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WORKSHOP

Growth and Inclusion: Theoretical and Applied Perspectives

Section IV

Rethinking Growth and the State

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Rethinking Growth and the State

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Introduction

- Government intervention is often perceived as a constraint on market forces and thereby on economic growth.
- In particular, over the past three decades, increased awareness of the growth-enhancing effects of product and labor market liberalization
- This has led number of scholars and policy makers to also recommend a reduction in the role and size of governments.

Introduction

- Here we will argue that it is not so much a reduced state that we need to foster economic growth, but of a "suitable" state.

Introduction

- We will point to three main growth-enhancing functions of governments:
  - As a regulator
  - As an investor
  - As a guarantor of the social contract

Outline

- Schumpeterian growth paradigm
- The State as an investor
- The State as a regulator
- The State as a guarantor of the social contract
- Conclusion

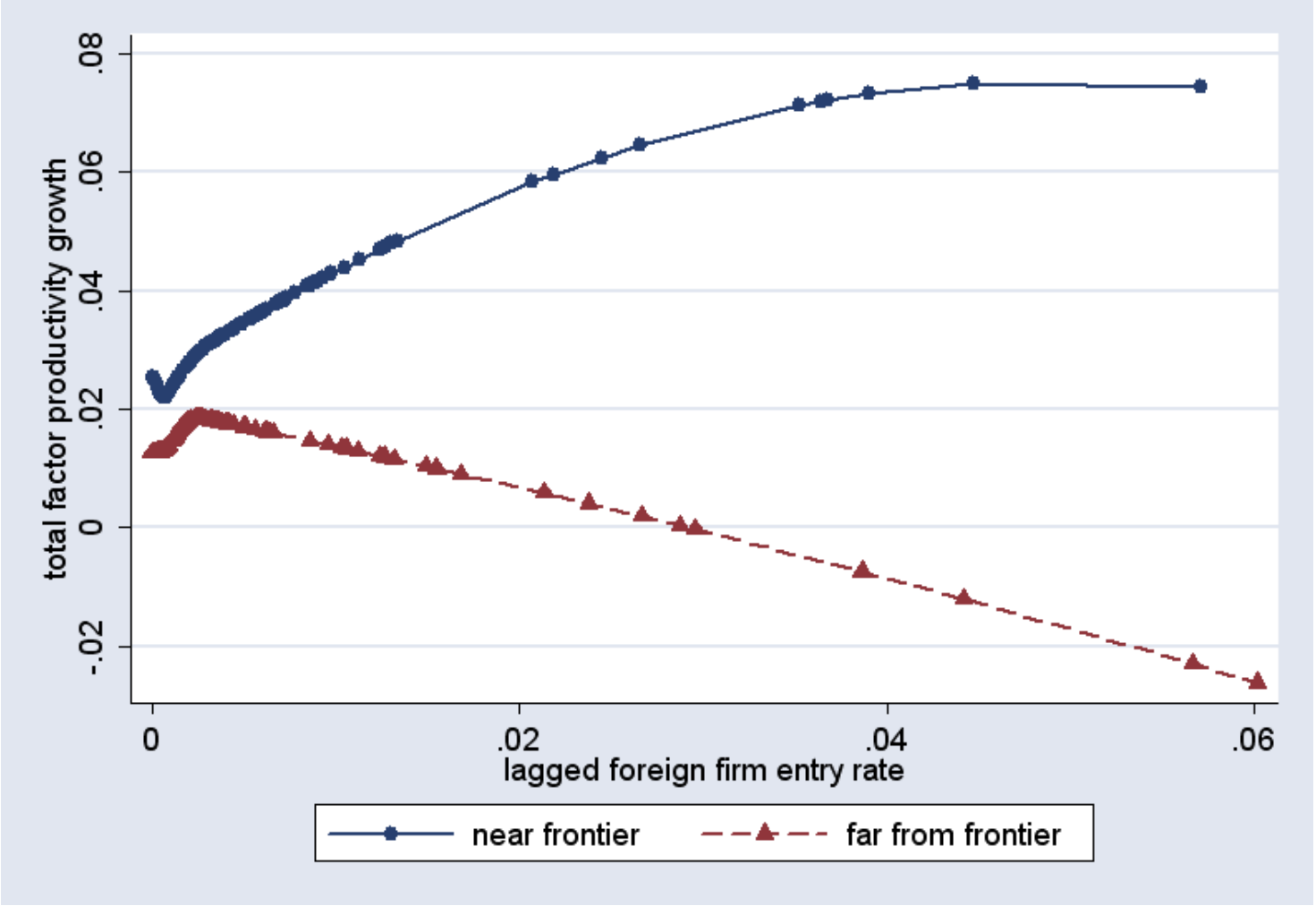
The Schumpeterian Growth Paradigm in a Nutshell

Schumpeterian Paradigm

- Innovation is driven by entrepreneurial investments (R&D…) which are themselves motivated by the prospect of monopoly rents
- The costs and benefits of entrepreneurial investments are shaped by policies and institutions
  - E.g property right protection and rule of law encourage entrepreneurship

Example: Competition & Growth

- Competition/entry tend to be growth-enhancing, and the more so in countries or sectors that are more technologically advanced


total factor productivity growth
-.02
0
.02
.04
.06
.08
0
.02
.04
.06
lagged foreign firm entry rate
near frontier
far from frontier

The State as Investor

Education

- Education is growth-enhancing, and higher education is more growth-enhancing in regions or countries that are more technologically advanced

PISA and growth

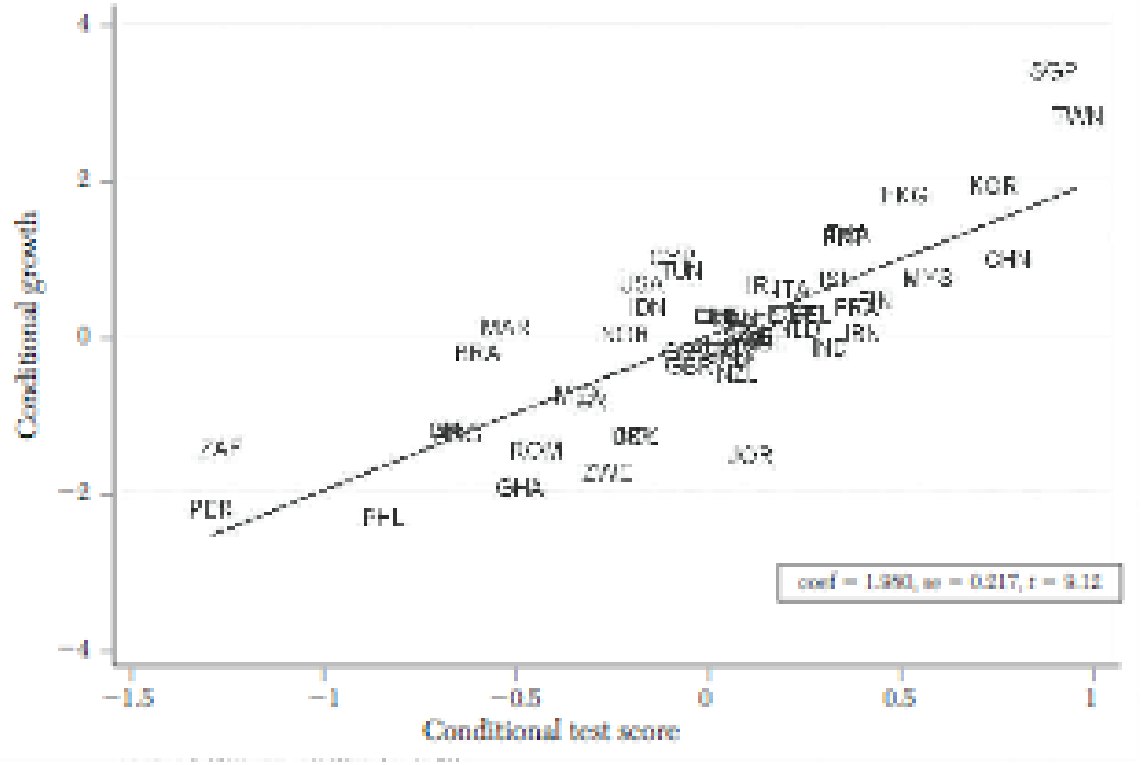


Figure 7. Added-Variable Plot of Growth and Test Scores

Notes: Added-variable plot of a regression of the average annual rate of growth (in percent) of real GDP per capita in 1960–2000 on the initial level of real GDP per capita in 1960, average test scores on international student achievement tests, and average years of schooling in 1960. Author calculations; see table 2, column 2.

Health and growth

Growth	All nations	Developing countries
Variations inlife expectancy (in logs)	3.65***	3.25***
Initial life expectancy	3.03***	3.10**
N	47	36
R^2	0.56	0.61

Rethinking industrial policy

Industrial Policy

- Classical infant industry argument
  - Some new activities involve high costs at the beginning, but learning by doing reduces these costs over time
  - There are knowledge externalities between these activities and the rest of the economy
  - Then there may be positive dynamic externalities from temporarily protecting and/or subsidizing the new activities

Industrial Policy

- Industrial policy has acquired a bad name
  - It allows governments to pick winners
  - It thus increases the scope for capture of governments by vested interests
  - It thus bias competition…but we know how important competition and free trade are for growth and innovation (my argument with Dani!)

Industrial Policy

Several reasons for a rethink

- New post-crisis realism: laissez-faire complacency by several governments has led to inefficient growth of non-tradable sectors at the expense of tradables
- Climate change: path dependence in the direction of innovation leads firms that have innovated dirty in the past will keep on innovating dirty in the future, hence role for government to redirect technical change
- China: a big deployer of sectoral aid, whose success induces other countries to try and emulate its economic policies

Industrial Policy

- The question is not so much whether or not we should forbid or preclude industrial policy, but rather how industrial policy should be designed and governed.
- Some new ideas
  - Selection of sectors: skill-biased (Nunn-Trefler (2010)); competitive sectors (this paper);
  - Governance: do not focus aid on one firm in a sector, minimize concentration of aid (this paper).

Industrial Policy

- Current work with Mathias Dewatripont, Luosha Du, Ann Harrison, and Patrick Legros
- Panel data of Chinese firms, 1988-2007
- Industrial firms from NBS: annual survey of all firms with more than 5 million RMB sales
- Regress TFP on:
  - Subsidies received by firm as a share of sales
  - COMP=1 - LERNER INDEX
  - Sector-level controls, firm and time fixed effects

Industrial Policy

- Findings are that:
  - The higher competition, the more positive (or less negative) the effect of subsidies on average TFP
  - The overall effect of subsidies on TFP is positive if competition is sufficiently high and/or subsidies are not too concentrated among firms in the sector

TFP Estimation

$$\ln TFP_{ijt} = \alpha + \beta_1 Z_{ijt} + \beta_2 S_{jt} + \beta_3 SUBSIDY_{ijt} + \beta_4 COMP_{jt}$$
$$+ \beta_5 SUBSIDY * COMP_{jt} + \alpha_i + \alpha_t + \varepsilon_{ijt}$$

Z=Vector of firm-level controls, including state and foreign ownership

S=Vector of sector-level controls, including input and output tariffs, sectoral foreign shares.

All specifications allow for firm fixed effects and time effects.

Three Approaches: OLS, OLS with fixed effects, Olley-Pakes approach to measuring TFP in first stage

Critical question: do benefits of subsidies increase with competition? If so, coefficient B5 > 0

Interacting with Herfindahl

Table 2

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent: lnTFP (based on Olley and Pakes regression)					
	The second quartile: more dispersion in subsidies					
Ratio_subsidy	-0.197*	-0.193**	-16.25***	-12.00***	-16.49***	-11.96***
	(0.0962)	(0.0937)	(4.884)	(4.037)	(4.813)	(4.031)
Competition_lerner		1.818		1.763		2.001
		(1.286)		(1.285)		(1.308)
Interaction_lerner			16.63***	12.24***	16.88***	12.19***
			(5.096)	(4.186)	(5.023)	(4.178)
	The fourth quartile: least dispersion in subsidies (most concentrated)					
ratio_subsidy	-0.227***	-0.228***	-9.352**	-6.169**	-9.148**	-6.338**
	(0.0625)	(0.0627)	(3.615)	(2.854)	(3.710)	(2.860)
competition_lerner		1.179		1.153		1.029
		(0.981)		(0.982)		(1.042)
interaction_lerner			9.320**	6.069**	9.107**	6.238**
			(3.628)	(2.883)	(3.727)	(2.888)
Horizontal	Yes	Yes	Yes	Yes	Yes	Yes
Forward & Backward	No	No	No	No	Yes	Yes
Tariffs	Yes	Yes	Yes	Yes	Yes	Yes

Innovation in Products

- Here, we use the new product ratio as the dependent variable. New product ratio is defined as the share of output value generated by new products to the total output value.

Table 6

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent: Ratio_newproduct					
	The second quartile					
Ratio_subsidy	0.00397	0.00364	-1.503*	-1.689**	-1.508*	-1.679**
	(0.0390)	(0.0388)	(0.821)	(0.755)	(0.816)	(0.755)
Competition_lerner		-0.0724		-0.0798		-0.0777
		(0.0789)		(0.0780)		(0.0720)
Interaction_lerner			1.562*	1.755**	1.568*	1.744**
			(0.841)	(0.780)	(0.837)	(0.780)
	The fourth quartile					
ratio_subsidy	0.00185	0.000920	-1.324	-1.029	-1.332	-1.022
	(0.0351)	(0.0352)	(1.475)	(1.442)	(1.468)	(1.432)
competition_lerner		0.117*		0.114*		0.122*
		(0.0662)		(0.0657)		(0.0622)
interaction_lerner			1.359	1.057	1.368	1.049
			(1.503)	(1.470)	(1.495)	(1.460)
Horizontal	Yes	Yes	Yes	Yes	Yes	Yes
Forward & Backward	No	No	No	No	Yes	Yes
Tariffs	Yes	Yes	Yes	Yes	Yes	Yes

The State as Regulator

Two Contrasted Views of How to React to the Crisis

- Keynesian view (non-discriminatory increase in public spending)
- Conservative view (tax and spending cuts)

However

- Keynesian multiplier might be small
- Laissez-faire policy over the cycle may harm credit-constrained firms

Keynesian Multiplier Might Be Small

- Perotti (2005): government spending multipliers larger than 1 can only be seen in the US pre-1980 period
- Cogan, Cwik, Taylor and Wieland (2009) find that permanent increase by 1% of GDP of government expenditures, increases GDP by only .44% (whereas Romer and Bernstein (2009) find a 1.57% increase).

Laissez-Faire Policy May Be Harmful

- Macroeconomic volatility has ambiguous effects on innovation
  - On the one hand, there are the “virtues of bad times” (Hall, ..)
  - On the other hand, volatility is detrimental to innovation, particularly in firms that are more credit constrained (Aghion, Angeletos, Banerjee and Manova, 2010)

Laissez-Faire Policy May Be Harmful

- The underlying intuition is that growth-enhancing investments (in skills, R&D, structural capital,..) need to maintained over the long run.
- However, maintaining such investments over the business cycle may be hard, particularly for firms that face credit constraints that prevent them from investing more than a fixed multiple of their current cash flows.

A Third Way

- Previous discussion suggests a third way between keynesian and conservative approaches
  - namely, countercyclical fiscal and monetary policy to partly circumvent credit market imperfections and thereby help firms maintain their growth-enhancing investments over the cycle.

A Third Way

- Aghion, Hemous and Kharroubi (2010) show that more countercyclical fiscal policies, i.e policies that increase public deficits in recessions and reduce them in booms, are more growth-enhancing in countries or sectors that are more credit constrained.

A Third Way

- While this provides some justification for stimulus packages during recessions, this justification is quite distinct from the argument based on the Keynesian multiplier
  - here we emphasize long-run growth effects working primarily through the supply side of the economy whereas the adepts of the multiplier emphasize short-run demand effects.

Fiscal Policy Over the Cycle

- 17 OECD countries, 45 manufacturing industries
- Period 1980-2005
- Countercyclical fiscal policy enhances growth more in sectors that are more dependent on external finance or in sectors with lower asset tangibility

Dependent variable: Real Value Added Growth								
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
Log of Initial Share in Manufacturing Value Added	-0.797**	-0.808**	-0.809***	-0.811***	-0.528	-0.530	-0.508	-0.510
	(0.280)	(0.278)	(0.246)	(0.247)	(0.350)	(0.350)	(0.351)	(0.352)
Interaction (Financial Dependence and Total Fiscal Balance to GDP Counter-Cyclicality)	6.687***							
	(1.510)							
Interaction (Financial Dependence and Total Fiscal Balance to potential GDP Counter-Cyclicality)		6.701***						
		(1.419)						
Interaction (Financial Dependence and Primary Fiscal Balance to GDP Counter-Cyclicality)			4.661***					
			(0.878)					
Interaction (Financial Dependence and Primary Fiscal Balance to potential GDP Counter-Cyclicality)				4.680***				
				(0.860)				
Interaction (Asset Tangibility and Total Fiscal Balance to GDP Counter-Cyclicality)					-13.30***			
					(4.406)			
Interaction (Asset Tangibility and Total Fiscal Balance to potential GDP Counter-Cyclicality)						-13.24***		
						(4.251)		
Interaction (Asset Tangibility and Primary Fiscal Balance to GDP Counter-Cyclicality)							-8.942***	
							(2.895)	
Interaction (Asset Tangibility and Primary Fiscal Balance to potential GDP Counter-Cyclicality)								-9.039***
								(2.830)
Observations	528	528	528	528	528	528	528	528
R-squared	0.579	0.581	0.579	0.579	0.560	0.561	0.560	0.560

Dependent variable: Labor Productivity Growth								
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
Log of Initial Relative Labor Productivity	-2.549***	-2.541***	-2.539***	-2.537***	-2.512***	-2.510***	-2.505***	-2.502***
	(0.512)	(0.513)	(0.557)	(0.556)	(0.503)	(0.503)	(0.533)	(0.533)
Interaction (Financial Dependence and Total Fiscal Balance to GDP Counter-Cyclicality)	5.005***							
	(0.773)							
Interaction (Financial Dependence and Total Fiscal Balance to potential GDP Counter-Cyclicality)		4.957***						
		(0.718)						
Interaction (Financial Dependence and Primary Fiscal Balance to GDP Counter-Cyclicality)			3.403***					
			(0.498)					
Interaction (Financial Dependence and Primary Fiscal Balance to potential GDP Counter-Cyclicality)				3.408***				
				(0.496)				
Interaction (Asset Tangibility and Total Fiscal Balance to GDP Counter-Cyclicality)					-13.03***			
					(4.011)			
Interaction (Asset Tangibility and Total Fiscal Balance to potential GDP Counter-Cyclicality)						-12.81***		
						(3.971)		
Interaction (Asset Tangibility and Primary Fiscal Balance to GDP Counter-Cyclicality)							-8.118***	
							(2.656)	
Interaction (Financial Dependence and Primary Fiscal Balance to potential GDP Counter-Cyclicality)								-8.220***
								(2.642)
Observations	523	523	523	523	523	523	523	523
R-squared	0.548	0.548	0.546	0.547	0.538	0.538	0.535	0.535

Fiscal Policy Over the Cycle

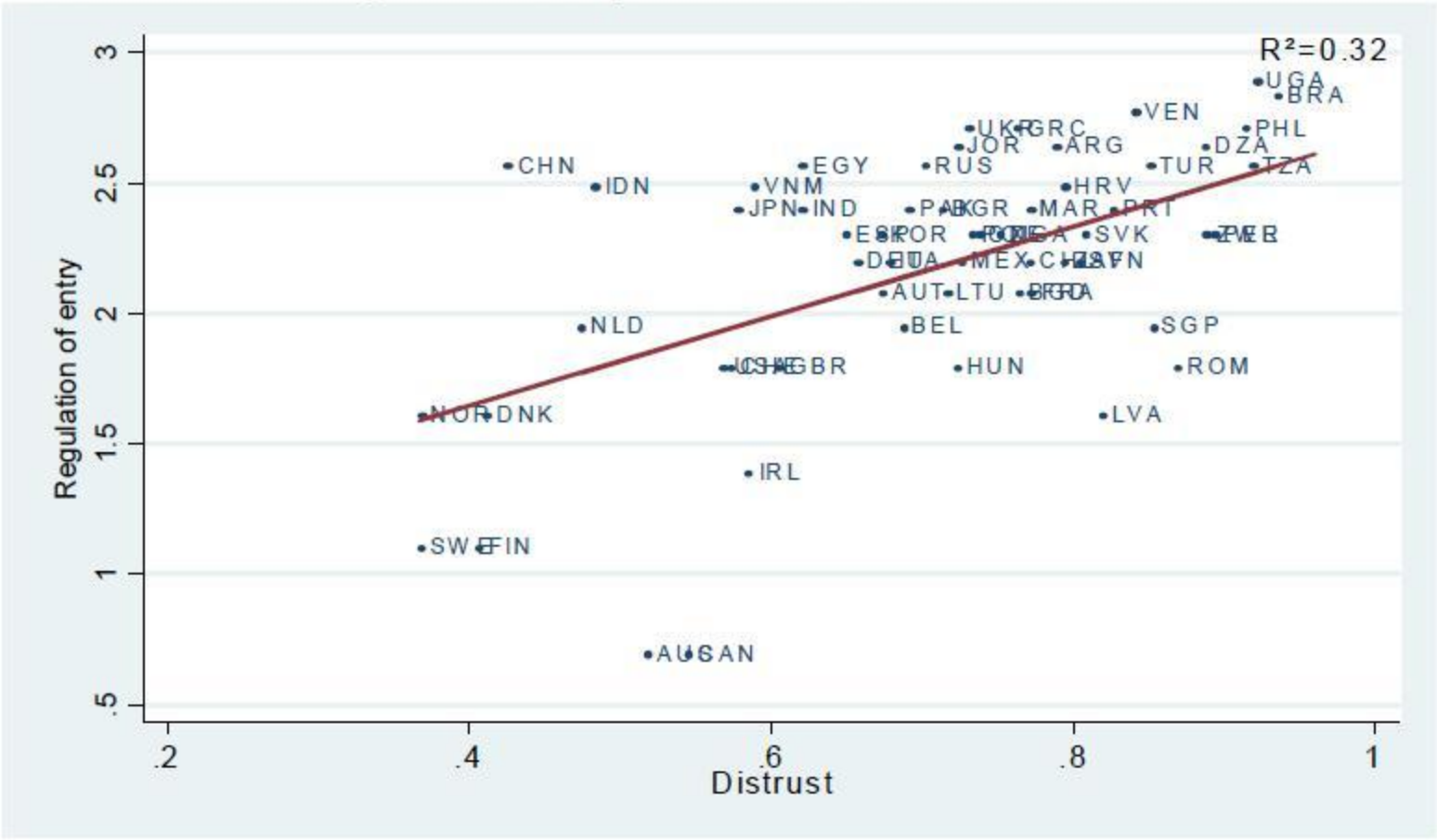
- Similar conclusions for monetary policy
- Yet the latter does not substitute for the former

The State as Guarantor of the Social Contract

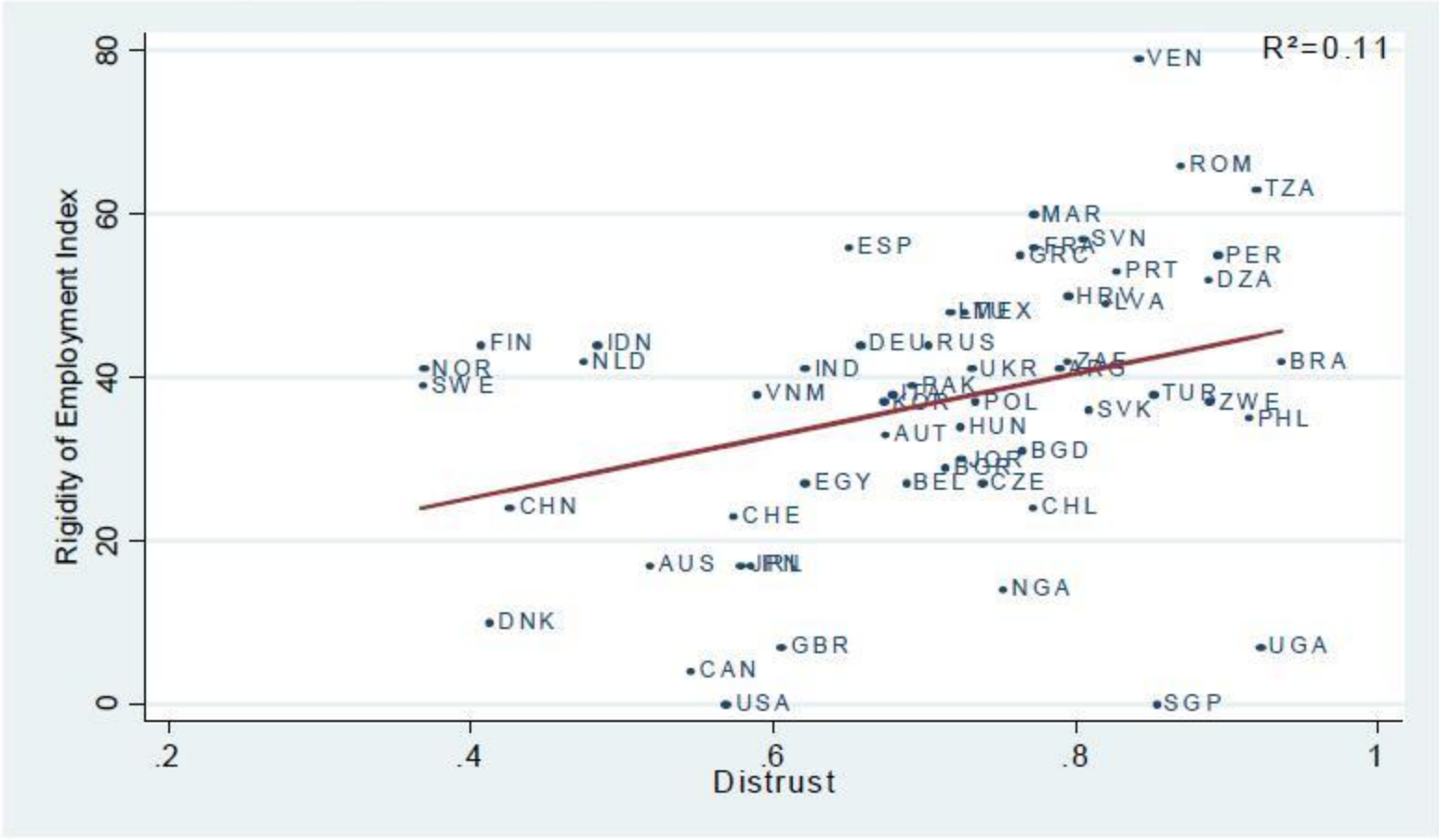
The State as Guarantor of the Social Contract

- Government should invest in trust to foster market liberalization and consolidate structural reforms
- Mario Monti’s point on fiscal reform cum product market liberalization in Europe

Distrust and regulation of product market



Distrust and regulation of labor market



Tthe State as Guarantor of the Social Contract

- Hence regulation of product and labor markets, appear to be negatively correlated with trust
- This does not mean that liberalizing markets will automatically bring about trust
- Also, negative correlation between regulation and trust does not carry over to:
  - Financial regulation
  - Fiscal policy
    - tax ethics appears to be positively correlated with tax monitoring (current work with A. Roulet, G. Tabellini and F. Zilibotti)

Intuition

- With higher tax monitoring ⇒ you expect fellow citizens to evade taxes less ⇒ you are more likely to find it unethical not to pay taxes

Impact of Tax Staff on Tax Ethics

VARIABLES	(1) tax_ethic	(2) tax_ethic	(3) tax_ethic	(4) tax_ethic	(5) tax_ethic	(6) tax_ethic
staff_per_taxpayers	13.64***	14.90***	13.64***	13.69***	15.23***	13.27***
	(2.594)	(2.924)	(3.145)	(3.178)	(3.779)	(4.179)
gdp_per_cap		1.22e-06	1.59e-06		1.64e-06	1.81e-06
		(1.21e-06)	(1.26e-06)		(1.42e-06)	(1.42e-06)
tax_rate			-0.00362			-0.00385*
			(0.00216)			(0.00210)
Constant	0.432***	0.395***	0.523***	0.426***	0.377***	0.522***
	(0.0157)	(0.0400)	(0.0843)	(0.0170)	(0.0479)	(0.0788)
Observations	57	57	55	32	32	30
R-squared	0.332	0.343	0.419	0.383	0.404	0.493

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Impact of the Number of Audits on Tax Ethics

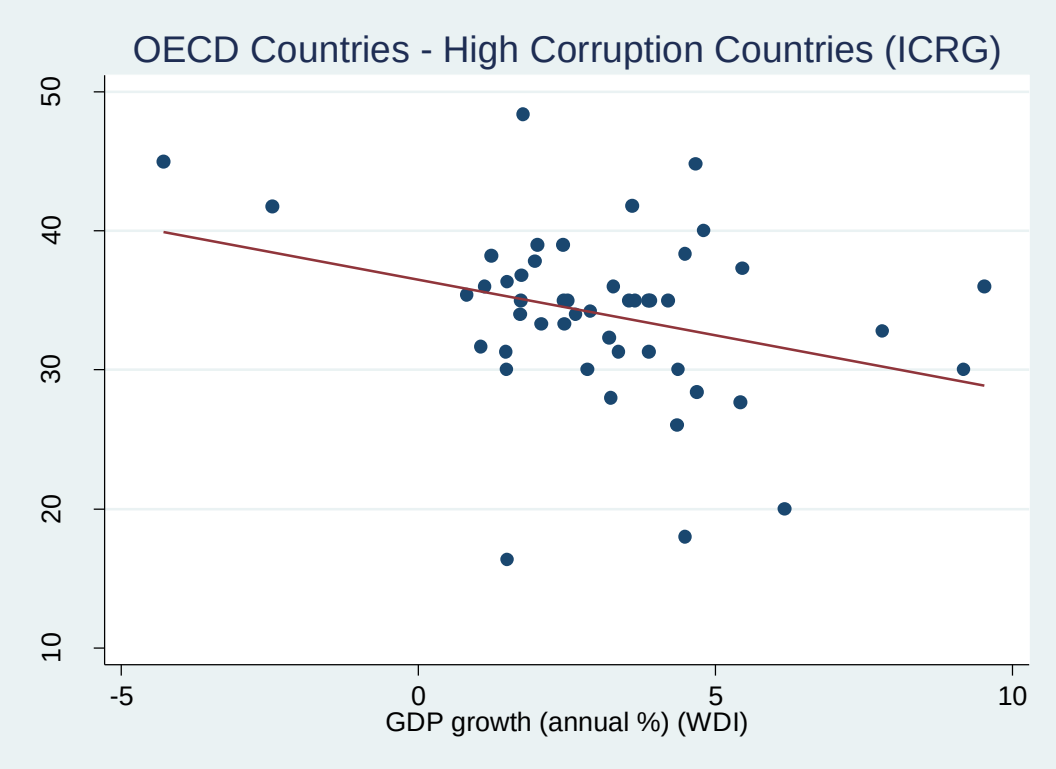
VARIABLES	(1) tax_ethic	(2) tax_ethic	(3) tax_ethic
audits_per_taxpayers	0.165***	0.228***	0.166***
	(0.0332)	(0.0582)	(0.0591)
gdp_per_cap		2.82e-06	3.13e-06
		(1.66e-06)	(1.84e-06)
tax_rate			-0.00389
			(0.00233)
Constant	0.474***	0.390***	0.527***
	(0.0168)	(0.0559)	(0.0858)
Observations	27	27	26
R-squared	0.076	0.185	0.225

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

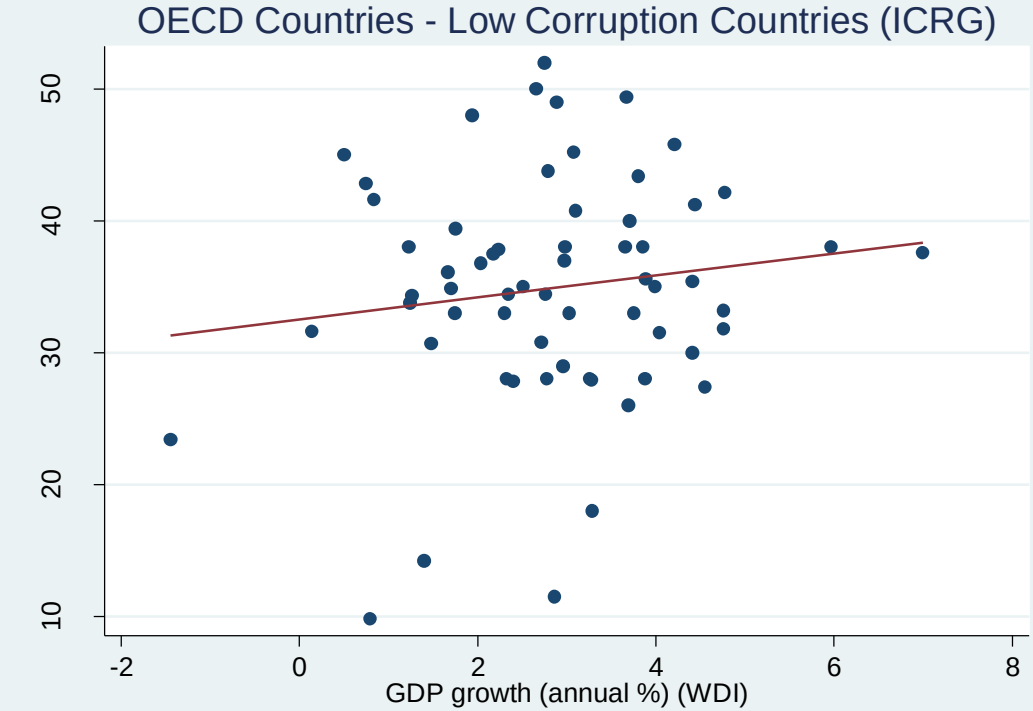
A Final Remark on Tax and Growth

- Effect of taxation on growth depends a lot on how government uses tax revenues

Growth Rate and Tax Burden
High Corruption Countries



Growth Rate and Tax Burden
Low Corruption Countries



Conclusions

Conclusions

- State as Regulator, Investor and Guarantor of the Social Contract

Conclusion 1: State as Regulator

- A macroeconomic policy which is neither Keynesian nor Tea-Party
  - Government should pursue actively countercyclical fiscal and monetary policies, and its intervention should be targeted
  - Target SMEs, higher education, support to employment and labor reallocation

Conclusion 2: State as Investor

- Vertically) targeted, i.e sectoral, policies should not be ruled out, especially if competition-friendly

Conclusion 3: State as Guarantor of the Social Contract

- Need to add “Trust” layer to growth policy design
  - Trust and ethics bolster market flexibility
  - However
    - Market liberalization without social capital investment may undermine trust
    - Financial regulation and progressive taxation enhance trust and ethics

Wrapping-Up

- Should we all become Scandinavians?
  - Priority investments in R&D, higher education, green innovation
  - Highly progressive taxation
  - Transparency and trust
  - Strong regulation of financial sector