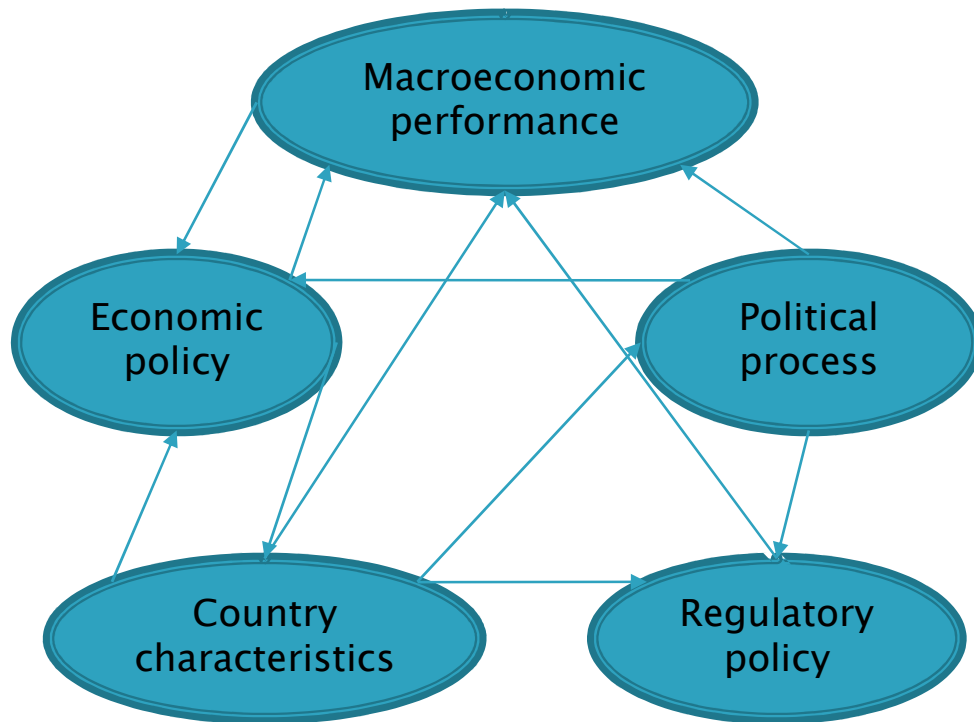# Do regulatory reforms matter?
A methods perspective

Benn P. Eifert
University of California, Berkeley
December 4, 2008

# It is hard to assess the macroeconomic impacts of national regulations…

- Strong correlations among many measures of policies, institutions, endowments, macroeconomic performance

- causality very difficult to pin down due to omitted variables bias, endogeneity

- Levine & Renelt (1992) sensitivity analysis

- Sala-I-Martin (2005)

Now we have up to five years of Doing Business data…

Entry regulations (2003–07)
- Days/procedures to start a business
- Cost to start a business

Contract enforcement (2003–07)
- Days/procedures to enforce a contract
- Cost to enforce a contract

Property registration (2004–07)
- Days/procedures to register commercial property
- Cost to register commercial property

Exit regulations (2003–07)
- Days to close a business
- Cost to close a business

Import/export procedures (2005–07)
- Days to import/export a container
- Cost to import/export a container

Labor regulations (2003–07)
- Hiring/firing regulations
- Hours regulations

We can study macroeconomic responses to reforms…

▸ **Use variation in regulations within countries over time**
  ◦ avoids worst kinds of spurious correlation
  ◦ limited statistical power: most variation in regulations is cross-country

▸ **Two dependent variables**
  ◦ investment rate (~ factor demand)
  ◦ growth rate conditional on investment rate (~ factor productivity)
  ◦ not enough data to look at employment or business entry in a meaningful way

▸ **Dynamic panel data estimators (Arellano–Bond)**
  ◦ takes into account macroeconomic dynamics / business cycles

Growth rate

time
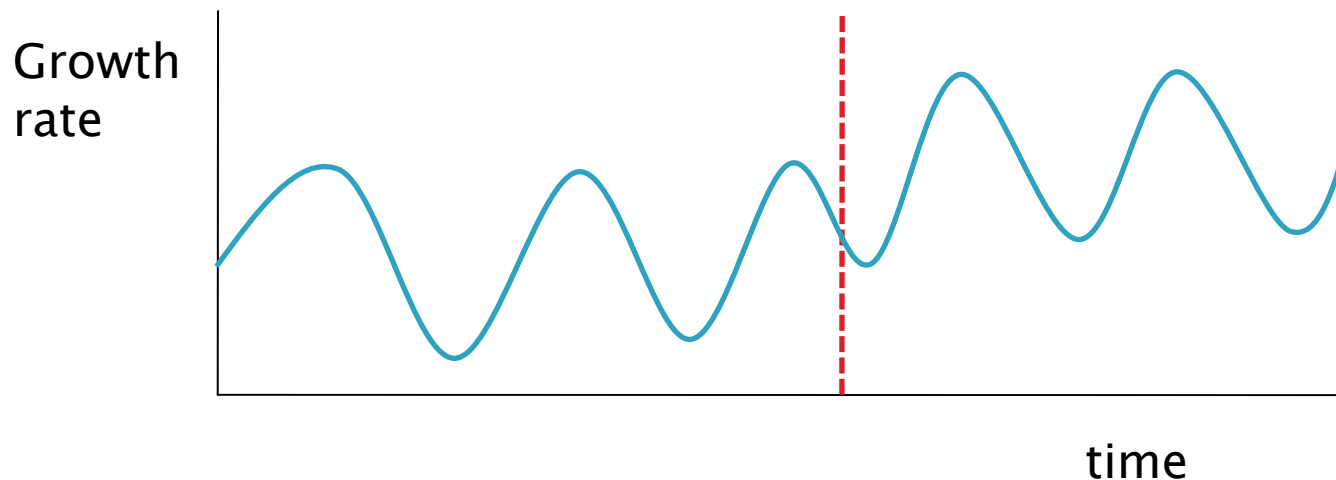
Preview of key findings

1. ## Little visible effect in full sample
   - inconsistent results for individual regulatory indicators
   - indicators for 'at least one reform' borderline significant

2. ## Some evidence of positive impacts in countries that are relatively well-governed considering their income level
   - Business registration, contract enforcement
   - Indicators for at least one reform
   - Not labor regulations (expected direction, not significant)

3. ## Not enough data for more interesting tests
   - finer disaggregation by income and governance
   - lags, nonlinearities
   - more recent indicators, e.g. import/export procedures

Reforms over 2003-07

Indicator	Initial median	# reformers	# reversals
Days to register a business*	40	67	10
Procedures to register a business	10	44	8
Days to enforce a contract*	565	23	0
Cost of enforcing a contract (% of value)	24.7	8	3
Days to register commercial property	47.5	25	6
Procedures to register commercial property	6	10	4
Employment laws rigidity index*	34	21	34
Hiring index	33	16	30
Firing index	30	3	4
Hours index	40	4	3
Cost to export a container ($)	930	17	21
Cost to import a container ($)	1003	15	22
Days to export a container	20.5	38	5
Days to import a container	25	38	2
Years to close a business	2.8	8	1
Cost to close a business (% of value)	15	5	4

Little consistent evidence of reform impacts in whole sample

	Investment (% of GDP)		GDP growth rate (%)	
	1	2	4	5
D. Days to start a business	-0.012 (0.008)	-0.004 (0.014)	0 (0.010)	0.012 (0.012)
D. Days to enforce a contract	-0.001 (0.003)	0.001 (0.002)	-0.004 (0.004)	-0.008 (0.004)*
D. Labor laws rigidity index	-0.021 (0.023)	0.017 (0.036)	-0.038 (0.040)	-0.005 (0.018)
D. Days to register property		0.003 (0.022)		0 (0.030)
D. Days to export a container		-0.031 (0.032)		0.005 (0.019)
D. Cost to export a container		0.473 (0.649)		0.236 (0.498)
Controls	Y	Y	Y	Y
Years	5	3	5	3
Observations	320	139	320	139
Countries	94	81	94	81

Legend:
- ☐ Wrong direction, insignificant
- ☐ Right direction, insignificant
- ☐ Right direction, significant

Suggestive evidence in countries which are relatively well-governed for their income

	Investment rates				GDP growth rates (conditional on investment)			
	Poorer	*Richer*	*Worse policies*	*Better policies*	*Poorer*	*Richer*	*Worse policies*	*Better policies*
D. Days to start a business	-0.030 (0.016)*	0.002 -0.01	-0.005 -0.008	-0.027 (0.013)**	-0.036 (0.013)**	0.012 (0.011)	0.001 (0.009)	-0.012 (0.016)
D. Days to enforce a contract	0.001 -0.01	-0.001 -0.003	-0.002 -0.004	-0.002 -0.006	-0.013 (0.007)*	0 (0.003)	0.003 (0.003)	-0.015 (0.006)*
D. Labor laws rigidity index	-0.03 -0.027	-0.016 -0.061	-0.030 -0.033	-0.007 -0.033	0.042 (0.028)	-0.006 (0.057)	0.002 (0.027)	0.041 (0.035)
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Observations	136	184	175	145	155	165	163	157
Countries	39	59	55	55	39	59	55	55

Some magnitudes

In countries which are relatively well-governed conditional on their income level…

▸ a median-sized reform which reduces registration delays by 10 days is associated with increases in investment rates of 0.26–0.30 percentage points

▸ same reform associated with a 0.36 percent boost to growth rates conditional on investment rates

▸ Median-sized judicial reform reduces contract enforcement delays by 38 days, associated with a 0.3–0.4 percent boost to GDP growth rates conditional on investment

Faster growth on average in the wake of reform

Countries	Category	#(inv)	#(gr)	Investment rate, chg (%)	Growth rate, chg (%)
	No reforms	214	241	0.03 [0.17]	-0.06 [0.12]
All	One or more reform	114	131	-0.02 [0.21]	0.17 [0.15]
	Difference	*328*	*372*	*-0.06 [0.13]*	*+0.23 [0.17]*
	No reforms	103	104	-0.15 [0.28]	-0.39 [0.18]
Relatively poor	One or more reform	54	54	0.06 [0.32]	0.47 [0.27]
	Difference	*157*	*158*	*+0.20 [0.46]*	*+0.62 [0.32]**
	No reforms	112	112	-0.18 [0.25]	-0.46 [0.18]
Relatively good policies	One or more reform	51	51	-0.08 [0.32]	0.11 [0.25]
	Difference	*163*	*163*	*+0.10 [0.43]*	*+0.57 [0.31]*

Issues in defining optimal regulation…

1. Nonlinearity in effect of "quantity" of regulation on economic performance
   - probably true in some sense
   - very hard to get at with existing data

2. Tradeoffs between economic performance and other social objectives
   - micro approaches needed here

3. Quality of regulations
   - effective regulations may not require long delays and high costs

Characteristics of high-quality regulations

1. Has a clear, specific rationale in terms of addressing market failures or social objectives

2. Is designed with likely behavioral responses of regulators and regulated in mind

3. Has procedures which are streamlined to eliminate wasted time and resources

→ can Doing Business, or other data gathering instruments, try to measure the quality of regulations?

Key conclusions

1. The data is still relatively sparse so the macro-economic evidence base is not very strong

2. Some suggestive evidence of modest-sized economic impacts of regulatory reforms

→ Suggests enthusiasm for a "smart" reform agenda but caution about promising too much

An agenda for future research

▸ Continue to expand the macroeconomic evidence base as more years of data come in

▸ Push in the direction of microeconomic research with firm-level data

▸ Think about how to design a parallel project to measure the quality of regulations?