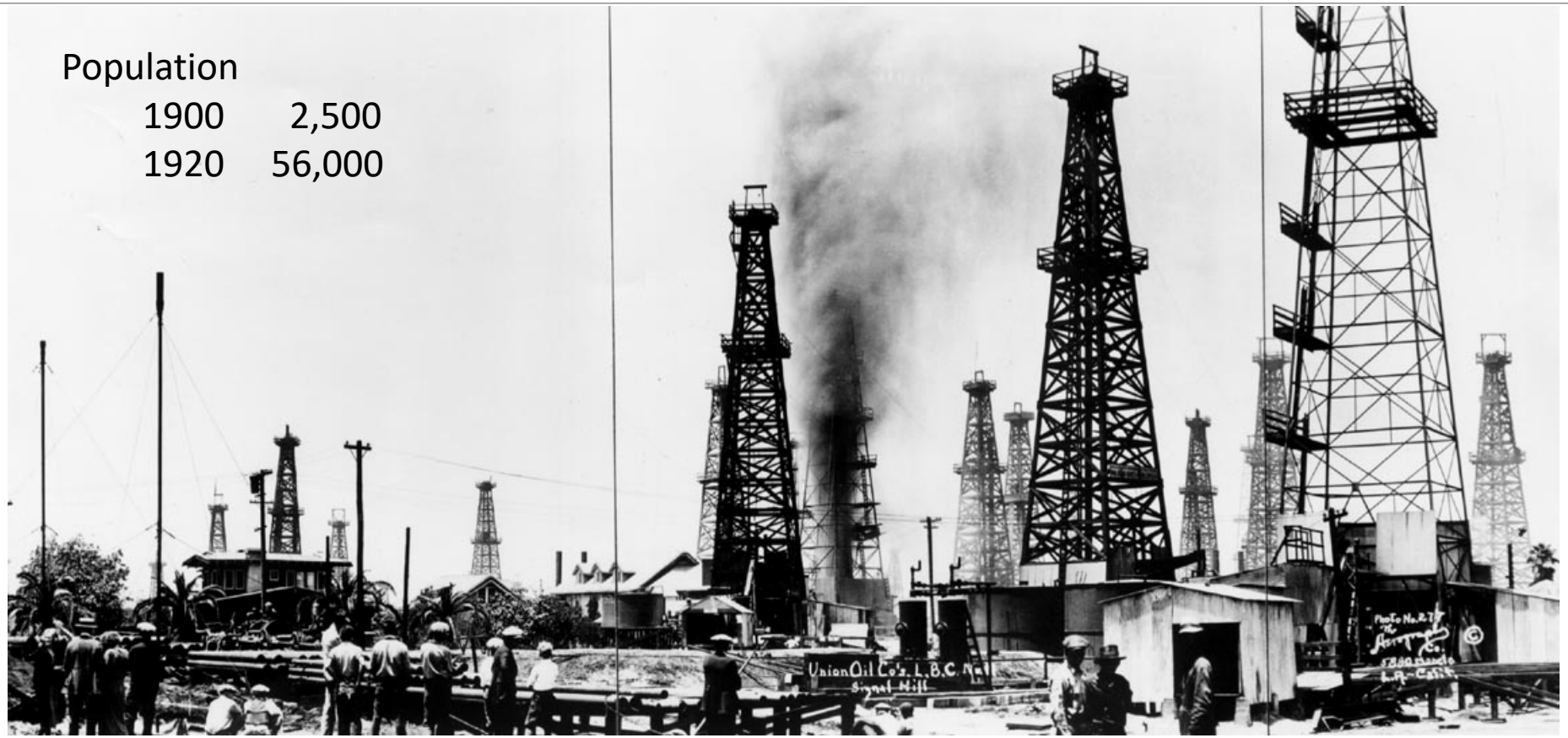
II. WHAT DOES HETEROGENEITY OF DEVELOPMENT EXPERIENCE AROUND NATURAL RESOURCES TELL US?

Ancient History: Copper across time and countries



Maloney and Valencia, 2015

Long Beach, California 1920: world's most productive oil fields



Long Beach, California Today

- Well diversified:

Oil Tourism Aerospace Port Services Manufactures: (car parts, electronics, aircraft)

- Wright: **Oil key to the California's development**

Norway: productivity and diversification

- Norwegian school of oil exploration out of U Oslo's Dept of Geology.
- Export expertise in deep water drilling
- Shipbuilding transformed into platforms and then an export
- Accelerated high tech manufactures through demand linkages
- Norway among richest countries

Hot High Tech products on RT 128

Frankenfish (Salmon)

- Insert growth gene from Ocean Pout (eel)
- Salmon grows twice as fast as normal
- AquaBounty Maynard, MA (old textile mills)
- Chile-Norway: joint genetics studies collaboration

- This is a high-tech fish

Heterogeneity across all products: Electronics assembly

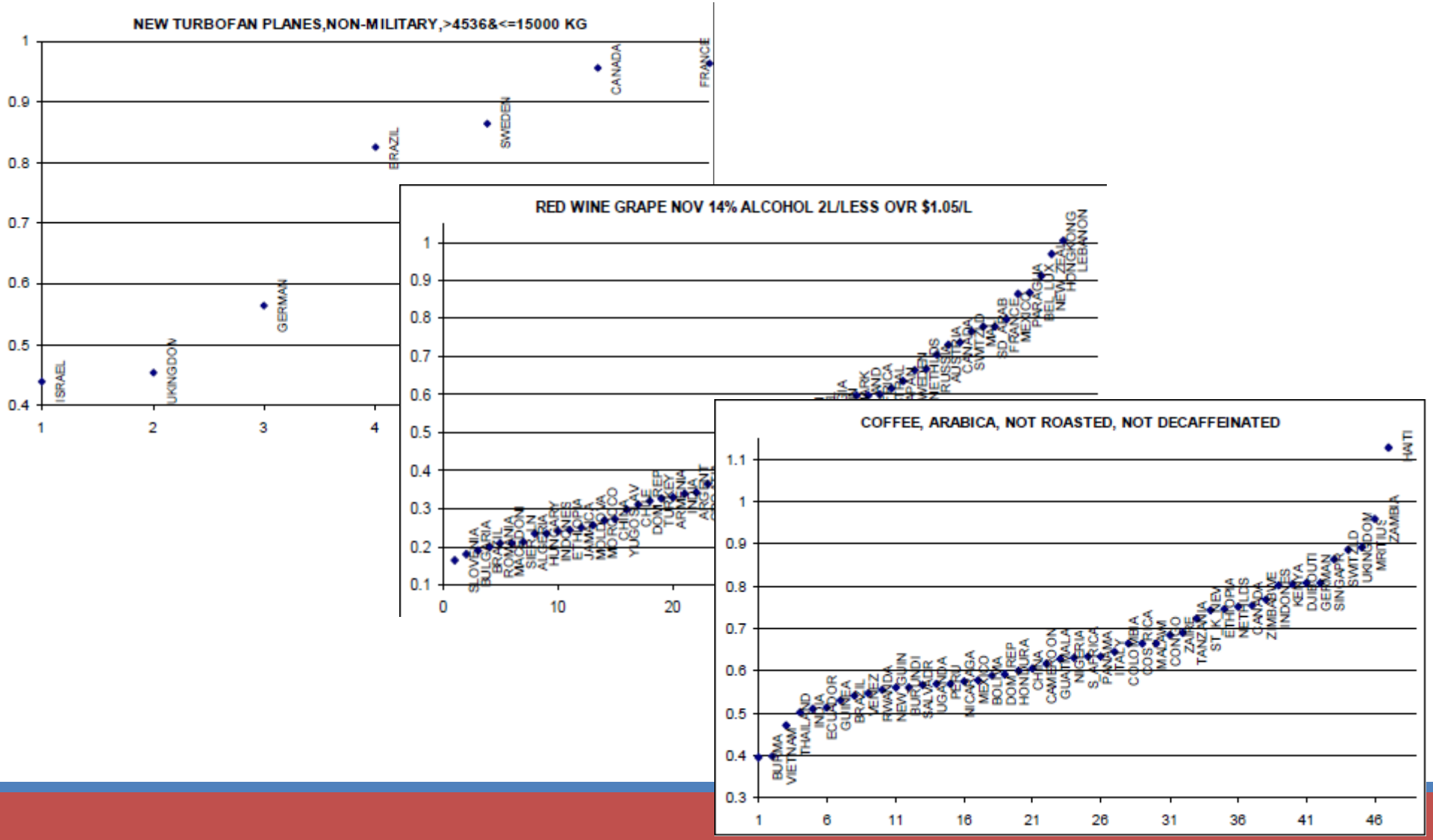
KOREA

MEXICO

?

Heterogeneity in quality, too, and rises with development

(relative unit values, standardized)



Within sector growth vs. Structural Transformation?

	1960-70		1970-80		1980-90			1990-00		2000-2010	
	Total	%ST	Total	%ST	Total	No ST	%ST	Total	%ST	Total	%ST
China					4.2	3.1	26.2	9	31.1	9.5	23.2
Hong Kong					6.8	6	11.8	3.2	9.4	3.2	18.8
India					2.8	1.7	39.3	2.7	25.9	2.8	0.0
Indonesia					0.7	0.2	71.4	2.7	25.9	2.8	0.0
Japan	7.4	16.2	3.9	15.4	3.4	3.2	5.9	1.3	0.0	1.4	7.1
Korea			2.7	59.3	5	4.7	6.0	3.9	0.0	2.4	8.3
Malaysia					2.5	2.5	0.0	3.9	10.3	2.2	-9.1
Singapore					3.3	3.2	3.0	4.4	0.0	-0.3	0.0
Taiwan, China			5.5	20.0	4.6	4.1	10.9	4.9	10.2	1.6	12.5
Thailand					4.2	1.7	59.5	3.2	9.4	2.6	26.9

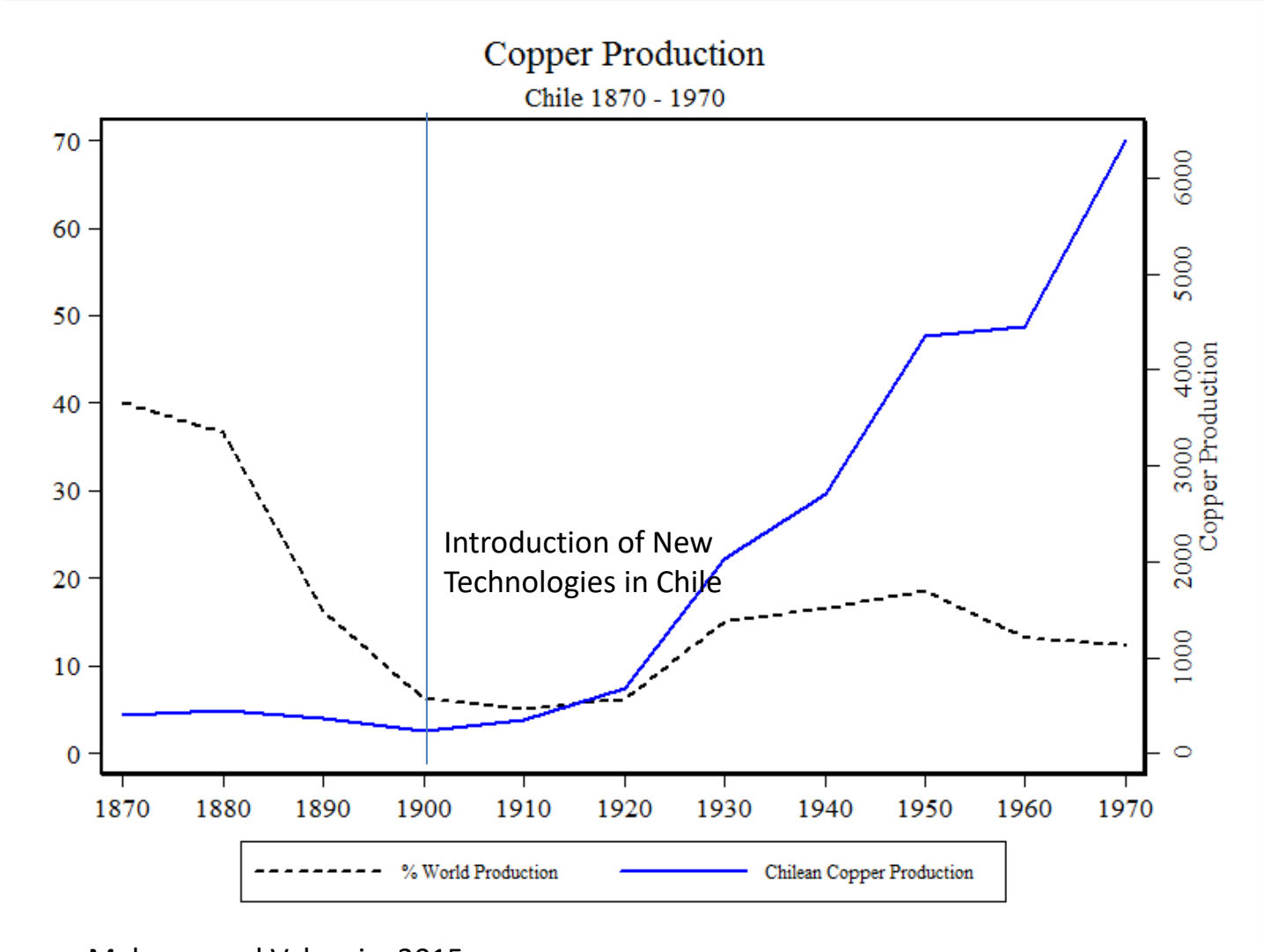
Source: Rogerson (2016)

How you produce as/more important than what

- Is the production mix where the most important market failures are?
- If Chile goes into computers, will it produce them like Korea or like Mexico, Argentina, Brazil?

WHAT EXPLAINS HOW WE PRODUCE? INNOVATIVE (LEARNING) CAPACITY

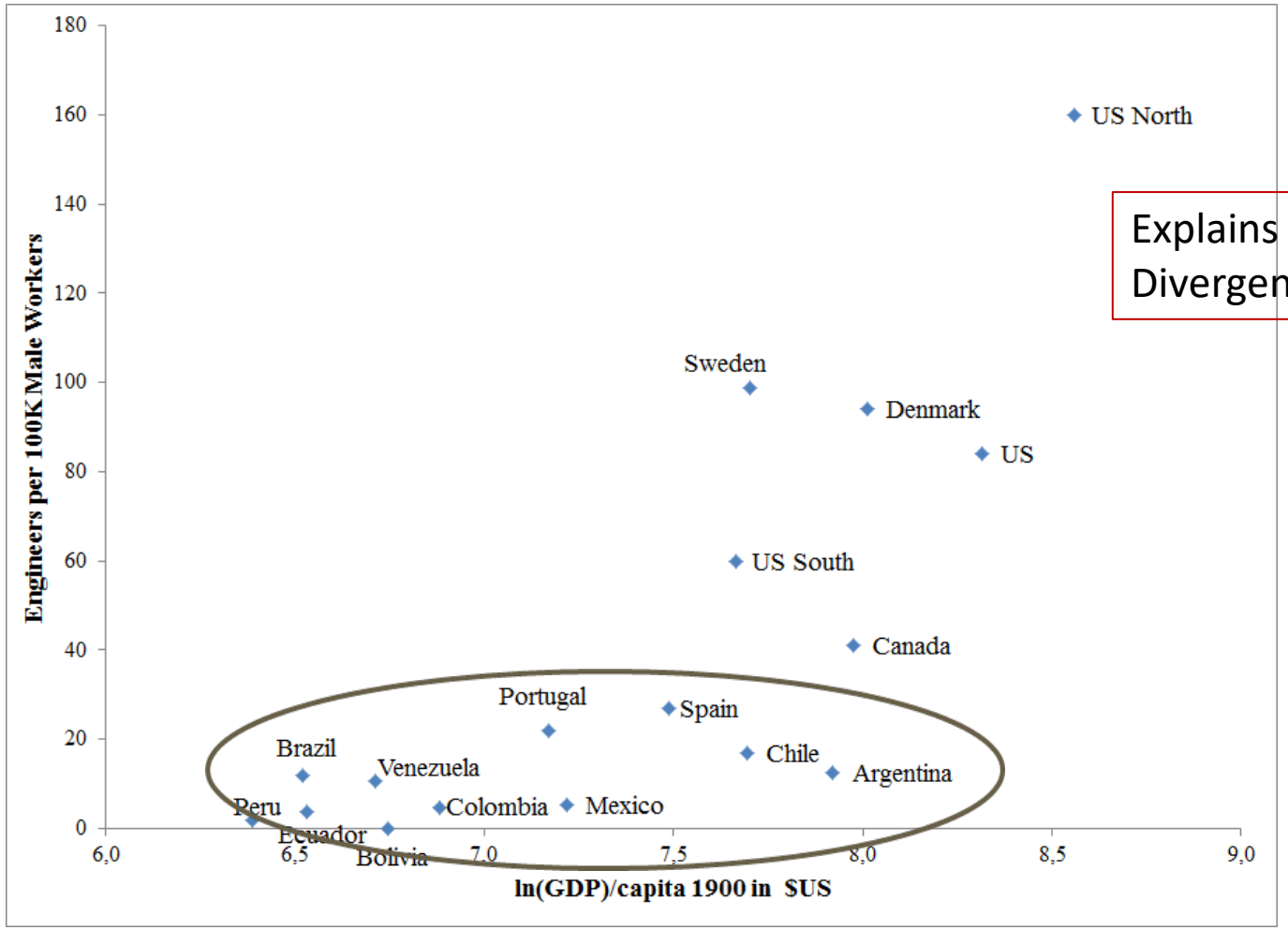
Ancient History: Copper across time and countries



Maloney and Valencia, 2015

Key: Ability to identify, adopt and invent new technologies-LA lost it

Engineering Density 1900



Explains 35% of income
Divergence across hemisphere

Maloney and Valencia, 2016

WHO EMPLOYS THE ENGINEER? ENTREPRENEURIAL AND MANAGERIAL CAPITAL

Entrepreneurship in LA overwhelmingly an immigrant phenomenon

Table 9: Relative Contribution to Industrialization of Locals vs. Immigrants

Country	Year	% Owners	% Pop.	Ratio	
		Immigrants	Immigrants	All	Men
Argentina	1900	80	30	2.7	1.3
Brazil (Sao Paulo)	1920-1950	50	16.5	3.0	1.5
Brazil (Minas Gerais)	1870-1900	3.6	1.5	2.4	1.2
Chile	1880	70	2.9	24.1	12.1
Colombia (Antioquia)	1900	5	4.7	1.1	0.5
Colombia (Barranquilla)	1888	60	9.5	6.3	3.2
Colombia (Santander)	1880	50	3	16.7	8.3
Mexico	1935	50	0.97	51.5	25.8
US (5% census sample)	1900	31	13.6	2.3	1.1
US (Fortune 500)	various	18	10.5	1.7	0.7

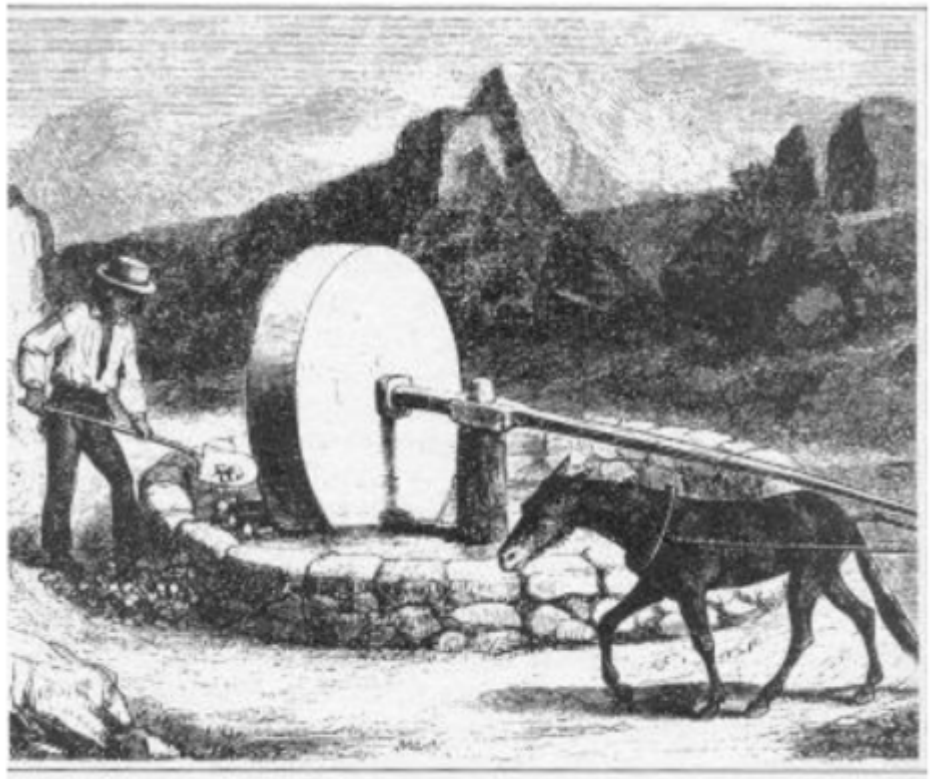
Notes: Table tabulates the share of industries owned by immigrants, their share in the population, their contribution relative to their share in the population and their contribution assuming all immigrants and entrepreneurs are male. Souce: Industrial Surveys, both official and academic. See text.

Source: Maloney and Zambrano (2016)

- Silva (1977 and others) validate the data:
  - ... the lack of entrepreneurs and of qualifed national workers gave to the incipient Chilean industry, a markedly foreign air. Anwandter and Meschner (Beer), Poppe (cotton), Tiffou (tanneries) Rudolf and Benedetti (shoes), Gleisner (furniture, tanning, soap), Kuppfer (smelting), Reiche (spinning), Sciaccaluga (canning), Goeckel (soap), Osthaus (rigging), are some of the names linked to the earliest manufacturing activities....p. 94.
- Executive Committee SOFOFA (1900): Edwards, Subercasseaux, Hillman, Tupper, Tiou, Mitchell, Gabler, Lanz, Klein, Muzard, Lyon, Bernstein, Crichton, Osthous, Stuven.

But Chileans used to be more entrepreneurial..

- Started Nitrate (Peru) and Copper industries
- Rise in price of copper 1844-1860 led to four-fold increase in production.
- Increased demand from the Gold Rushes 1848-1850 led to ten-fold rise in Chilean wheat exports.
- ~50,000 Chileans sailed to San Francisco Gold Rush 1849 -brought mining technologies to their Anglo counterparts

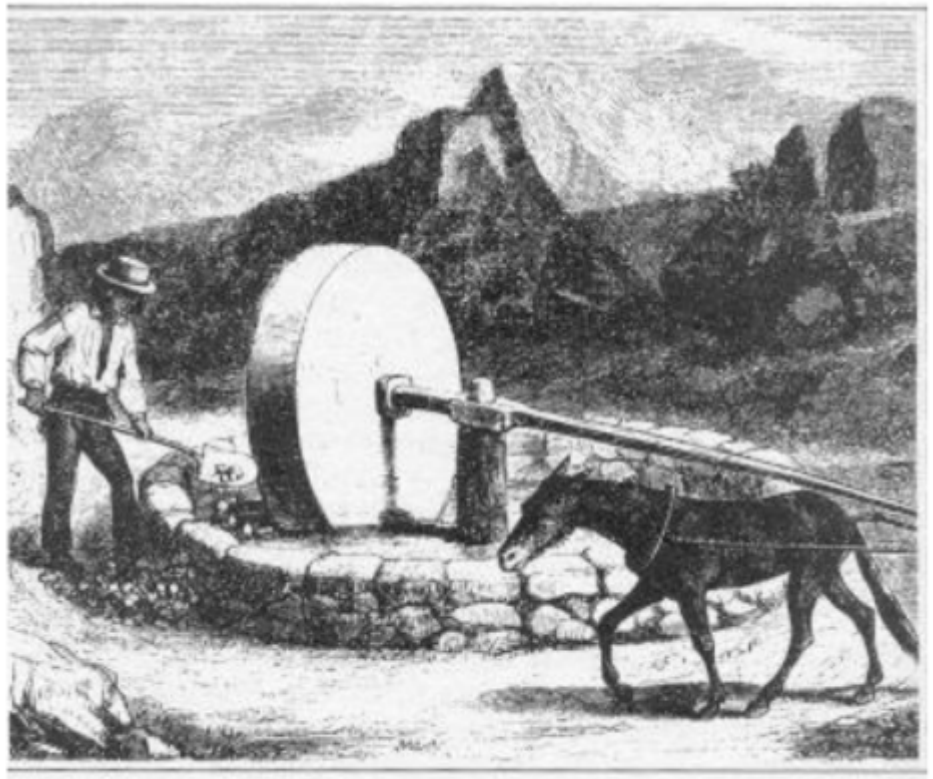


The Chili Mill

Chilecito commemorative plaque in the sidewalk on Kearny near Columbus Street [Photo: Kevin Collins]

But Chileans used to be more entrepreneurial..

- Started Nitrate (Peru) and Copper industries
- Rise in price of copper 1844-1860 led to four-fold increase in production.
- Increased demand from the Gold Rushes 1848-1850 led to ten-fold rise in Chilean wheat exports.
- ~50,000 Chileans sailed to San Francisco Gold Rush 1849 -brought mining technologies to their Anglo counterparts
- Mac-Iver (1900)
  - "Chilenos didn't lack either a entrepreneurial spirit, nor the energy to work, characteristics which are incarnate in the first railroads and telegraphs, in ports and piers, the irrigation canals in the central valley. **But these qualities have been lost**."



The Chili Mill

Key: *Loss* of Entrepreneurial Human Capital relative to the technological/managerial frontier

- Encina (1922) Chilean had

  ``qualities little appropriate for industrial activities in the degree to which the Chilean had an 'obsession for fortune at one blow'' and lacked the skills to enter modern sectors.

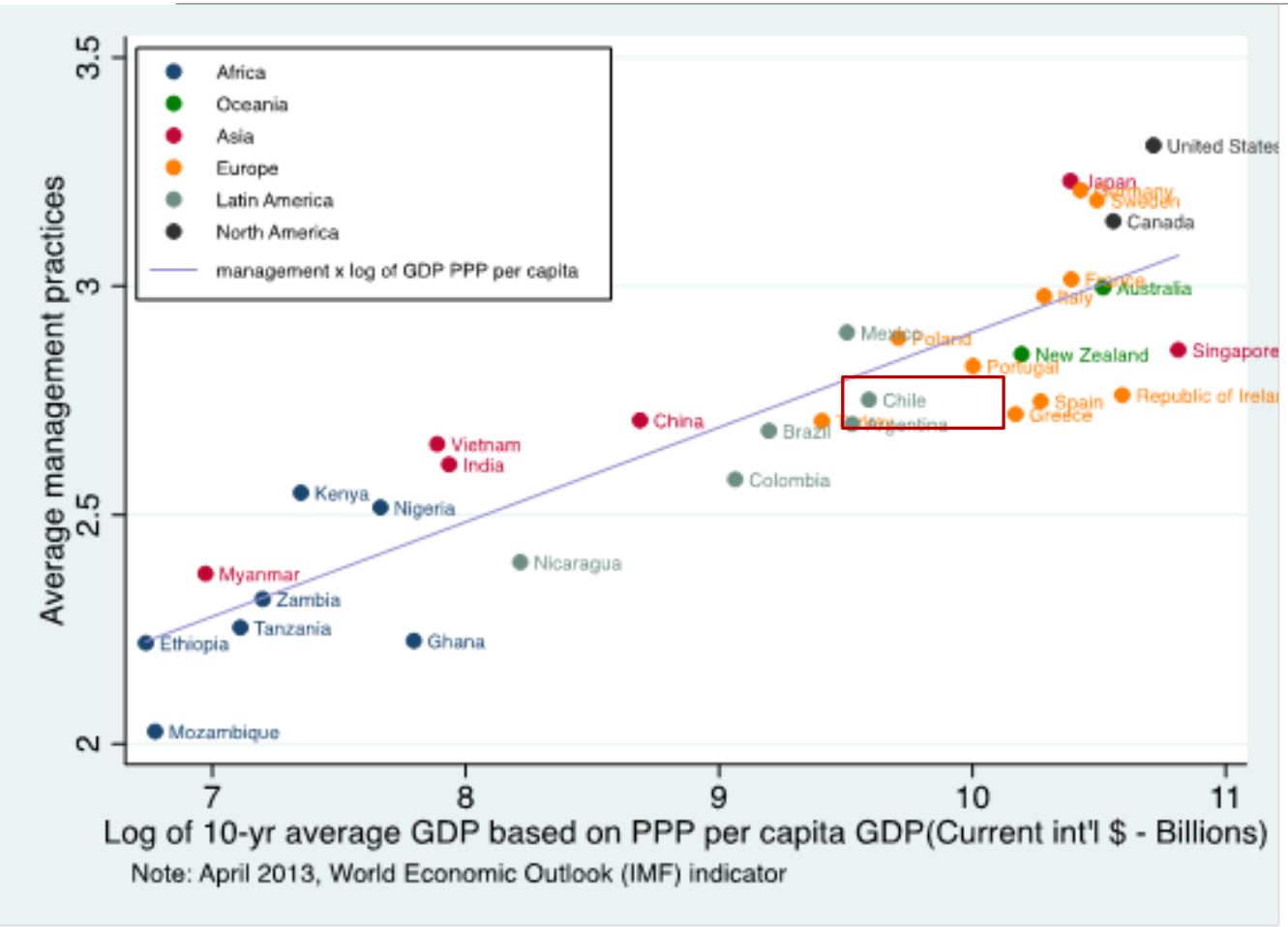
- Silva (1977) notes:

  ``the surprising ignorance of established merchants techniques, accepted and in common usage in Europe for centuries, like letters of exchange, double entry bookkeeping, or banking operations...the basic theoretical knowledge of credit, simple and compound interest, amortization, capitalization, banks, etc.''

If you can't calculate a DPV:

- **you can't engage in multi-year mining projects new technologies demand- you live off the rents.**
- **You don't experiment with new industries. You let foreigners do it.**

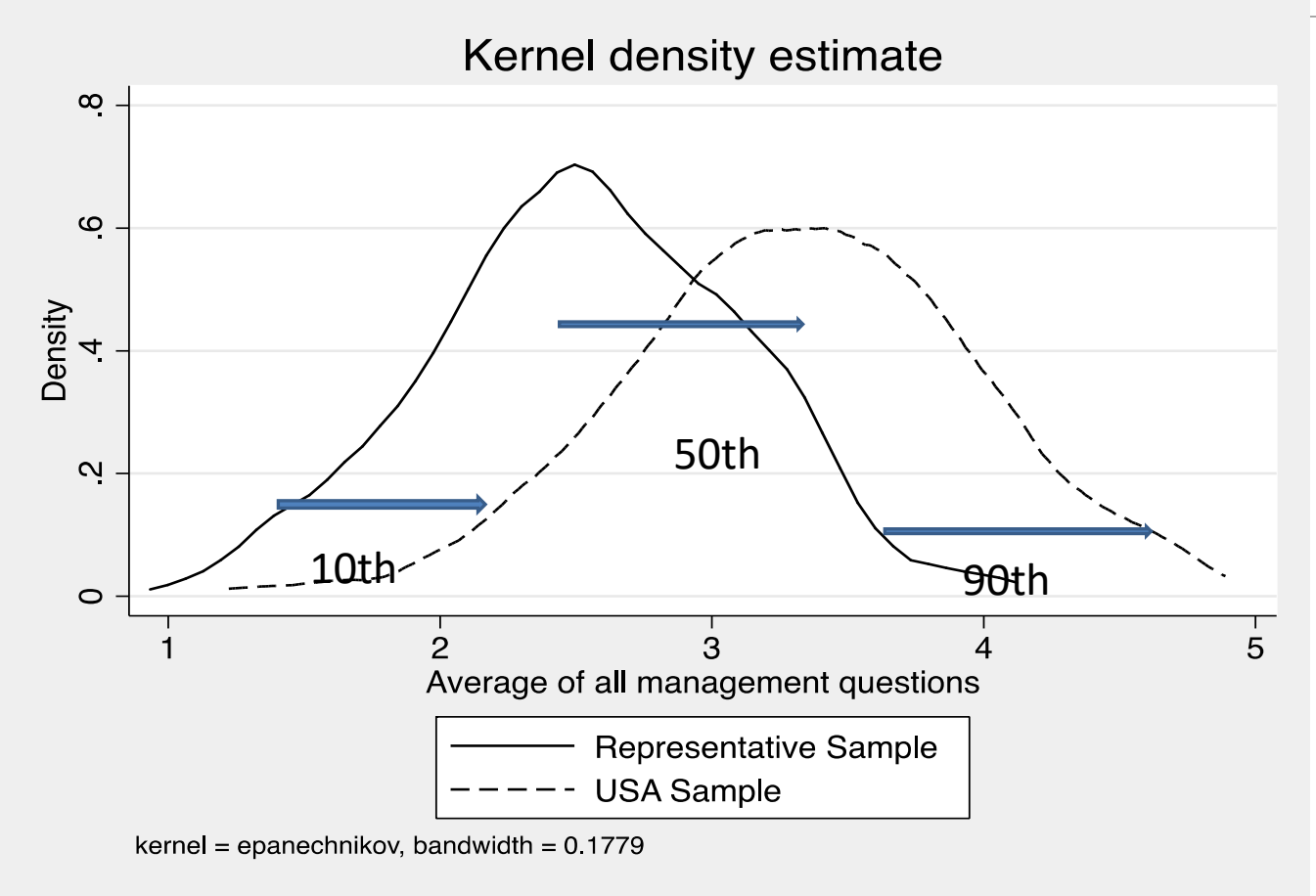
Back to the Future: Chile lags in Managerial Quality



- Whole Distribution is shifted
- Critical complement to innovation
- Bloom (2016) Explains 35% of cross country differences in income
- Evidence from India (McKenzie et al 2013)
  - Technological extension leads to 11% increase in productivity in 1 year
  - Could pay off full cost of intervention in 1 year…. WHY DON'T FIRMS DO IT?

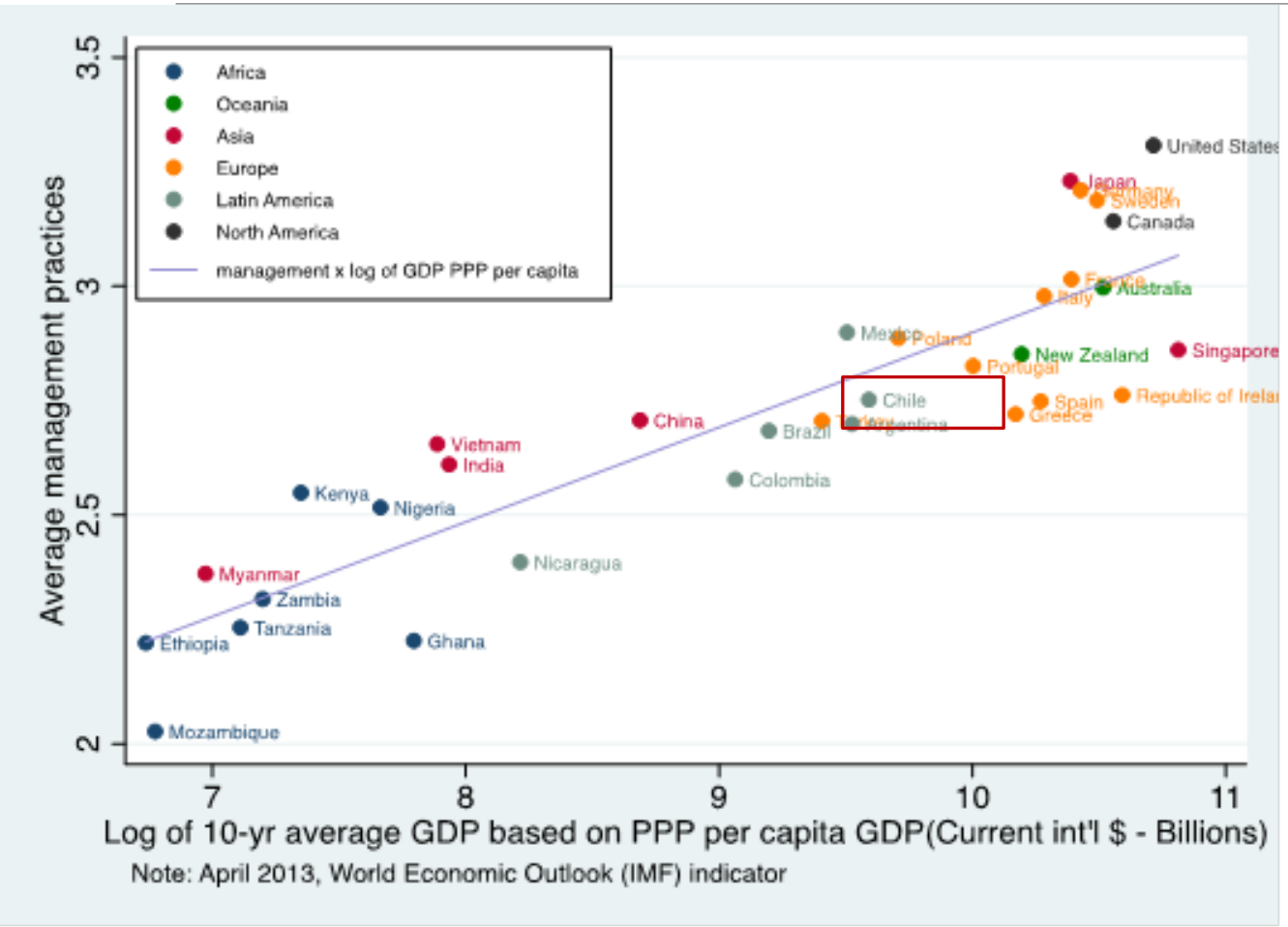
Source: World Management Survey

It’s not just the left tail-Chile lags in its best firms, too.



Fuente: WMS, Tokman, BM

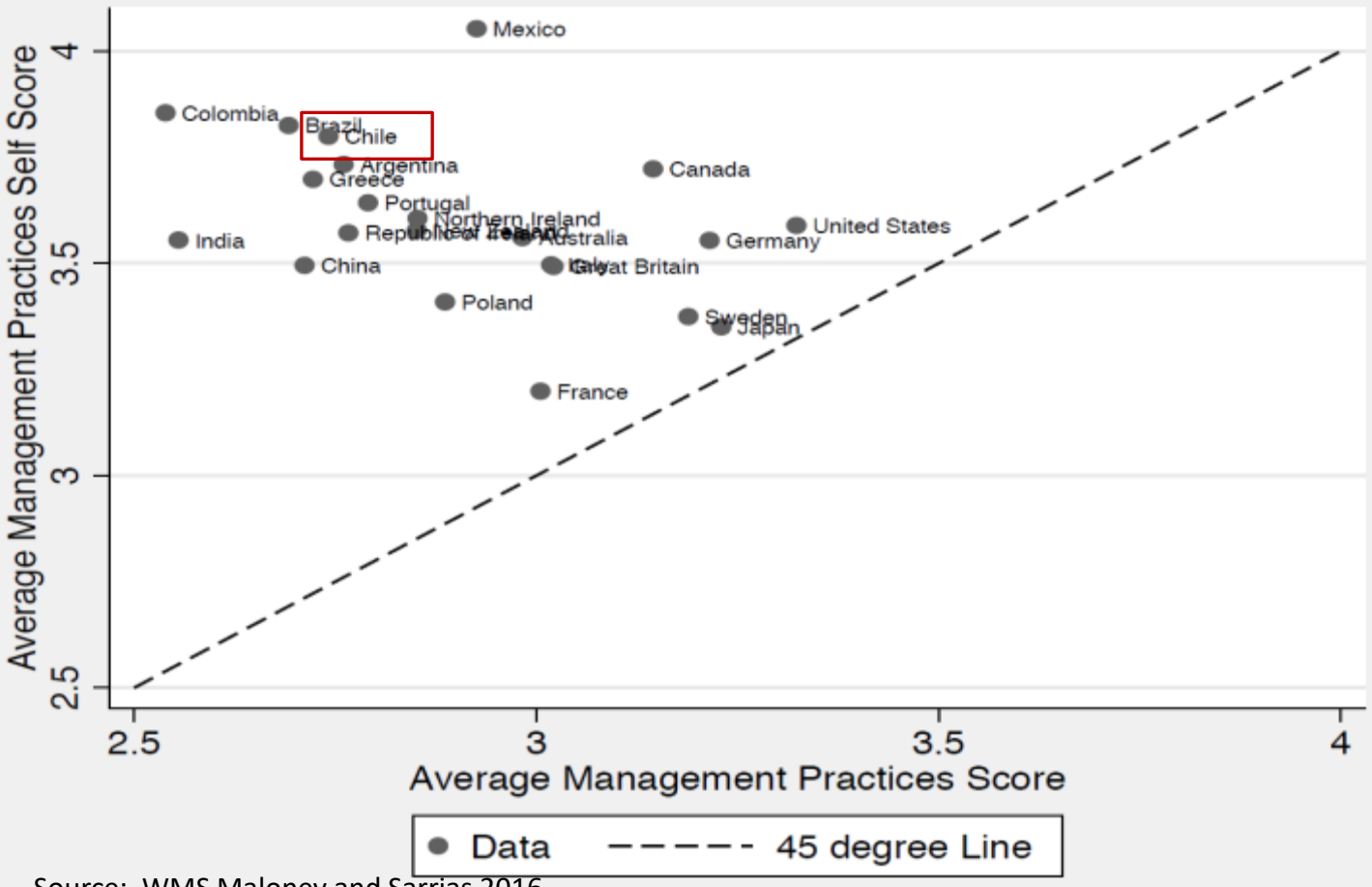
Back to the Future: Chile lags in Managerial Quality



- Whole Distribution is shifted
- Critical complement to innovation
- Bloom (2016) Explains 35% of cross country differences in income
- Evidence from India (McKenzie et al 2013)
  - Technological extension leads to 11% increase in productivity in 1 year
  - Could pay off full cost of intervention in 1 year…. WHY DON'T FIRMS DO IT?

Source: World Management Survey

Managers don’t know what they don’t know.

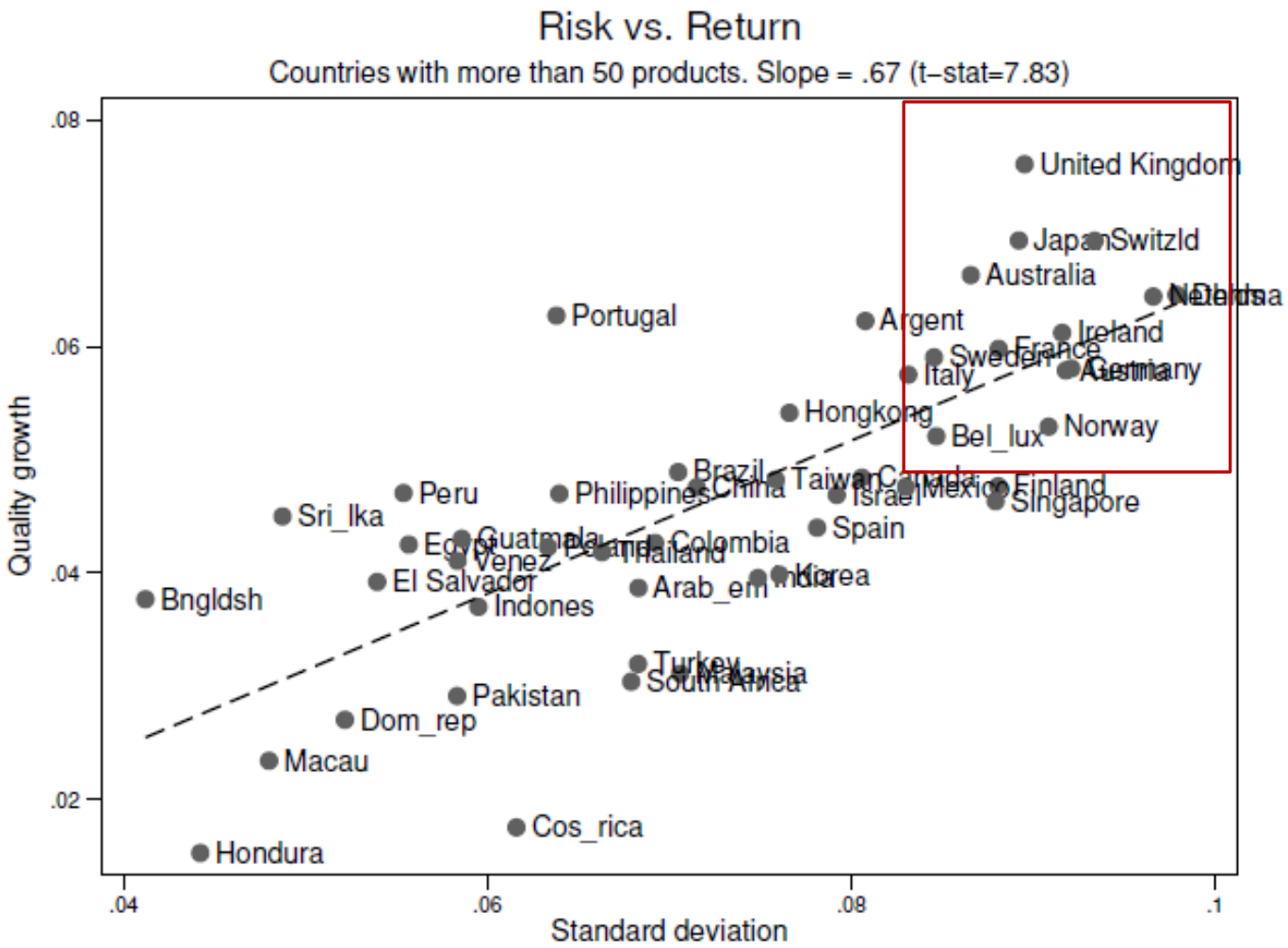


Source: WMS Maloney and Sarrias 2016

- Advanced countries massively subsidize managerial upgrading programs
  - Japan: 65%
  - Singapore: 100% for first 20K, 60% after
  - Korea: 100%
  - Scotland- 100%
  - Chile: Beginning but maybe underfunded, rushed
  - Road mapping: Industries don’t know what they don’t know

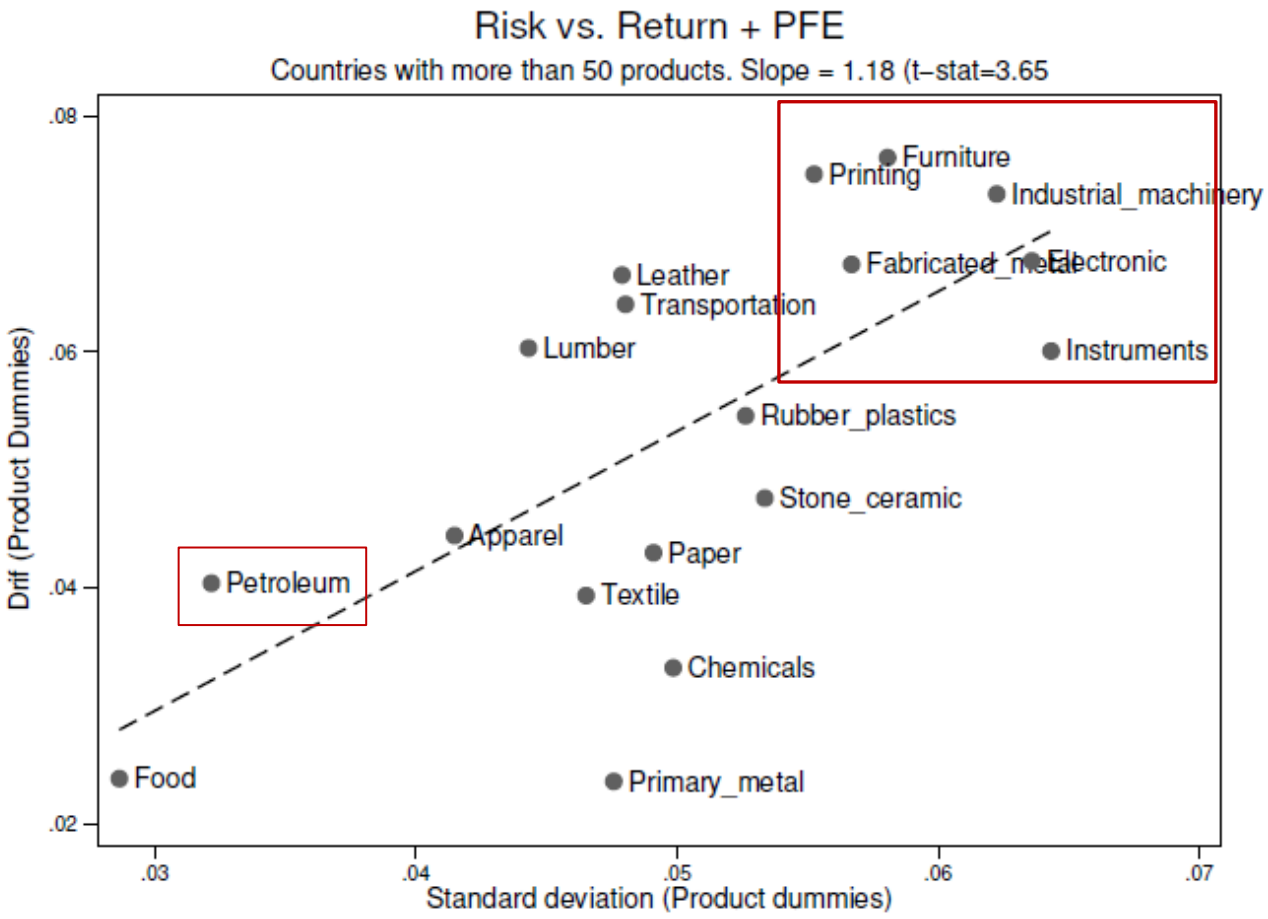
RISK

Quality/productivity growth=risky investments.

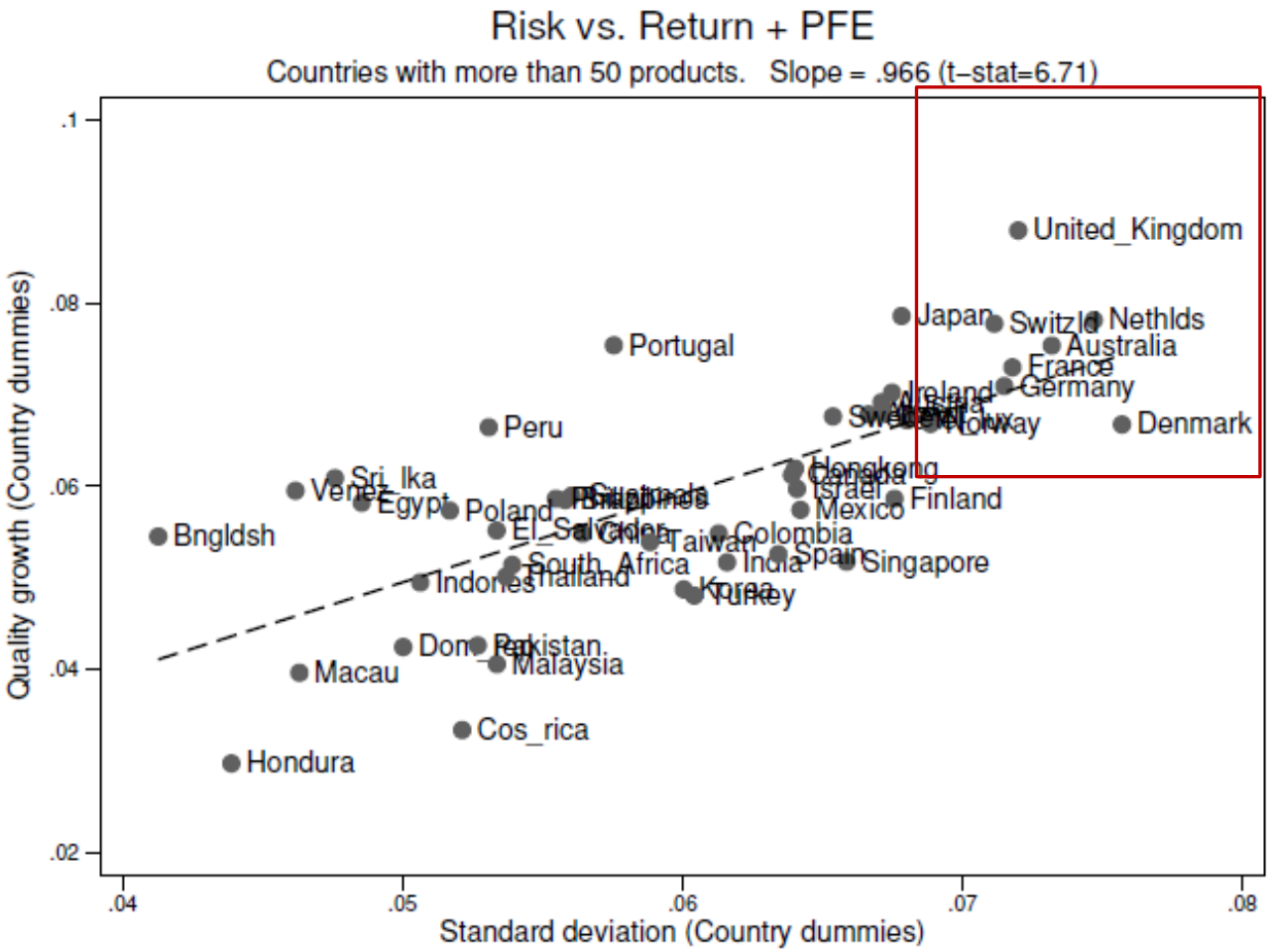


Krishna, Levchenko, Maloney (2016)

Some goods have higher risk-return



But independent of goods, rich countries take more risks- correlated with financial depth

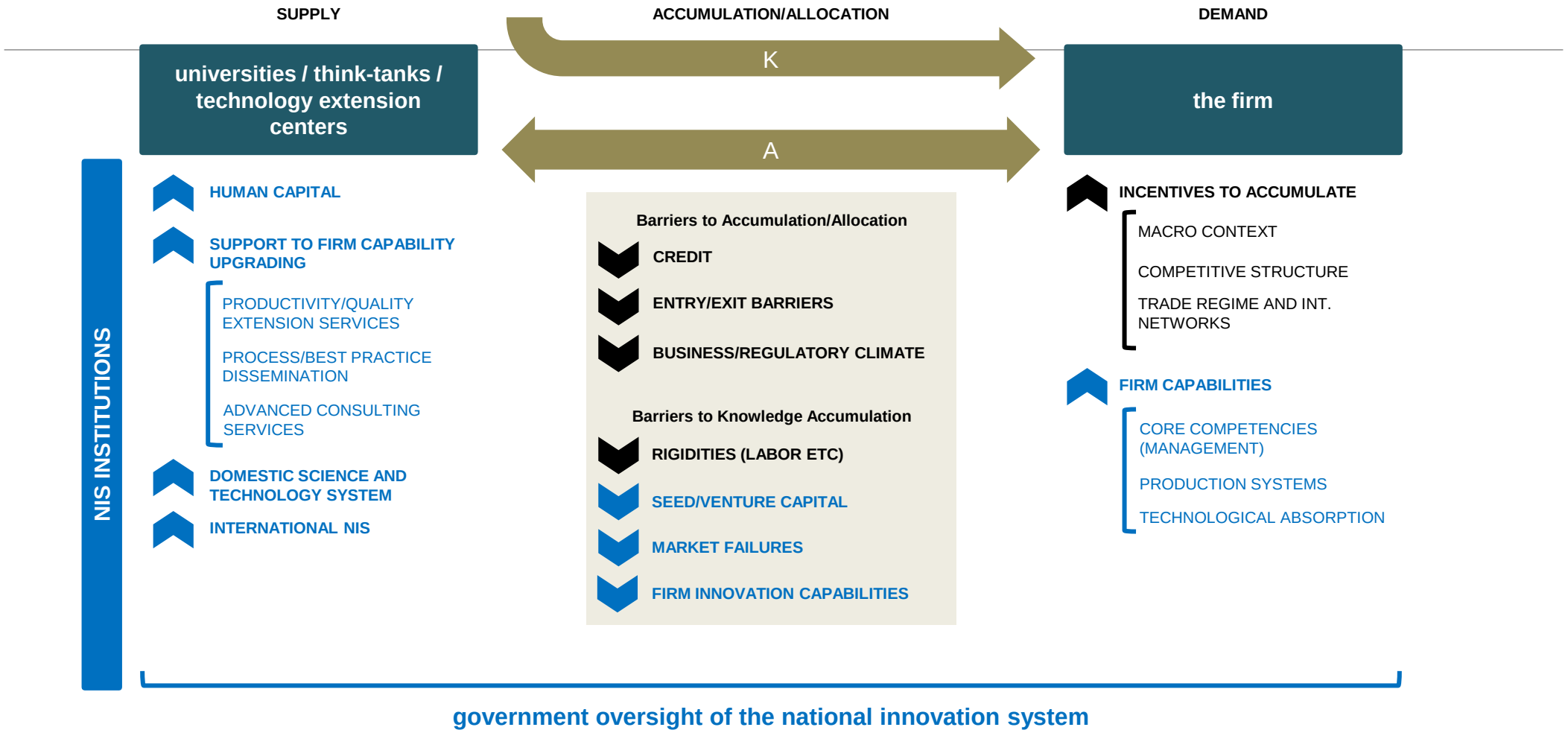


Policy toward productivity growth and diversification

Reforms of National Innovation System and learning policy- explicit management of market failures.

- Demand Side
  - Improvements in climate, trade etc. to increase demand to innovate
  - firm management capabilities
  - Specific learning incentives? Norway
- Supply side
  - Human capital at high and low levels
  - Quality and alignment of Universities and Think Tanks
  - Greater integration with global NIS
- Eliminate barriers to accumulation of ALL types of capital, physical and knowledge
  - Coordination failures= Road mapping EX ANTE NEUTRAL
  - Credit markets- liquidity and ability to diversity risk
- Coherent and consistent gov't policy: Requires general consensus on micro issues

The Greater National Innovation System (NIS)



Maloney 2016

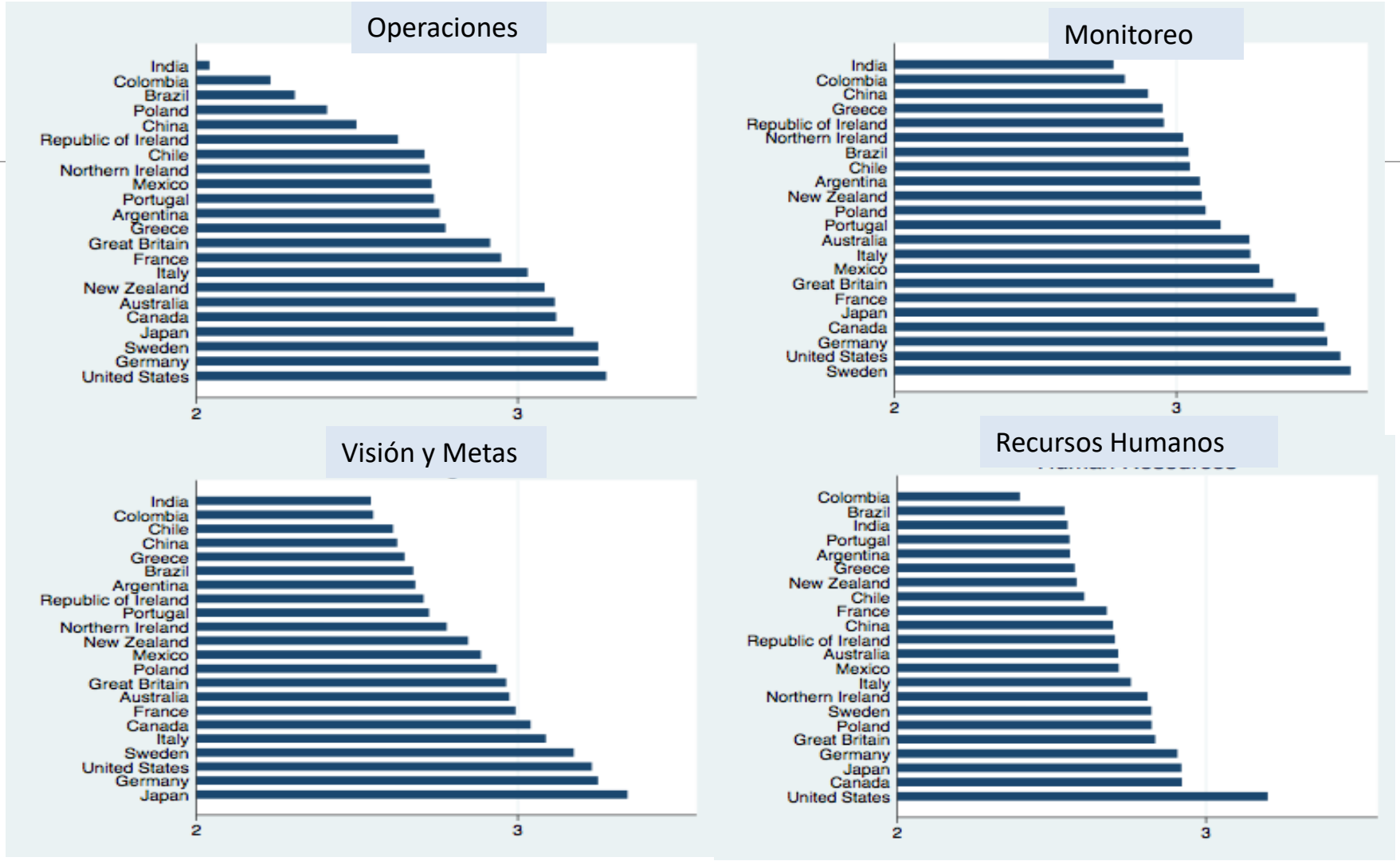
GRACIAS

I'll draw on:

1. *Engineering Growth: Innovative Capacity and Development in the Americas*, with Felipe Valencia

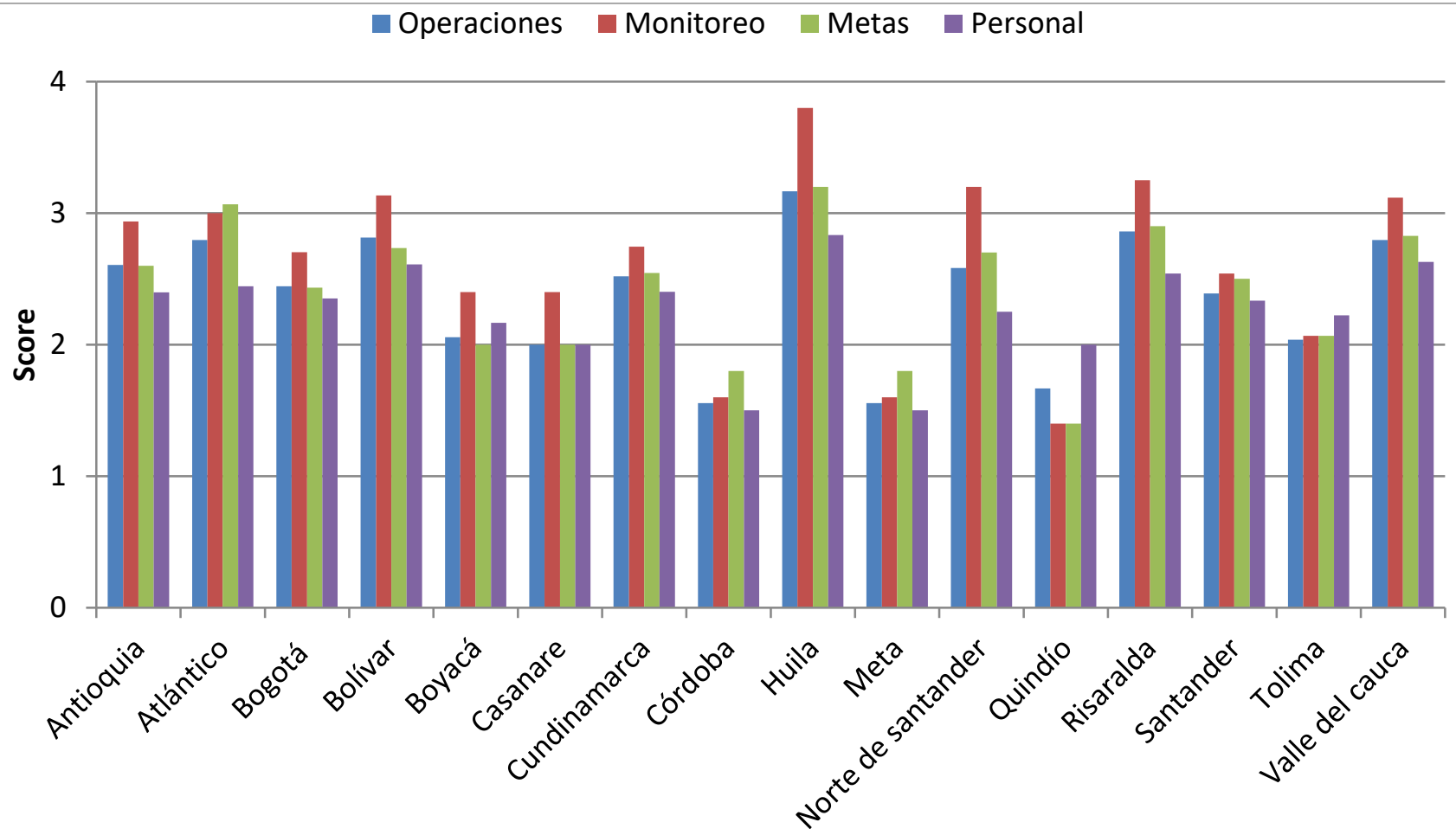
2.

3. *Convergence to the Managerial Frontier,* with Mauricio Sarrias



Fuente: Bloom et al. 2010, DNP, WB

¿A dónde fueron los Paisas?



Fuente: WMS, DNP, BM

Key for any discussion about innovation and technological transfer: WMS China

		Mean all countries	China's Value	Rank (of 21 countries)
Management	Average of all management questions	2.9391	2.8757	14
	Sub-subcomponents			
O1	Introduction to Lean (Modern) Manufacturing	2.8464	2.5917	16
O2	Rationale for Lean (Modern) Manufacturing	2.9161	2.6095	17
M1	Process Documentation	3.1904	2.9588	16
M2	Performance Tracking	3.3595	3.3941	8
M3	Performance Review	3.3236	3.4647	6
M4	Performance Dialogue	3.1674	2.9647	18
M5	Consequence Management	3.1082	2.8765	19
T1	Type of Targets	2.9063	2.5706	19
T2	Interconnection of Goals	3.0623	3.0882	9
T3	Time Horizon	2.8714	2.6294	17
T4	Goals are Stretching	2.9744	2.7588	17
T5	Clarity of Goals and Measurement	2.6862	3.1824	1
P1	Instilling a Talent Mindset	2.4244	2.5647	7
P2	Building a High-Performance Culture	2.5484	3.0765	2
P3	Making Room for Talent	3.0080	2.8765	14
P4	Developing Talent	2.9888	2.7353	17
PI5	Creating a Distinctive EVP	3.0270	2.9941	13
P6	Retaining Talent	2.4948	2.4294	11
See Annex for detail on categories. Rank: 1 correspond to the country with the highest value				

Determinant of Growth?

In both Bloom and Van Reenen's original 4 country sample and full sample, management quality increases in size.

- Consistent with mainstream models (Lucas, Jovanovic): Better management should lead to lower costs and larger steady state size.
- Bloom, McKenzie etc in India… Improving management quality increases productivity which should lead to expansion in size.

Necessary for Technological adoption

Is it finance that limits growth, or management that limits finance?

- Frese: Mental models. Most start-ups in US bootstrapped--- finance all in your mind!
- Colombia: 50% of applicants for PE in US have inadequate financial records.
- Manizales Más- poor management of cash flow & weak strategy impediment to lending.

Norway 1960 to present: California Redux

From the start, negotiations with International oil companies stressed transfer of competence and control (Anderson 1993)

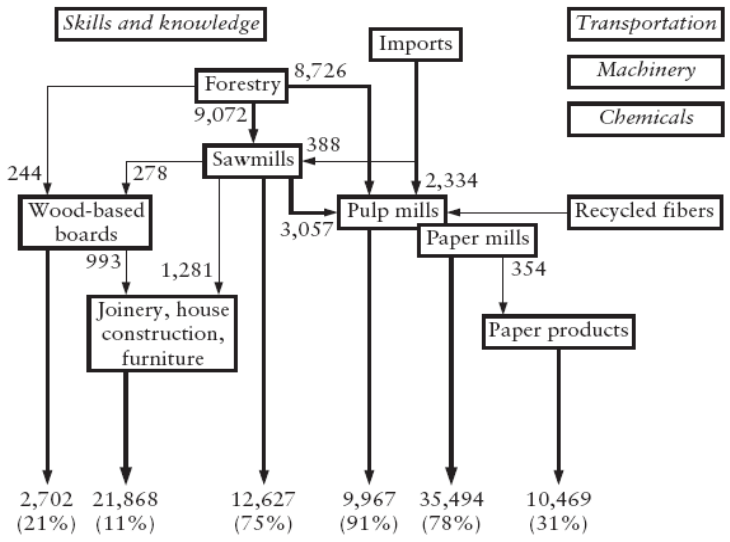
Training of Petroleum Engineers at Norwegian Technical University and Rogaland Regional Colecge

Recipient competence transformed into participant competence- “independent Norwegian Oil Industry

- Exprts in deepwater drilling
- Shipbuilding transformed into platforms and then an export
- Nowegian schoold of oil exploration our of U Oslo’s Dept of Geology.
- Active participants, not just passive recipients of windfall economic rents.

Scandinavia's forestry cluster has no parallel in Latin America

Figure 8.1 The Swedish Forest Industry Cluster



Source: Authors' calculations.
Note: Resource flows in million SEK. Figures in parentheses denote export shares.

Table 8.4 Participants in the Knowledge and Skill Cluster in the Paper and Pulp Industry (1990)

	Generation	*Dissemination*
Skills (Education)	Royal Technical University Chalmers Technical University University of Karlstad Swedish Pulp and Paper Research Institute	Swedish Pulp and Paper Research Institute
Knowledge (Research)	Royal Technical University Chalmers Technical University University of Karlstad Swedish Pulp and Paper Research Institute Institute of Surface Chemistry Graphical Research Laboratory Swedish Packaging Research Institute Swedish Newspaper Mills' Research Laboratory	Swedish Pulp and Paper Research Institute Institute of Surface Chemistry Graphical Research Laboratory Swedish Packaging Research Institute Swedish Newspaper Mills' Research Laboratory

Sources: Ds 1991:62, Statistical Yearbook of Forestry 1993, Handbook of the Northern Wood Industries 1991/92.

Nokia: Site of an early pulp mill in Finland

In sum: key, not what is produced, but how

Mining over and underperformers

LDCs- productivity lower in both agriculture and manufacturing (Martin and Mitra 2001)

Mexican computers are not Taiwanese computers

Export quality growth- divergence

Industrial policy advocates often over-stress what goods are produced, rather than how they are produced.

Mystery (2): Why don't firms pay for their own upgrading?

Bloom, McKenzie et al- Could pay for full cost of Accenture in 1 year's gains in productivity.

- Colombia, much cheaper
- Why don't they all do it?

Demand and Competition?

Woodruff- without demand- pushing on a string

More generally an issue with innovation- without firm demand to innovate, no reason (NZ)

Table : Correlates with Management Quality: USA, Germany, UK and France: Wave: 2006

	(1) OLS	(2) OLS	(3) QR=0.1	(4) QR=0.5	(5) QR=0.9
Human Capital Controls:					
-Manager studied abroad	0.135	0.030	0.123	0.113	0.116
	(0.132)	(0.128)	(0.253)	(0.205)	(0.116)
-Manager with degree	0.249***	0.189***	0.092	0.212**	0.246**
	(0.067)	(0.065)	(0.128)	(0.085)	(0.103)
-% Mangers college degree	0.002	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
-% Employees college degree	0.004**	0.004**	0.005*	0.005**	0.007**
	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)
Firm Controls:					
-Size	0.050***	0.050***	0.070**	0.059**	0.030
	(0.016)	(0.013)	(0.028)	(0.025)	(0.022)
-Competition	0.287***	0.261***	0.290***	0.307***	0.216***
	(0.058)	(0.054)	(0.105)	(0.098)	(0.080)
Ownership Controls:					
-Family	-0.186**	-0.196**	-0.426**	-0.178	-0.115
	(0.088)	(0.080)	(0.212)	(0.114)	(0.136)
-Ext. CEO	-0.117	-0.070	-0.353	-0.129	-0.289*
	(0.123)	(0.118)	(0.275)	(0.163)	(0.150)
-Founder	-0.205**	-0.110	-0.323	-0.210**	-0.309
	(0.099)	(0.096)	(0.263)	(0.091)	(0.233)
-Private	-0.112	-0.070	-0.241*	-0.018	-0.183
	(0.084)	(0.076)	(0.133)	(0.137)	(0.135)
-Other	0.016	0.040	0.075	-0.025	-0.084
	(0.074)	(0.069)	(0.138)	(0.109)	(0.093)
Germany	-0.098	-0.022	-0.016	0.066	-0.459***
	(0.089)	(0.094)	(0.226)	(0.144)	(0.125)
UK	-0.226***	-0.234***	-0.316**	-0.143*	-0.460***
	(0.060)	(0.060)	(0.131)	(0.075)	(0.093)
France	-0.122	0.208	0.359	0.077	-0.770**
	(0.241)	(0.185)	(0.372)	(0.390)	(0.314)
Constant	-0.467***	-2.862***	-1.103***	-0.490**	0.556***
	(0.128)	(0.239)	(0.243)	(0.198)	(0.211)
Noise Controls	No	Yes	No	No	No
Observations	508	508	508	508	508

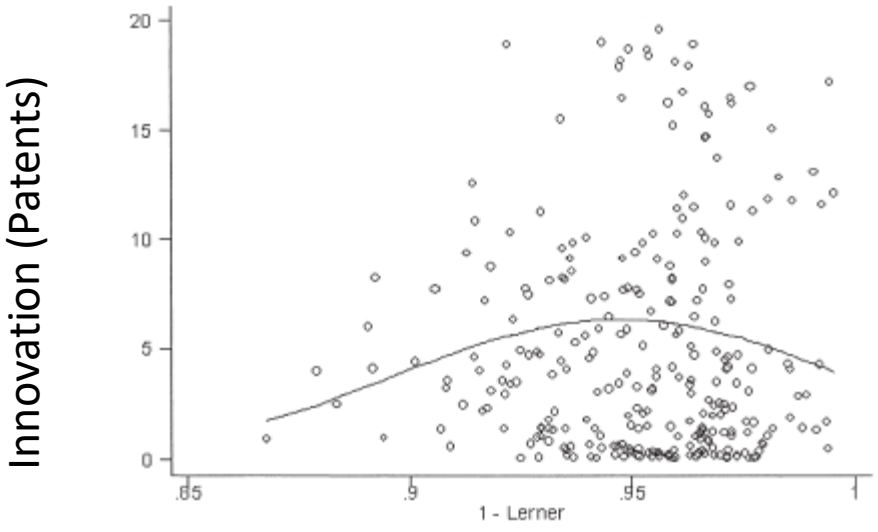
Maloney and Sarrias (2014)

Table : Correlates with Management Quality: Full Sample

	(1) OLS b/se	(2) OLS b/se	(3) QR=0.1 b/se	(4) QR=0.5 b/se	(5) QR=0.9 b/se	mean
Human Capital Controls:						
-Manager studied abroad	0.227***	0.206***	0.141**	0.221***	0.234***	0.121
	(0.032)	(0.031)	(0.056)	(0.048)	(0.043)	
-Manager with degree	0.200***	0.177***	0.178***	0.209***	0.175***	0.778
	(0.025)	(0.025)	(0.049)	(0.033)	(0.040)	
-% Mangers college degree	0.003***	0.002***	0.002***	0.002***	0.003***	58.854
	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	
-% Employees college degree	0.005***	0.004***	0.005***	0.003***	0.005***	9.774
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	
Firm Controls:						
-Multinational		0.237***	0.212***	0.213***	0.196***	0.468
		(0.023)	(0.049)	(0.029)	(0.033)	
-Size	0.026*	0.021*	0.003	0.041**	0.046***	0.692
	(0.014)	(0.012)	(0.017)	(0.016)	(0.016)	
-Competition	-0.054***	-0.039**	-0.040	-0.029	-0.043	1.693
	(0.020)	(0.020)	(0.035)	(0.027)	(0.029)	
-Export		0.001***	0.001**	0.001***	0.001*	31.963
		(0.000)	(0.001)	(0.000)	(0.001)	
Ownership Controls:						
-Family	-0.330***	-0.204***	-0.245***	-0.230***	-0.166***	0.175
	(0.031)	(0.032)	(0.068)	(0.038)	(0.044)	
-Ext. CEO	-0.107**	-0.029	-0.056	-0.031	-0.070	0.058
	(0.042)	(0.041)	(0.091)	(0.043)	(0.073)	
-Founder	-0.411***	-0.275***	-0.339***	-0.304***	-0.289***	0.164
	(0.032)	(0.034)	(0.062)	(0.044)	(0.044)	
-Private	-0.196***	-0.118***	-0.135**	-0.125***	-0.142***	0.189
	(0.029)	(0.029)	(0.058)	(0.036)	(0.040)	
-Other	-0.180***	-0.136***	-0.131**	-0.167***	-0.148***	0.141
	(0.031)	(0.031)	(0.060)	(0.044)	(0.052)	
Constant	0.163***	0.009	-0.566***	0.019	0.699***	
	(0.057)	(0.058)	(0.119)	(0.070)	(0.083)	
Observations	3483	3483	3483	3483	3483	
Country Dummies:	Yes	Yes	Yes	Yes	Yes	

Mckenzie Woodruff also find no effect for micros.

The interaction between competition and firm capacities?



Competition

Aghion, Bloom, Blundell, Griffith, Howitt (2005)

Impact of competition depends on how far from the technological/managerial frontier.

More competition- Inverted U

- Neck in Neck- innovate to escape competition
- Laggards- too far back and die.

Advocate a combination of more competition with firm upgrading

Why don’t firms pay for their own upgrading?

Bloom, McKenzie et al- Could pay for full cost of Accenture in 1 year’s gains in productivity.

Demand and Competition?

Woodroffs- without demand- pushing on a string

More generally an issue with innovation- without firm demand to innovate, no reason (NZ)

Market Failures?

Mckenzie & Woodruff: best to fix MF than give away training for free

- Information?
- Credit markets?
- Supply side constraints?
- Insurance markets- risk?

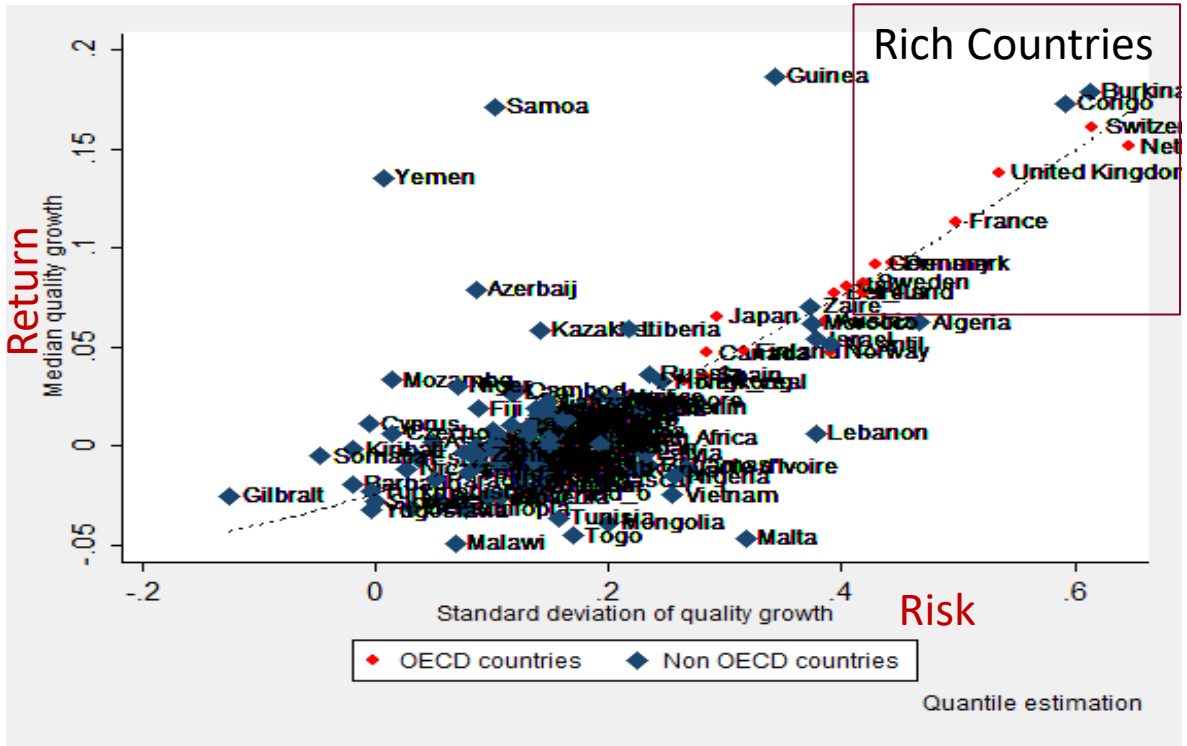
Like development: placing risky bets

Foster and Rosenzweig (2010) vital to agrigultural technology adoption.

Krishna et al (2015)- quality upgrading is risky

Managing risk- Learned?

- How to evaluate distribution of returns?
- How to manage risks
- Rules of thumb?



Fuente: Krishna et al (2015)

So, less of a problem in the advanced countries?

Massive subsidies

- Japan: 65%
- Singapore: 100% for first 20K, 60% after
- Korea: 100%
- Scotland- 100%

Market Failures?

- Supply exists in all countries.
- What kind of information problem exists in Singapore?
- All have dedicated programs for SME credit
- What would implicit coef. of risk aversion have to be if these programs really could pay off full cost of Accenture in 1 year on average pay off in one year?

Should we step away from pure MF approach?

National Innovation System literature (Lundvall,Nelson, Soete. Edquist..)

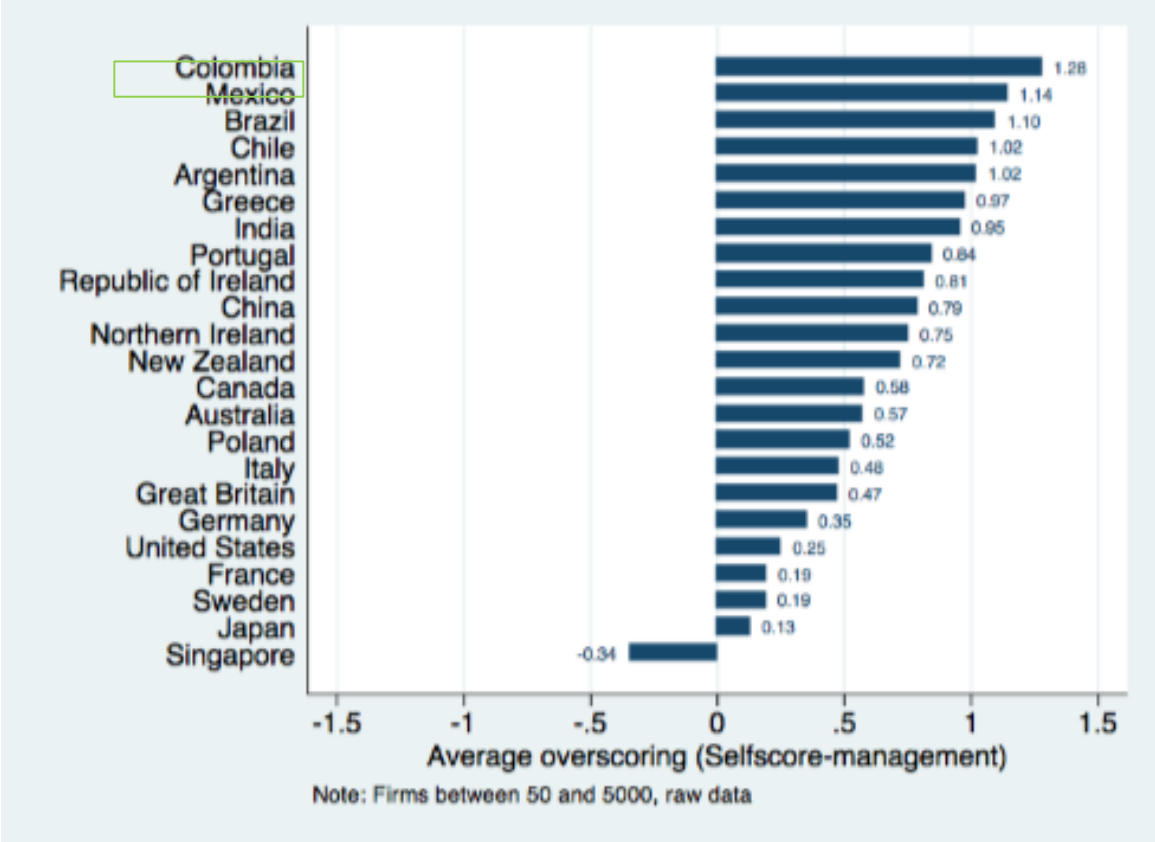
- Reject rationality, perfect foresight
- Firms work by a series of subroutines that are progressively culled.
- Bounded rationality- Nelson and Winter

Bloom and Van Reenen: Massive overestimation of management quality. Why?

Firms don't know what they don't know.

Behavioral issues- what lies behind inertia?

Management Self- Perception Gap



Alternate approach?

Assume firms are like students: Hardworking but

- Need to learn how to learn.
- Don’t know where the knowledge frontier is. (Horrible profs..paying for the reading list!)
- “Venture Management?” Government invests in “management equity” and gets higher taxes in the future- Korea.

Danger of stepping away from MF approach- we lose discipline- *anything can be justified*.

Coordination Failures- What are we learning from Manizales Mas?

Within sector growth vs. Structural Transformation?

	1960-70		1970-80		1980-90			1990-00		2000-2010	
	Total	%ST	Total	%ST	Total	No ST	%ST	Total	%ST	Total	%ST
China					4.2	3.1	26.2	9	31.1	9.5	23.2
Hong Kong					6.8	6	11.8	3.2	9.4	3.2	18.8
India					2.8	1.7	39.3	2.7	25.9	2.8	0.0
Indonesia					0.7	0.2	71.4	2.7	25.9	2.8	0.0
Japan	7.4	16.2	3.9	15.4	3.4	3.2	5.9	1.3	0.0	1.4	7.1
Korea			2.7	59.3	5	4.7	6.0	3.9	0.0	2.4	8.3
Malaysia					2.5	2.5	0.0	3.9	10.3	2.2	-9.1
Singapore					3.3	3.2	3.0	4.4	0.0	-0.3	0.0
Taiwan, China			5.5	20.0	4.6	4.1	10.9	4.9	10.2	1.6	12.5
Thailand					4.2	1.7	59.5	3.2	9.4	2.6	26.9

Source: Rogerson (2016)

So, how much of each in TFPQ?

	RESTUCCIA ESTIMATES
Misallocation	25%
Selection	25%
Technological Progress	50%

Restuccia: Careful, though, because misallocation distortions affect Selection and technological progress

Also, however, ST must be driven by productivity growth, not reverse

50000 Chilenos moved to SF.

Owned large part of Marin County (Leiva)

Information and Risk

Entrepreneurship

Pravin

ENTREPRENEURSHIP: WHY IS IT SO SCARCE?

What made Immigrants more entrepreneurial than locals?

Structure of Payoffs affects choice between productive and unproductive entrepreneurship. (Baumol, North, Murphy & Shleifer)

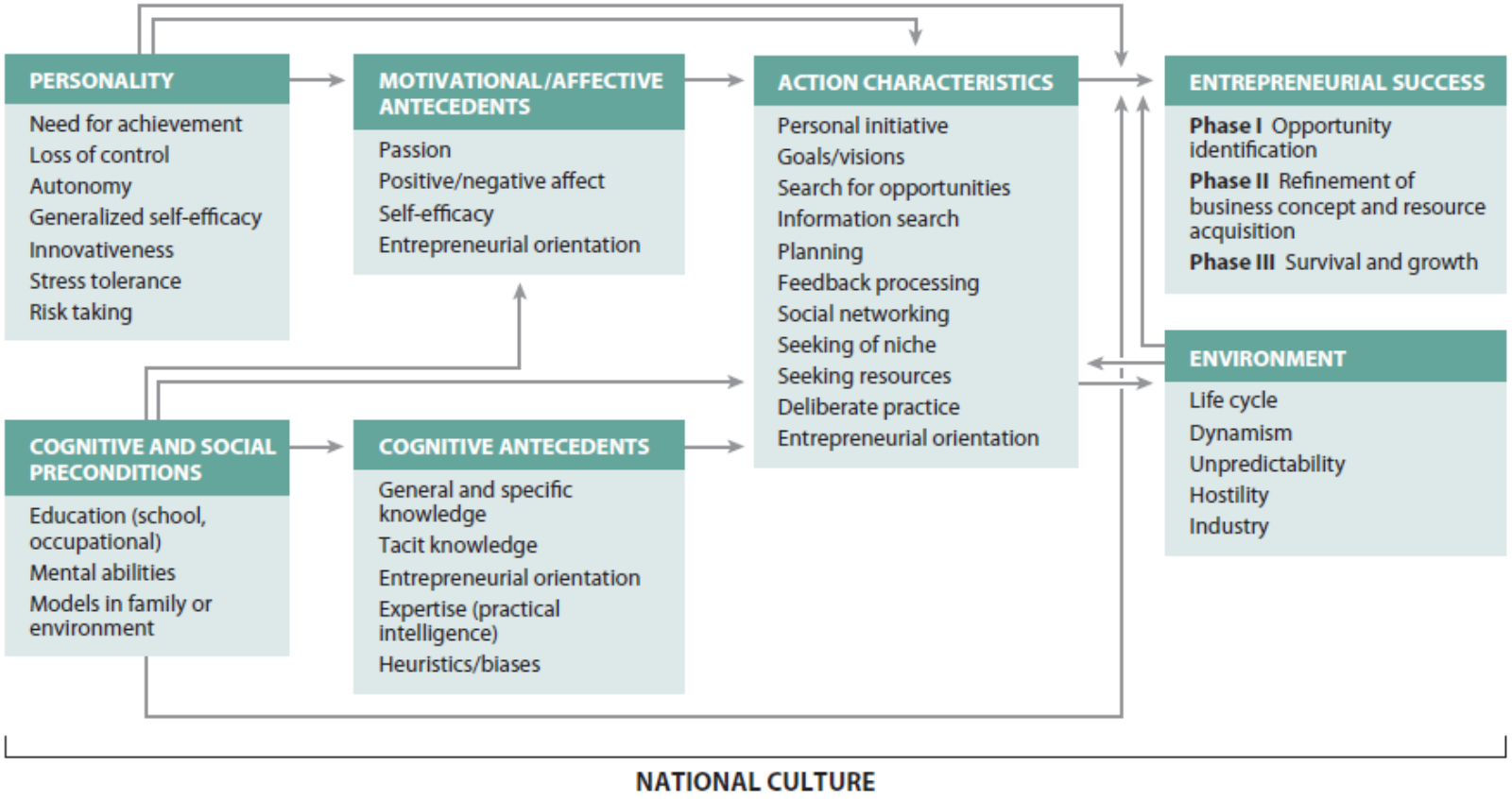
- Rent seeking structures?
- Baumol: Social values:
  - Romans- disdain for manual labor
  - Communicated to LAC via 7 partitas, culture.

Human capital?

- Knowledge of tech frontier
- Values: Move with immigrants
- Managerial Capacity
- Technological Literacy

Baumol Inverted?: Human capital determines perceived and effective pay offs: If can't do technology, do rent seeking.

What kind of human capital? (Frese)



How far can we go with HC alone?

Thanks

Frese-

in particular, autonomy orientation, innovativeness, risk taking, proactive personality, and competitive aggressiveness—formed an individual-level factor of entrepreneurial orientation.

and to the causal question (does orientation lead to success, or does it follow from success?).

Managerial mindset- Is it a change in way of being?

- Modernizaiton without modernity.

Mental structures provide a framework to interpret and comprehend (give meaning to) new information. In entrepreneurship,

several scholars have argued that interpretation and comprehension of new information are central to discovering new business opportunities (Mitchell et al. 2007). Shane (2000) has provided evidence that people's prior knowledge creates mental corridors that influence the way new information is interpreted. Entrepreneurs interpreted the same information (i.e., a new technological invention) in different ways based on their prior knowledge; the different interpretations then led to the discovery of different types of business opportunities (Shane 2000). This would not be surprising were it not for the fact that economics (with its assumption of equilibriums) assumes that knowledge differentials are not so important for pursuing opportunities.

(Tortella Casares, 2000, pp. 73, 227) acknowledges that it \would be na?ve to attribute the economic backwardness of Spain solely to the mediocre caliber of its business entrepreneurs. But neither can one deny that social attitudes, dicult as they are to grasp, were very pervasive... My principal hypothesis... Has been that a society which from the sixteenth century onwards was, intellectually speaking, frozen solid into an orthodoxy that systematically repressed original thought and freedom of action in the search of earthly happiness, nished up three centuries later without a competitive, dynamic, entrepreneurial class. The social attitudes, the accepted norms, I repeat, have been very persistent“

Tortella Casares (2000) devotes a chapter of his Economic History of Spain, to how this attitude across all strata undermined entrepreneurship and contributed to the scarce economic progress in Spain from 1500 to 1850, the \miscarriage" of the Industrial Revolution there, and the lack of a \competitive, dynamic, entrepreneurial class."

There is substantial evidence of an active Chilean entrepreneurial class dating from independence.

Pinto (1959) notes that the elimination of Spanish restrictions on trade caused Chilean exports to boom immediately after, and that this was the case throughout the continent.

Chilean entrepreneurs were the second largest presence in Peruvian nitrate fields, ahead of the British, and pioneered copper mining in their home country.

When the price of copper rose from 1844-1860, production by Chileans increased four-fold.

In response to increased demand rising from the Gold rushes in California and Australia, Chilean wheat exports rose ten-fold in value from 1848-1850. Southern hacendados borrowed heavily to clear lands to expand acreage three-fold from 1850 to 1870 (Conning 2001).

Cariola (1985) offer a vision of the global dynamism of the early nitrate economy was not merely an enclave in the Norte Grande, but elicited strong response from Chilean Entrepreneurs throughout the economy.

Vietnam stuff

Ayyagari, Beck, Demirguc-Kunt

Reducing costs of entry, property rights protection, allowing more efficient credit information leads to larger employment share of SMEs in manufacturing.

Winter- SMEs a good partrners in learning

None did, although

Need for business traiing in China

http://www.ft.com/cms/s/2/80529984-876b-11e3-9c5c-00144feab7de.html#axzz3ZjVAJu

http://www.npr.org/blogs/money/2013/12/05/247360903/nixon-and-kimchee-how-the-g
to-bangladesh

SME defined as <250			
	Employ	GDP	Date
Vietnam	74.2	24	1995
Taiwan	68.6		
Korea	76.25	45.9	1999
Japan	71.7	56.4	1999
Turkey	61.05	27.3	1997
Thailand	86.7	86.7	1993

Medium Enterprises in Korea: Achievements, Constraints and Policy Issues

Yes Chaebols played a larger and larger rol but then in 1970s, decline I nprominace of lare firms and SMEs rise. 1975 emplloyement 45.7 Man VA 31.7. 1997 69.3 and 46.5 (def <300)

Japan and Taiwan- imSMEs always important. 20-299 43% get

Subcontracting- get benefits interms of management support, raw maeterials, technology.

Early heavy equipment pphase- discriminated again SMEs. 1980s, began to revrse. Many special purpose credib functs, foster collective or cooperative activities among SMEs, help older SMEs update their technology An ambitious system for identifying an providing various kins of support for promising SMEs was established and commercial banks required to allocation some raction of their loands to SMEs

1980s and 90s prlimiferation of research centers, instituted, standrads centers, producgivity neters etc. Korea Overseas Trading Association- before catered to LEs now saw more to SMEs.

Lack of data on costs and benefits, benefits appear only in long run. Kime and Nugent 1999 attempt to evaluated. Services from private more highly evaluated that public. Small SMEs benefit better, Inadequate internal management can ipmed taking advantage fo collective suppot.

Equipment supplied good advaice. Foreign buyts but sourd

Beck et al (2003) There is a correlation of SMEs with growth, but crogss country evidence does not prove causality, nor that SME's reduce poverty.

Countries firm distribution a function of underlkying endowments, tehcnologies policies ,Institutions Kumar, Rajan, Zingales "What determines firm size" Caves- should get bigger with trade.

Japanese- fill difference market niches- more nimble – focus on more boutique products. Big firms- mass production for the world. Could imagine as world moves toward individualized instead of mass products, SMEs should rise.

Should we be concerned about environment especially for SMEs

- Big firms- can internalize. (Winter)
- On the other hand, informal mechanisms can sub in for small firms and not for big.

Awinter Possibilidties for research and policy

Schumper – expanding capabilities is what economic development is all about.

Routines- selected out evolutionarily. But not forward looking actor. Could see rise in income as providing more competition for bad routine firms- they get selected out (WFM)

Market failure approach-just remedy a failure and standard firm will do what it's supposed to.

SMEs do suffer more from institutional problems- can't internalize. Large firm provide organizational substitutes that fill the gaps in the genral institutional structure of society . Small and medium institutions (SMIs) that big firms provide for themselves.

Big emphasis on learning

This paper explores the relationship between the relative size of the Small and Medium Enterprise (SME) sector, economic growth, and poverty alleviation using a new database on the share of SME labor in the total manufacturing labor force. Using a sample of 45 countries, we find a strong, positive association between the importance of SMEs and GDP per capita growth. The data do not, however, confidently support the conclusions that SMEs exert a *causal* impact on growth. Furthermore, we find no evidence that SMEs alleviate poverty or decrease income inequality.

Journal of Economic Growth

September 2005, Volume 10, Issue 3, pp 199-229

SMEs, Growth, and Poverty: Cross-Country Evidence

Thorsten Beck,

Asli Demirguc-Kunt,

Ross Levine

The importance of finance

Frese- maybe barrier is “mental model”

However, lack of financial capital is sometimes used as an excuse to blame institutions or other external causes for one’s own failures (Naude et al. 2008). The median starting capital provided by founders in the United States was $22,700 (1987 data in 1996 dollars) (Hurst & Lusardi 2004), and most entrepreneurs start their businesses with even less capital (Winborg & Landstrom 2001)… These findings suggest that a purely economic perspective focusing on financial resources does not fully explain entrepreneurship.” 80–95% of entrepreneurs financially bootstrap in US.

Focusing on mental models, Bischoff et al. (2013) examined how differences in nascent entrepreneurs’ mental models moderated the effect of capital constraints on new-venture creation. They found that capital constraints did not affect new-venture creation when nascent entrepreneurs had mental models similar to those of experienced entrepreneurs; there was a negative effect of capital constraints on new-venture creation only when nascent entrepreneurs’ mental models corresponded to those of novice entrepreneurs. Bischoff et al. (2013) also showed how these expert mental models **could be taught**. These findings suggest that entrepreneurs can take actions and develop mental models to overcome financial constraints.

What are mental models. How is this different from routines?

Diasporas and Domestic Entrepreneurs: Evidence from the Indian Software Industry

RAMANA NANDA

TARUN KHANNA

This study explores the importance of cross-border social networks for entrepreneurs in developing countries by examining ties between the Indian expatriate community and local entrepreneurs in India's software industry.

We find that local entrepreneurs who have previously lived outside India rely significantly more on diaspora networks for business leads and financing. This is especially true for entrepreneurs who are based outside software hubs—where getting leads to new businesses and accessing finance is more difficult. Our results provide micro-evidence consistent with a view that cross-border social networks play an important role in helping entrepreneurs to circumvent the barriers arising from imperfect domestic institutions in developing countries.

Other topics

Upgrading

Winter- MNCs are good partners in leraing.

Why doe ownership matter.

Family firms. (Japanese transition.)

Finance?

It is easy to and a historian for any Latin country who asserts the dominance of an ideal of the hidalgo who despised work and commerce that is asserted to derive from Spain.

As Baumol (2010) notes, this attitude appears in Rome where commerce and manufacturing were relegated to manumitted slaves, and it was perpetuated through the middle ages.

(Saord, 1976, pg.6) notes that \The [Spanish] nobility's special position was codified in the thirteenth-century Siete Partidas, [the unifying legal code of Spain, based, in some cases verbatim, on the Roman Code of Justinian] which cautioned Spanish nobles against delement in commerce" and which remained central to Spanish law into the 20th century.

Tortella Casares (2000) devotes a chapter of his Economic History of Spain, to how this attitude across all strata undermined entrepreneurship and contributed to the scarce economic progress in Spain from 1500 to 1850, the \miscarriage" of the Industrial Revolution there, and the lack of a \competitive, dynamic, entrepreneurial class."

The Siete Partidas and their anti-commerce bias were the legal code imposed on Latin American colonies until Independence

Any aspiring entrepreneur in the colonial period would be prohibited from trade with any port but Cadz which lay far from the center of the industrial revolution, and further, would have to do so through Peninsular intermediaries (McFarlane, 2002).

Much of Latin America's potential entrepreneurial class were kept in a state of solitary connement

Are SME’s better?

Economies of scale (Pack and Wstphal, Pagano and Schivardi) 2001)

More stable anbe better jobs? (size premium)

Coase (1937) reflect intra- firm transation costs. .. If market transactions fall relative to within, then get smaller.

If mess with distributrion, could make things worse.

Finance

Why are they SMEs and Not LEs

Not sure what drives distribution of size- Rajan and Zingales

Correlated with growth, probably not causal. (Beck et al 2005)

Mixed evidence of special effect on poverty.

But they're big

Special concern

- Some things big firms can internalize- credit, institutions, etc.
- Some things SMEs can manage informally- investnment capital- local, family etc? Samsung can't do that.

Frese- Maybe these guys don't have the mentality

Colombia- Private Equity- Missing something else

Bank problem or firm problem?

Frese- maybe barrier is “mental model”

Lack of financial capital is sometimes used as an excuse to blame institutions or other external causes for one’s own failures (Naude et al. 2008).

- The median starting capital provided by founders in the United States was $22,700 (1987 data in 1996 dollars)
- 80–95% of entrepreneurs financially bootstrap in US.

“These findings suggest that a purely economic perspective focusing on financial resources does not fully explain entrepreneurship.”

Mental model can be taught.