Discussion of Institutions

Andrei Shleifer

September 4, 2012

Daron's Objective

- To examine "fundamental causes" of growth
  1. Geography
  2. Institutions
  3. Culture
  4. Luck

- Human Capital not a candidate despite massive evidence that it predicts growth (Barro; Mankiw,Romer,Weil).

- Let us look at the data.

Growth (1960-2010), Institutions and Human Capital

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Latitude	0.0001	0.0003[a]	0.0003[b]	0.0004[a]	0.0001	0.0003[a]	0.0003[a]	0.0003[a]
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Inverse Distance to Coast	0.0795[a]	0.0425	0.0437	0.1109[a]	0.0707[a]	0.0607[a]	0.0921[a]	0.0948[a]
	(0.0121)	(0.0297)	(0.0414)	(0.0234)	(0.0118)	(0.0341)	(0.0303)	(0.0300)
Ln(Oil per capita)	0.0016	0.0004	0.0105	0.0022	0.0026	0.0031	0.0038	0.0043
	(0.0026)	(0.0029)	(0.0074)	(0.0029)	(0.0029)	(0.0033)	(0.0034)	(0.0033)
Ln GDP pc (1960)	-0.0064[a]	-0.0034[a]	-0.0053[a]	-0.0055[a]	-0.0094[a]	-0.0088[a]	-0.0079[a]	-0.0119[a]
	(0.0018)	(0.0019)	(0.0022)	(0.0019)	(0.0024)	(0.0024)	(0.0023)	(0.0021)
Ln Years Schooling (1960)					0.0063[b]	0.0085[a]	0.0067[a]	0.0098[a]
					(0.0027)	(0.0022)	(0.0023)	(0.0023)
Expropriation Risk (1982-1997)	0.0061[a]				0.0049[a]			
	(0.0012)				(0.0012)			
Autocracy Alvarez (1960-1990)		-0.0062[b]				-0.0029		
		(0.0027)				(0.0026)		
Executive Constraints (1960-2010)			0.0028[b]				0.0011	
			(0.0012)				(0.0012)	
Executive Constraints (1960)				0.0016[c]				0.0005
				(0.0008)				(0.0008)
Constant	0.0190[c]	0.0406[a]	0.0369[a]	0.0438[a]	0.0471[a]	0.0724[a]	0.0591[a]	0.0921[a]
	(0.0103)	(0.0151)	(0.0136)	(0.0130)	(0.0165)	(0.0181)	(0.0154)	(0.0140)
Observations	94	105	103	77	88	95	93	71
Adj R^2	45%	13%	19%	25%	49%	30%	33%	45%

Long-term Economic Growth, Executive Constraints, and Initial Human Capital

Panel A: Dependent variables are the growth rates of GDP per capita for each period

	1870-1950	1890-1950	1900-1950
Ln Initial GDP pc	0.0027	0.0050[b]	-0.0019
	(0.0022)	(0.0022)	(0.0038)
Initial Executive Constraints	-0.0001	0.0002	0.0006
	(0.0005)	(0.0004)	(0.0006)
Constant	0.9922[a]	0.9723[a]	1.0240[a]
	(0.0165)	(0.0161)	(0.0300)
Observations	29	27	31
Adj R^2	-2%	20%	-5%

Panel B: Dependent variables are the growth rates of GDP per capita for each period

	1870-1950	1890-1950	1900-1950
Ln Initial GDP pc	-0.0076[a]	-0.0028	-0.0011
	(0.0013)	(0.0025)	(0.0037)
Initial Executive Constraints	-0.0001	-0.0002	0.0002
	(0.0002)	(0.0005)	(0.0006)
Primary School Enrollment 1870	0.0206[a]		
	(0.0030)		
Primary School Enrollment 1890		0.0127[b]	
		(0.0056)	
Primary School Enrollment 1900			0.0067
			(0.0066)
Constant	1.0592[a]	1.0278[a]	1.0150[a]
	(0.0087)	(0.0166)	(0.0260)
Observations	16	23	27
Adj R^2	66%	8%	-4%

Looking within countries

- Another approach: Look within countries
  - Holds national institutions constant with fixed effects
- Acemoglu-Dell (2010) find that Human Capital explains a large share of regional income variation in the Americas
- GLLS (2012) find that Human Capital explains a large share of regional income variation both between and within countries
  - Institutions are not statistically significant

Regional Income pc, Geography, Institutions & Culture

	(1)	(2)	(3)	(4)
Temperature	-0.0156[c]	-0.0128	-0.0069	0.0020
	(0.0082)	(0.0083)	(0.0053)	(0.0081)
Inverse distance to coast	1.0283[a]	0.5236[a]	0.5066	0.5713[c]
	(0.2080)	(0.1380)	(0.3257)	(0.3397)
Ln(Oil production per capita)	0.1650[a]	0.1848[a]	0.1604	0.1041
	(0.0477)	(0.0470)	(0.0970)	(0.2006)
Years of education		0.2763[a]	0.3476[a]	0.3678[a]
		(0.0170)	(0.0215)	(0.0443)
Ln(Population)		0.0122	0.0008	0.0050
		(0.0164)	(0.0215)	(0.0393)
Institutional quality			0.3667	0.4667
			(0.2297)	(0.2850)
Trust in others				0.0439
				(0.1632)
Ln(Nbr ethnic groups)				0.0005
				(0.0490)
Constant	8.1061[a]	6.3594[a]	5.9375[a]	5.4934[a]
	(0.2277)	(0.1857)	(0.4235)	(0.6989)
Observations	1,536	1,499	483	281
Number of countries	107	105	78	45
R^2 Within	8%	42%	62%	62%
R^2 Between	47%	60%	61%	51%
R^2 Overall	34%	61%	53%	45%
Within R^2 excluding institutions and culture	8%	42%	61%	61%
Within R^2 excluding education	8%	10%	6%	16%
Between R^2 excluding institutions and culture	47%	60%	60%	50%
Between R^2 excluding education	48%	42%	46%	63%
Country Fixed Effects	Yes	Yes	Yes	Yes

Where does this leave us ?

- At least in standard data, political institutions do not consistently predict growth or income per capita
- Certainly effects are weaker than those of human capital
- This raises a question: What does “fundamental” mean? Probably unchanging or permanent.
- What does the data say (see GLLS 2004)?

Average within-country standard deviation of institutions and human capital

Panel A: Sample period 1950-2010

Polity IV			Barro-Lee
Executive Constraints	Democracy	Autocracy	Years of Schooling
0.2210	0.2141	0.2141	0.1232

Panel B: Sample period 1985-2010

Political Risk Services (PRS)			Barro-Lee
Bureaucratic quality	Corruption	Law and Order	Years of Schooling
0.1212	0.1227	0.1326	0.0705

Persistence of Political Institutions and Human Capital

	Years of Schooling 2010	Executive Constraints 2010	Autocracy 2010	Democracy 2010
Years of Schooling 1960	0.9208[a]			
	(0.0742)			
Executive Constraints 1960		0.2098[c]		
		(0.1091)		
Autocracy 1960			0.2027[b]	
			(0.0940)	
Democracy 1960				0.2641[b]
				(0.1122)
Constant	4.9643[a]	4.3077[a]	0.5842	5.0762[a]
	(0.3198)	(0.4487)	(0.4304)	(0.5483)
Observations	71	71	71	71
Adjusted R^2	65%	4%	6%	5%

What next ?

- A troublesome situation emerges
  - Institutions have little predictive power for growth (and less with objective measures of institutions such as laws, regulations, democracy)
  - Institutions are highly volatile

- Hall and Jones (1999) come to the rescue:
  - Look at income levels not growth rates
  - But then we need instruments for institutions
  - Hall and Jones use language, geography.

Colonial History

- Another idea: colonial history

- In mid 1990's two approaches to using colonial history as predictor of institutions
  - Engerman-Sokoloff

    Colonial history → patterns of agriculture → institutions
  - La Porta et al:

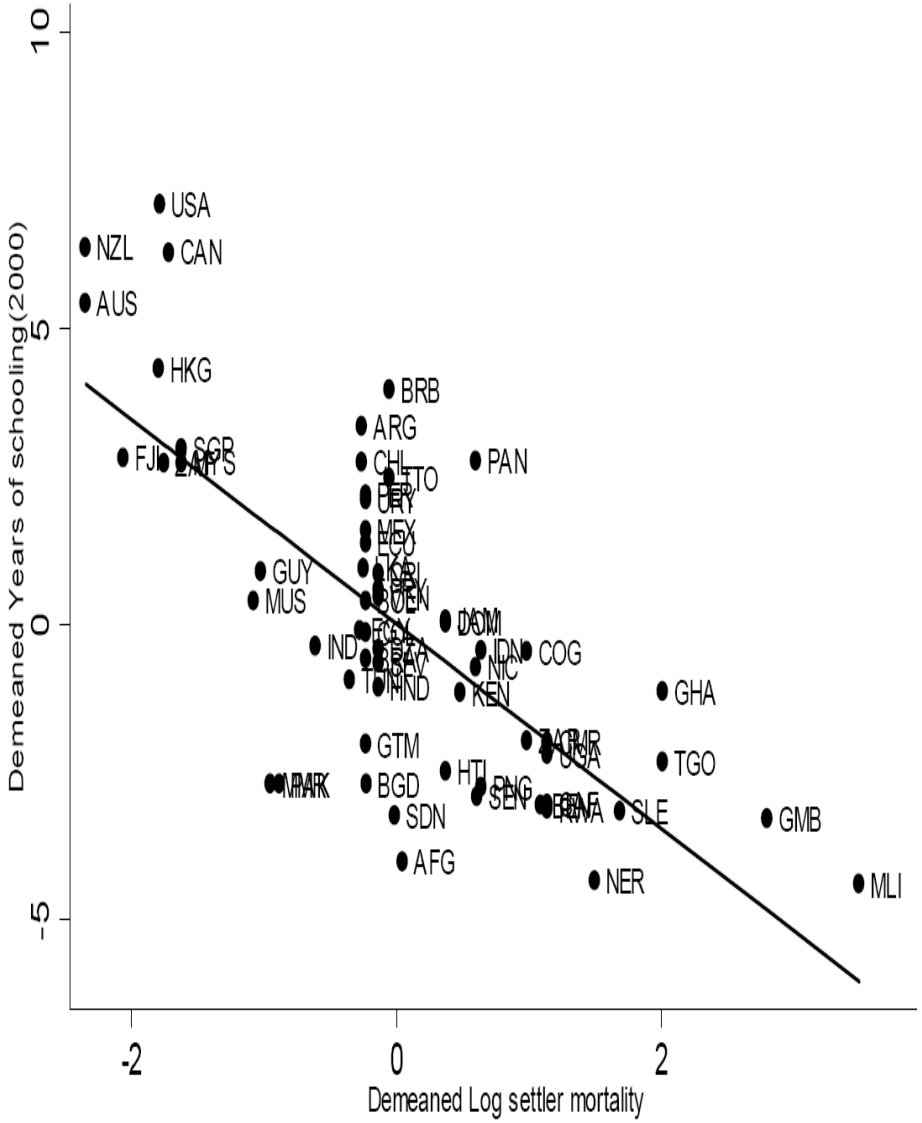
    Colonial history → laws colonizers brought with them

- AJR took the idea of colonial history to a new level, arguing that settlement patterns shape institutions.
  - What matters is not who colonized, but how

Is this convincing ?

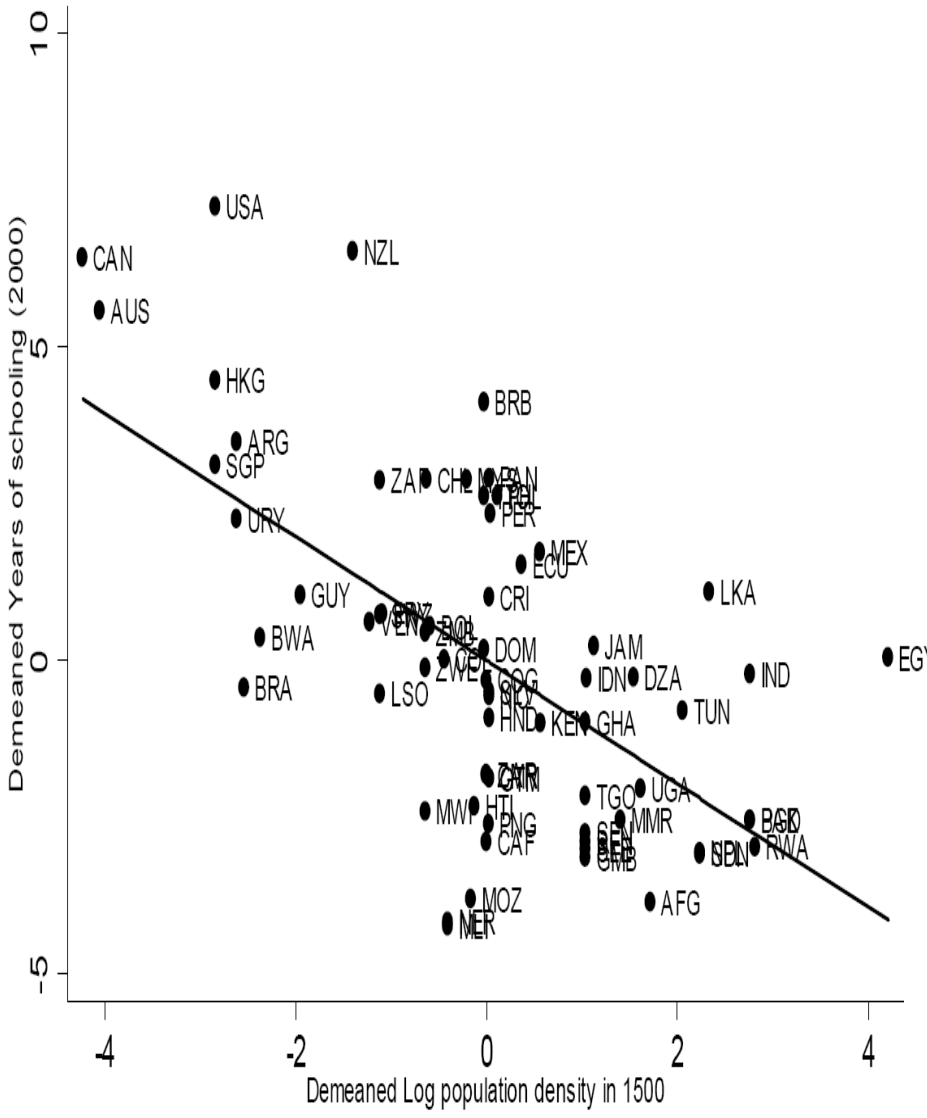
- Some issues with data (Albouy 2012)
- Even aside from those, the data show that history matters, not that institutions matter.
- Identification problems:
  - Did colonizers, when they settled, bring with them institutions or themselves and their human capital?
- GLLS (2004):
  - I.V. works just as well with Human Capital;
  - Colonial history regressions are not identified because exclusion restrictions fail

Log settler mortality and Years of schooling (2000)



coef = -1.727679, (robust) se = .20195631, t = -8.55

Log population density in 1500 and Years of schooling (2000)



coef = -.98564063, (robust) se = .1677801, t = -5.87

What are the lessons of the evidence ?

1. **That institutions do not matter ?**

→ **No:** lots of evidence they do

- Political institutions matter for political cycles, public debt, etc.. (Alesina, Besley, Persson, Tabellini)
- Laws and legal traditions affect outcomes (finance, labor, entry)
- Many successful and beneficial institutional reforms (Doing Business).

What are the lessons of the evidence ?

2. **That institutions do not matter for growth ?**

→ **No:** Capitalism is a set of institutions, and it matters

- South Korea: the picture in fact shows the effects of capitalism on growth, <u>despite</u> a common history
- China since 1979
- Transition economies since 1990

→ **But**: much harder to establish that specific rules or constraints matter for growth.

What are the lessons of the evidence ?

3. **That institutions change fairly rapidly ?**

→ **Yes**

- Democracies, political institutions, constitutions, are **volatile**
- Evidence that institutions are an unchanging or fundamental cause growth is fragile at best
- If there is such a thing as "fundamental cause" of growth, the best candidate is Human Capital.

4. **Parenthetically, that opinion-based data on institutions are pretty much worthless**

Institutional Change

- So, Daron and I agree: it is essential to understand institutional change and its determinants
  - Daron focuses on internal political mechanisms

    Economics → politics → persistence of equilibria
- Surely, an important part of the story

Determinants of Institutional Change

- But there are other key factors:

1. Shocks, such as wars, internal upheavals, revolutions, changes in commodity prices
   - These are often exogenous
     - Japan in 1945
     - South Korea in 1954
     - Eastern Europe in 1990
     - Russia in 1990 (Gaidar's story of oil)

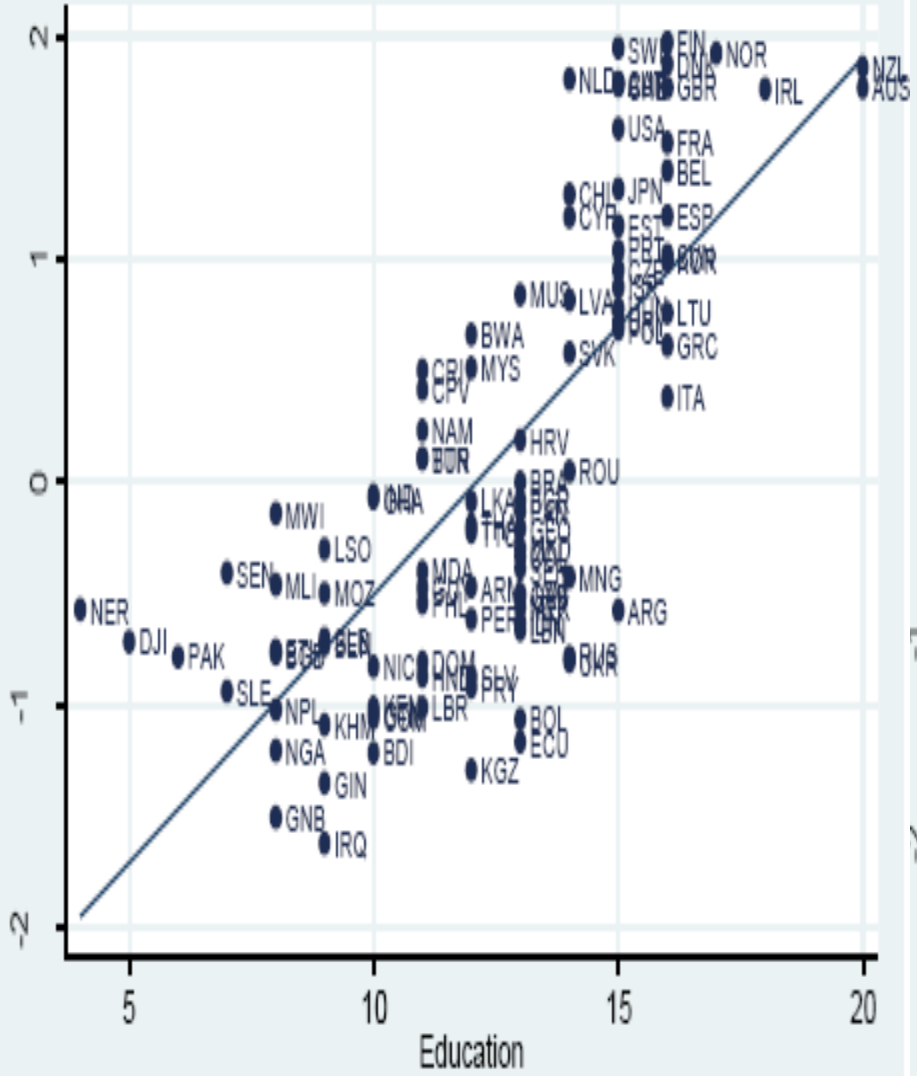
Determinants of Institutional Change

2. Modernization

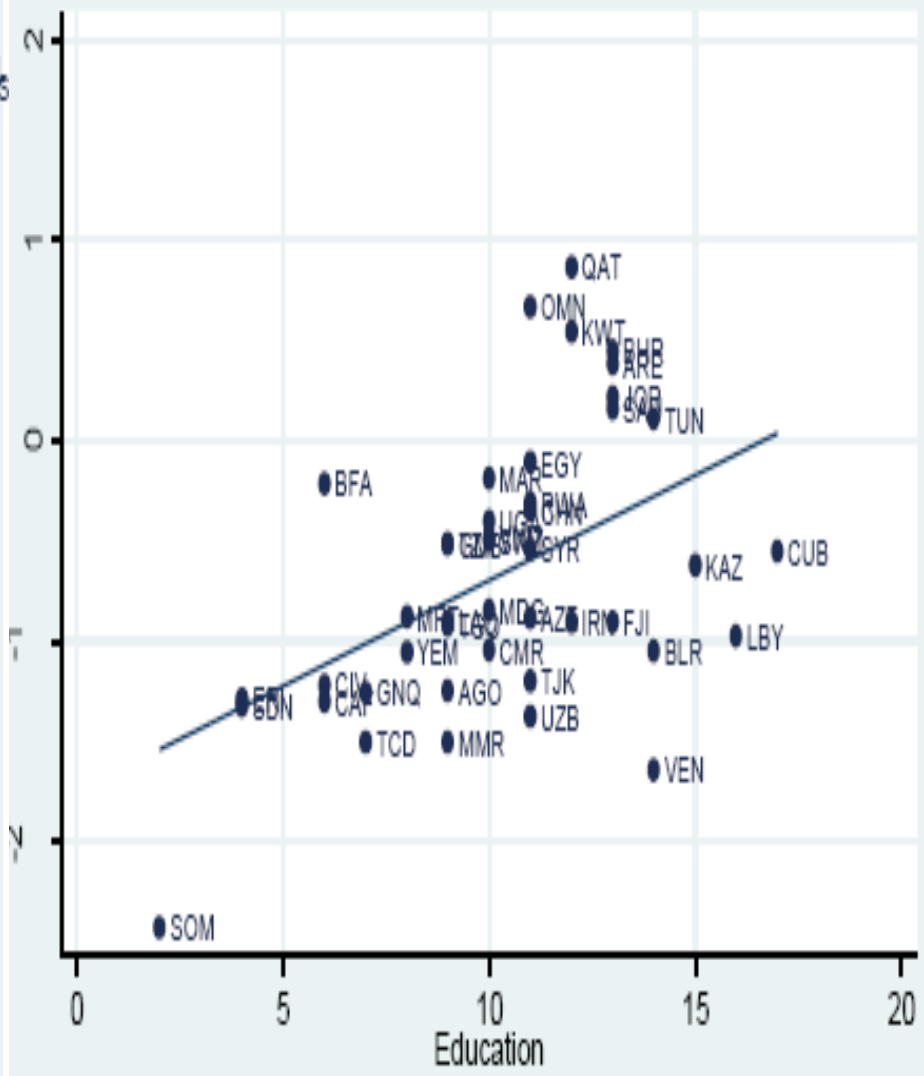
- Institutions are much better in richer countries, both democracies and dictatorships

- Institutions improve in more educated countries

Education and Institutions in Democracies and Dictatorships

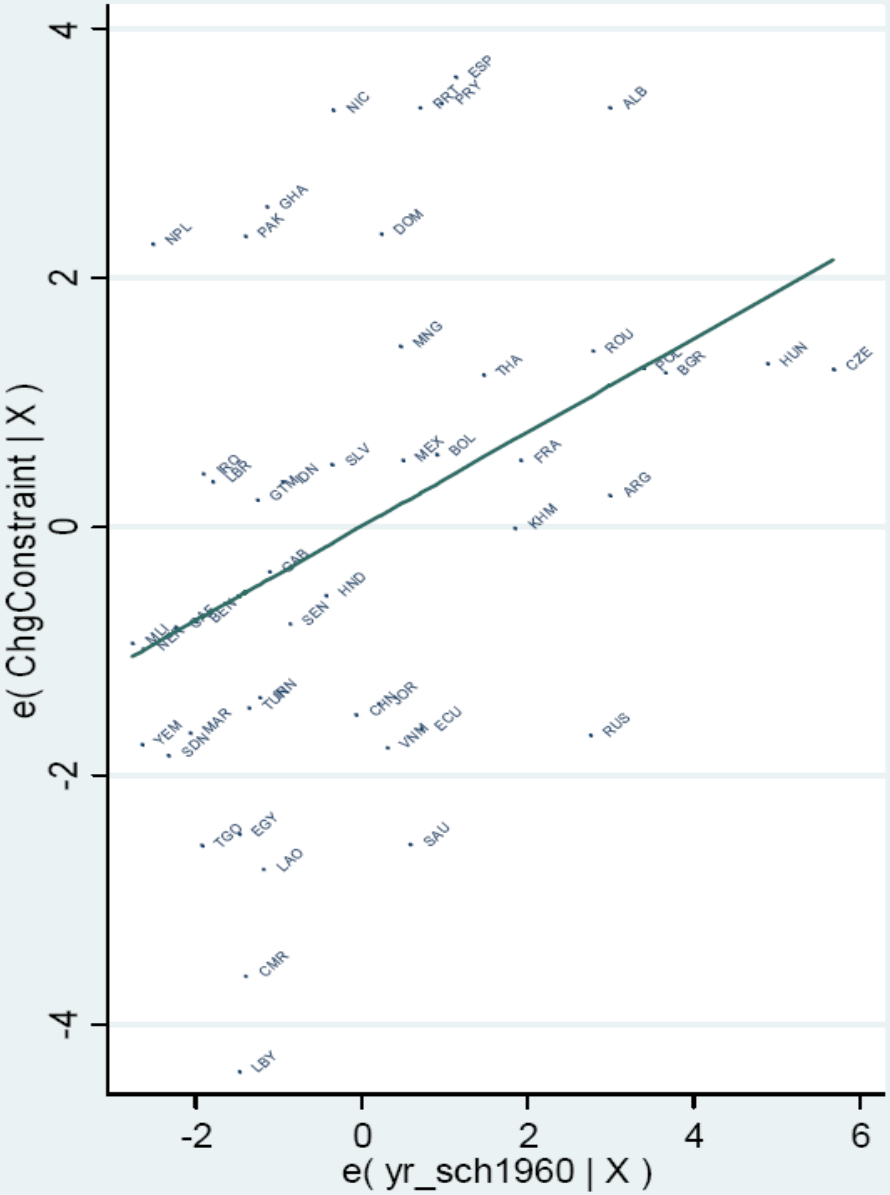


N = 111; coef = 0.241, (robust) se = 0.022; P>|t| = 0.000; Adj. R2 = 0.544
Education is measured as school life expectancy (years) from primary to tertiary (2009)
Source: WB and UNESCO



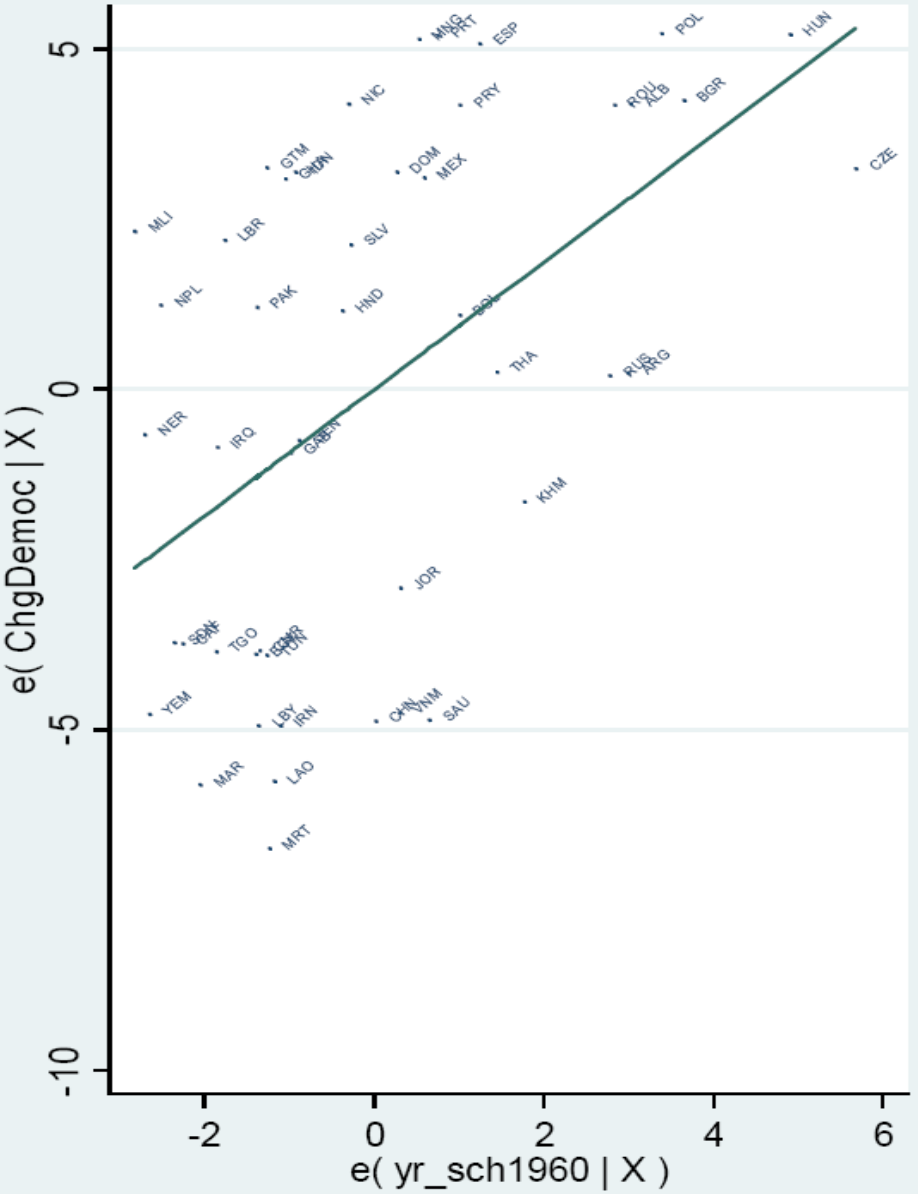
N = 47; coef = 0.105, (robust) se = 0.032; P>|t| = 0.002; Adj. R2 = 0.217
Education is measured as school life expectancy (years) from primary to tertiary (2009)
Source: WB and UNESCO

Change in Executive Constraints between 1960-2010



coef = .37834017, (robust) se = .09750916, t = 3.88

Change in Democracy between 1960-2010



coef = .93257164, (robust) se = .17935055, t = 5.2

Mechanisms of Modernization

- What are the mechanisms of modernization?
  - Political (Lipset 1959, Hirschman 1970, Barro 1999)
  - Economic: institutional quality is driven by human capital, especially management
    - Evans-Rauch (1999) on Weberian bureaucracies
    - Bloom-van Reenen (2007, 2012) on management

Post Office Efficiency

- One strategy is to look at the post office.
- According to Edward Prescott, this is a more important function of government than monetary policy

- CLLS (2012)
  - Sent 10 letters to each of 159 countries with an incorrect address.
  - Monitored whether they came back, and how fast to Hanover, NH.
  - 59% came back on average; more from richer countries
  - Technology, resources predict return of letters, but also public and private sector management quality

Public and private management quality and post office efficiency

	Got the letter back				
Ln permanent offices percapita	0.0614a [0.018]	0.0855a [0.022]	0.0918a [0.017]	0.0774a [0.018]	0.0905a [0.016]
Postcodes databases	0.1738b [0.079]	0.1783b [0.080]	0.1548b [0.062]	0.1396c [0.075]	0.0965 [0.060]
Alphabet used is latin-based	0.0616 [0.052]	0.1753a [0.061]	0.1357a [0.050]	0.1477a [0.051]	0.1196b [0.047]
Public management performance	0.0521a [0.015]				
Weberian public administration		0.0746c [0.045]			
Will to delegate authority			0.0643b [0.026]		
Innovation capacity				0.0705a [0.025]	
Quality of management schools					0.1150a [0.024]
Constant	-0.1054 [0.078]	-0.2336 [0.195]	-0.1588 [0.107]	-0.0828 [0.095]	-0.3549a [0.112]
Observations	116	101	136	133	136
Adj. R-squared	0.36	0.39	0.37	0.37	0.42

Bottom lines

- Daron has been pushing forward a critical research agenda
- I am skeptical of over-emphasis on historical determinants of institutions.
  - Change is extremely rapid, especially today
- Human Capital is not the only determinant of development and institutions, but it goes a long way in explaining the data.
  - Perhaps it is not a coincidence that the enormous institutional improvement we have seen in the last 40 years has coincided with rapid improvement in education
- Understanding at both macro and micro levels exactly how institutions improve is an open – but totally manageable – problem.