Delivering on the “Monti Triangle”: Growth, Budgetary Discipline and Social Cohesion

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A paradigm for analyzing growth policy

Schumpeterian Paradigm

- Innovation is driven by entrepreneurial investments (R&D…) which are themselves motivated by the prospect of monopoly rents

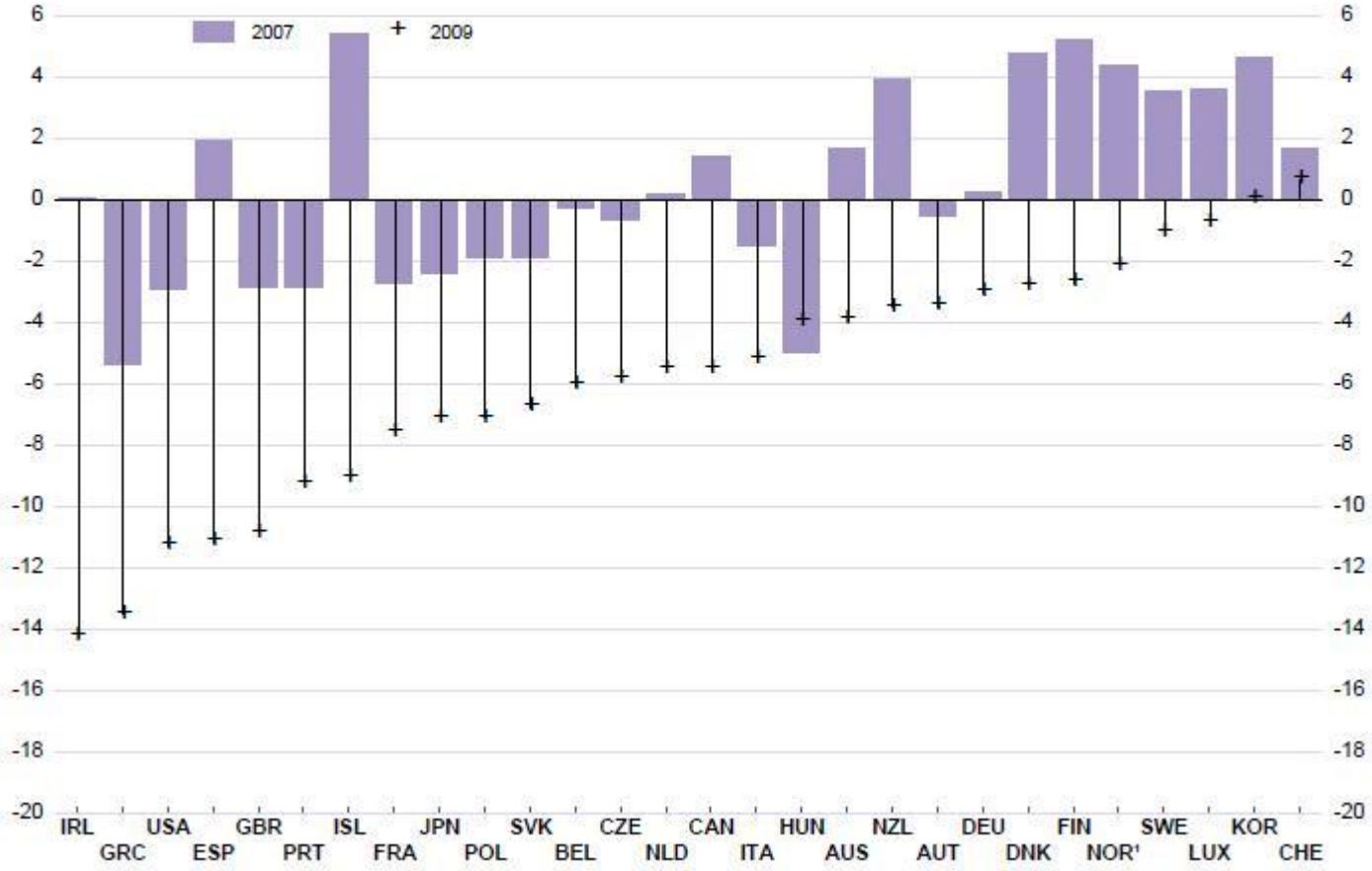
Schumpeterian Paradigm

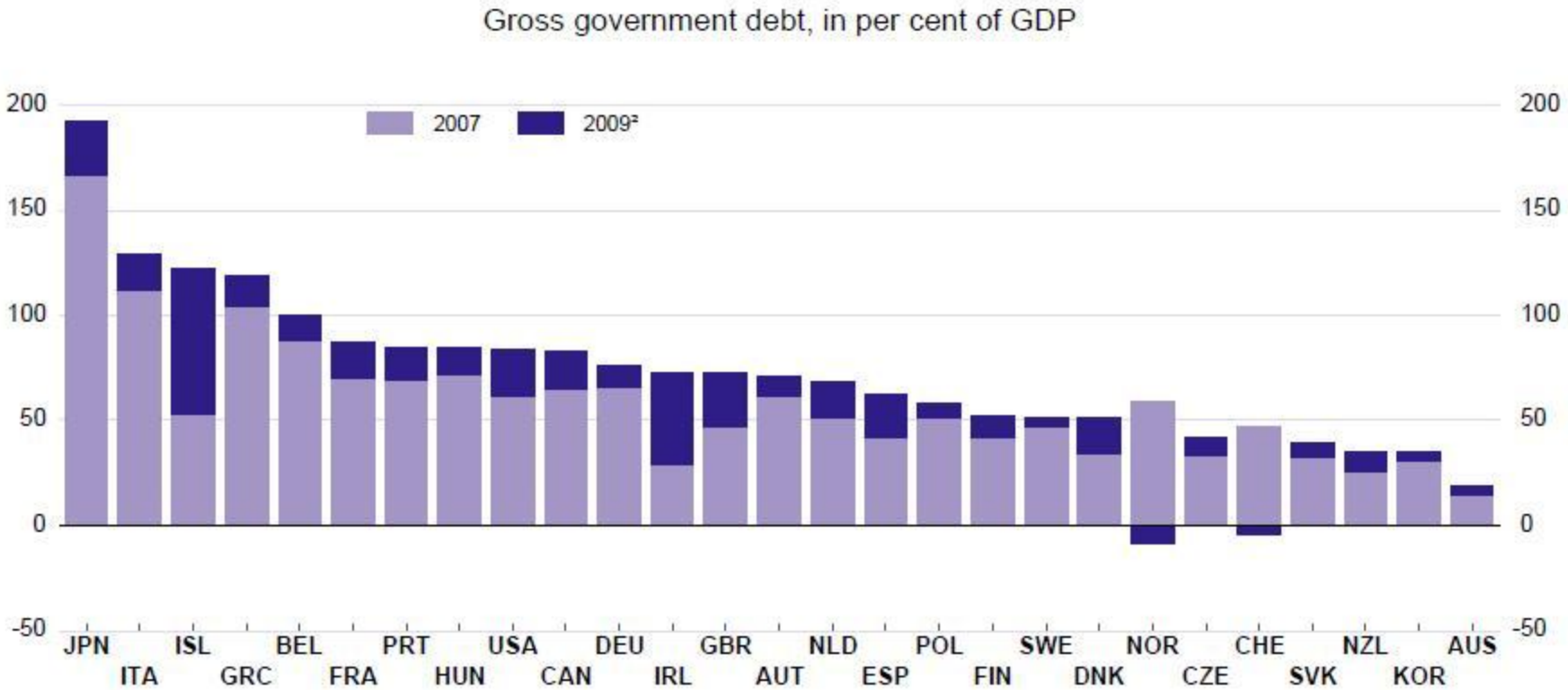
- Frontier innovation and imitation requires different sets of policies and institutions
- Advanced countries where growth relies more on frontier innovations, need to liberalize product and labor markets....but it that the end of the story?

Some macroeconomic facts

Public finances weakened significantly during the recession

General government balance, in per cent of GDP





Click here for underlying data

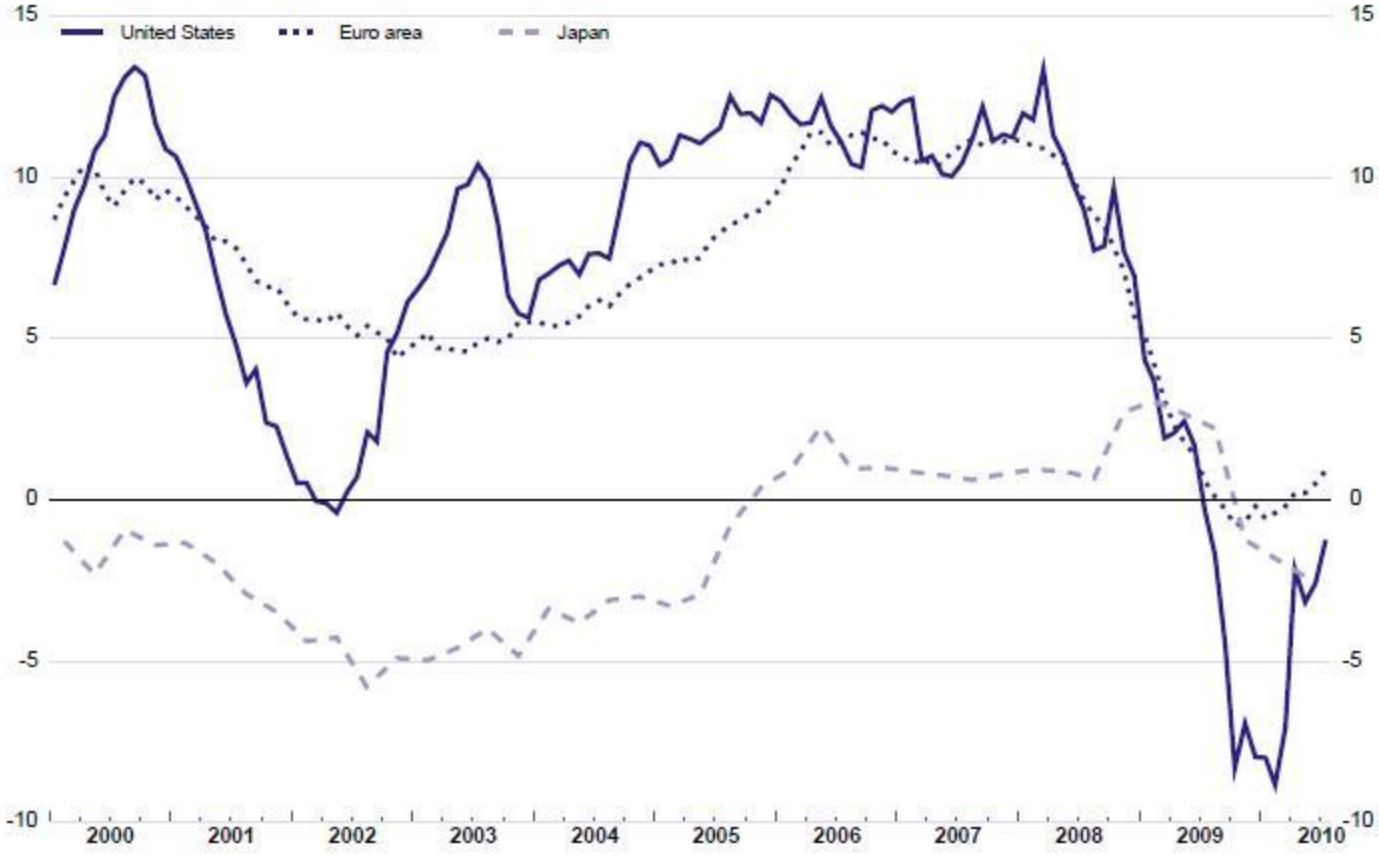
Note: Data for 2009 are estimates for some countries.

1. Mainland Norway only.
2. Change between 2007 and 2009.

Source: OECD, System of National Accounts database; and OECD Economic Outlook 87 database.

Bank lending continues to be weak

Bank loans to the non-financial private sector, year-on-year percentage changes



Click here for underlying data

Note: Data refer to all commercial banks for the United States, to monetary financial institutions (MFIs) for the euro area and to all banks for Japan. Year-on-year growth rates are calculated from end-of-period stocks. For the euro area, these are adjusted for reclassifications, exchange-rate variations and any other changes which do not arise from transactions.

Source: Datastream.

Challenge

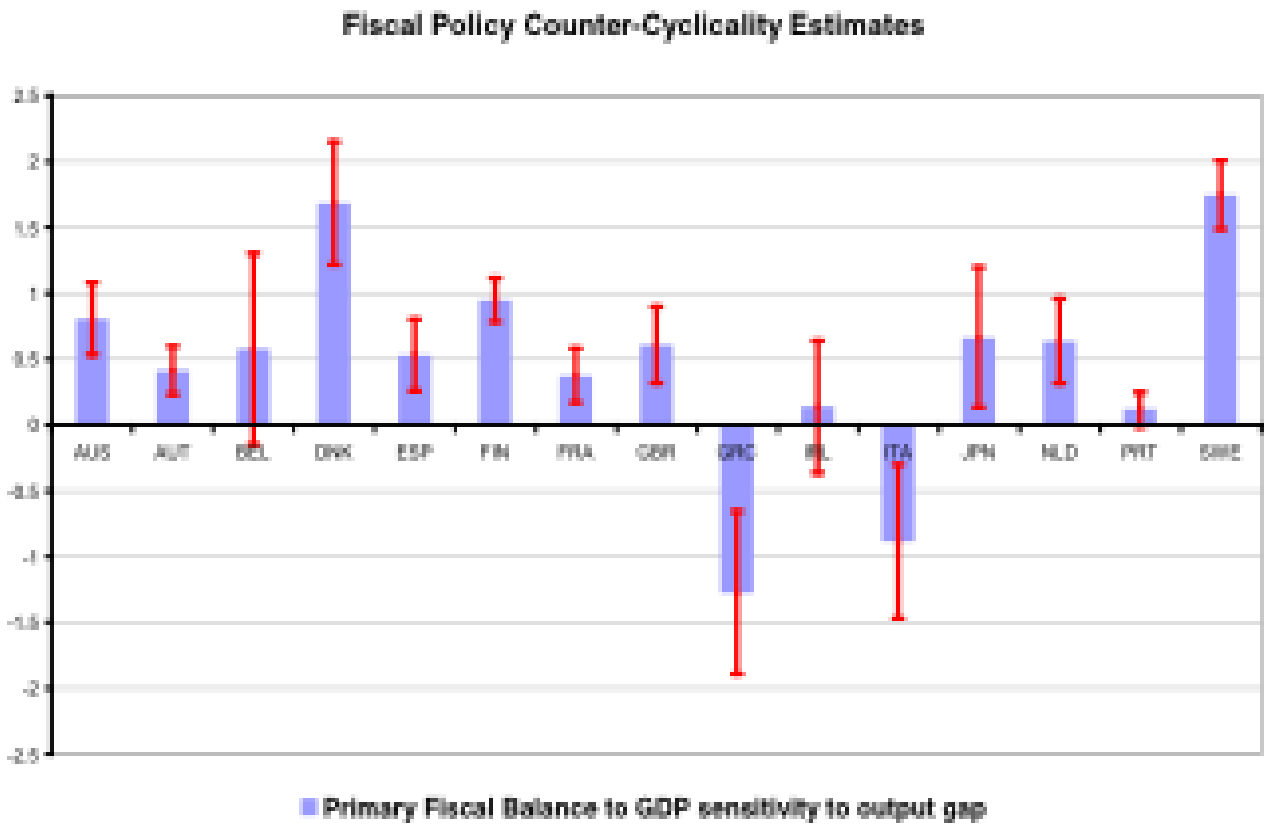
- Deepen structural reforms
- More investments needed
  - Education
  - SMEs and Industrial Policy
- …while restoring budget balance

First instrument: macroeconomic policy

Fiscal Policy Over the Cycle

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

Fiscal countercyclicality across OECD countries



Fiscal Policy cyclicality and Value added growth

Table 1

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

Fiscal Policy cyclicality and Productivity growth

Table 2

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

Monetary Policy Over the Cycle

- 12 OECD countries, 45 manufacturing industries
- Period 1995-2005
- Countercyclical monetary policy enhances growth more in industries that are more dependent on finance and in industries that are more dependent on liquidity
- Hence counter-cyclical monetary policy and counter-cyclical fiscal policy are not substitutes

Monetary Policy cyclicality, Financial Dependence and Productivity growth

Table 1

Dependent variable: Labor Productivity Growth	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
Log of Initial Relative Labor Productivity	**-3.097*** ** *(0.876)*	**-3.140*** ** *(0.887)*	**-3.114*** ** *(0.887)*	**-3.160*** ** *(0.893)*	**-2.920*** ** *(0.887)*	**-2.945*** ** *(0.900)*	**-2.953*** ** *(0.899)*	**-2.959*** ** *(0.904)*
Interaction (Financial Dependence and RSIR sensitivity to output gap)	**3.471** ** *(1.757)*							
Interaction (Financial Dependence and RSIR sensitivity to output gap, controlling for lagged RSIR)		**4.822* ** *(2.531)*						
Interaction (Financial Dependence and RSIR sensitivity to output gap, controlling for forward RSIR)			**5.100** ** *(2.528)*					
Interaction (Financial Dependence and RSIR sensitivity to output gap, controlling for lagged and forward RSIR)				**6.148** ** *(2.996)*				
Interaction (Asset Tangibility and RSIR sensitivity to output gap)					**-12.71** ** *(5.624)*			
Interaction (Asset Tangibility and RSIR sensitivity to output gap, controlling for lagged RSIR)						**-17.32** ** *(7.861)*		
Interaction (Asset Tangibility and RSIR sensitivity to output gap, controlling for forward RSIR)							**-21.06*** ** *(7.976)*	
Interaction (Asset Tangibility and RSIR sensitivity to output gap, controlling for lagged and forward RSIR)								**-22.48** ** *(9.328)*
Observations	601	601	601	601	601	601	601	601
R-squared	0.375	0.376	0.378	0.378	0.376	0.378	0.376	0.379

Monetary Policy cyclicality, Liquidity Dependence and Productivity growth

Table 2

Dependent variable: Labor Productivity Growth								
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
Log of Initial Relative Labor Productivity	**-3.053*** ** *(0.917)*	**-3.084*** ** *(0.936)*	**-3.104*** ** *(0.935)*	**-3.097*** ** *(0.941)*	**-3.212*** ** *(0.890)*	**-3.240*** ** *(0.888)*	**-3.213*** ** *(0.899)*	**-3.270*** ** *(0.897)*
Interaction (Inventories to Sales and RSIR sensitivity to output gap)	**32.32** ** *(14.13)*							
Interaction (Inventories to Sales and RSIR sensitivity to output gap, controlling for lagged RSIR)		**46.20** ** *(20.36)*						
Interaction (Inventories to Sales and RSIR sensitivity to output gap, controlling for forward RSIR)			**51.89*** ** *(19.92)*					
Interaction (Inventories to Sales and RSIR sensitivity to output gap, controlling for lagged and forward RSIR)				**60.61** ** *(24.19)*				
Interaction (Labor Costs to Sales and RSIR sensitivity to output gap)					**17.66*** ** *(6.608)*			
Interaction (Labor Costs to Sales and RSIR sensitivity to output gap, controlling for lagged RSIR)						**25.92*** ** *(9.206)*		
Interaction (Labor Costs to Sales and RSIR sensitivity to output gap, controlling for forward RSIR)							**22.96** ** *(9.245)*	
Interaction (Labor costs to sales and RSIR sensitivity to output gap, controlling for lagged and forward RSIR)								**31.59*** ** *(10.69)*
Observations	601	601	601	601	601	601	601	601
R-squared	0.375	0.376	0.378	0.378	0.376	0.378	0.376	0.379

In Euro area

- Adapt timing of debt reduction to occurrence of recessions (e.g delay the achievement of 3% public deficit for France of growth rate less than 1% per year over 2012-2013)
- Make sure automatic sanctions do not increase pro-cyclicality….better have an ex ante approach…and/or privilege non-monetary sanctions!!

Second instrument: Targeted investments

Horizontal targeting

- Education
- Support to SMEs
- …..targeting and governance!!

Education

- Quality, not just quantity, of investment matters
- Two illustrations
  - PISA and growth
  - Investing more in more autonomous universities, is more growth-enhancing

PISA and growth

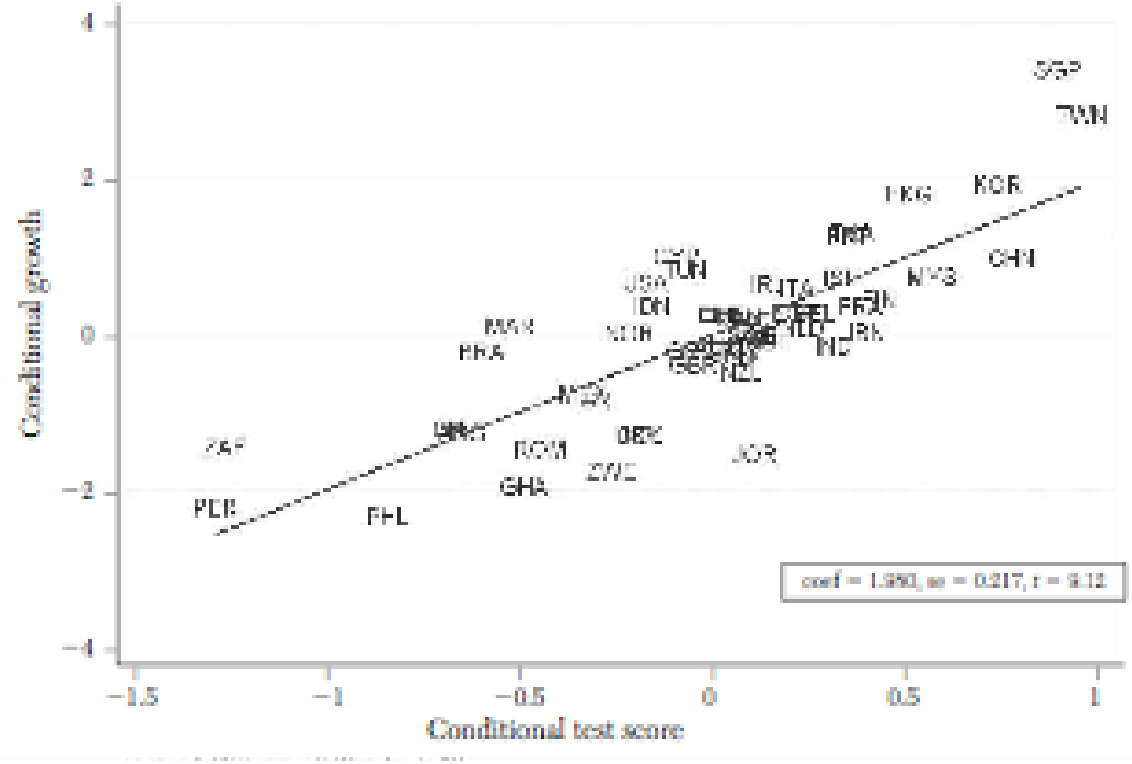


Figure 7. Added-Variable Plot of Growth and Test Scores

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.

Years of schooling and growth

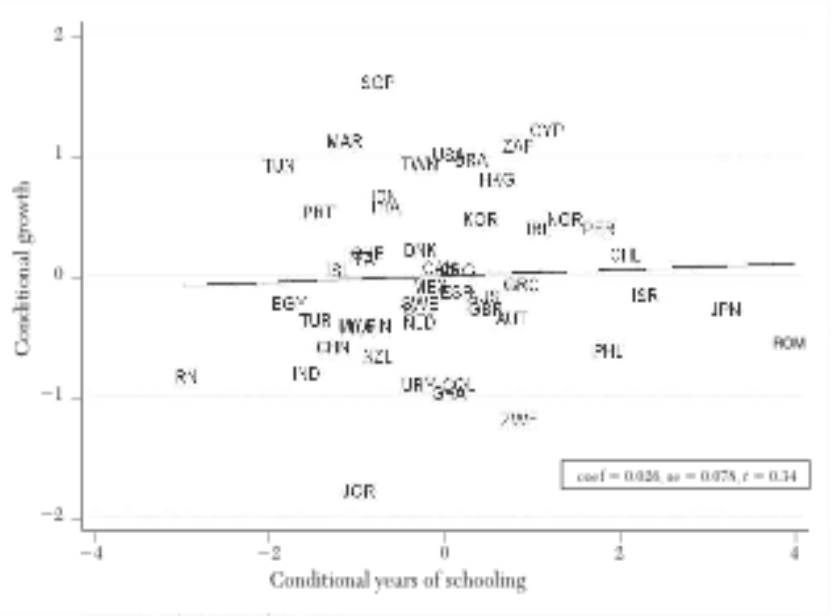
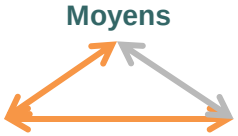
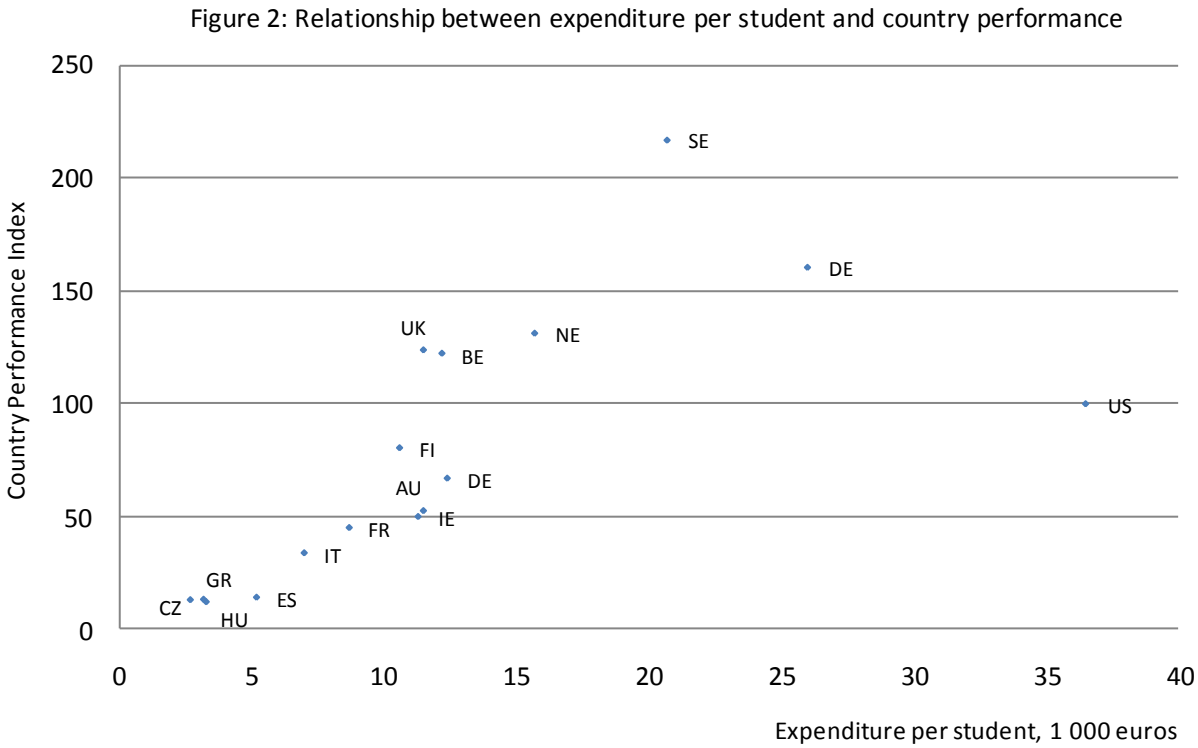


Figure 8. Added-Variable Plot of Growth and Years of Schooling with Test Score Controls

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.



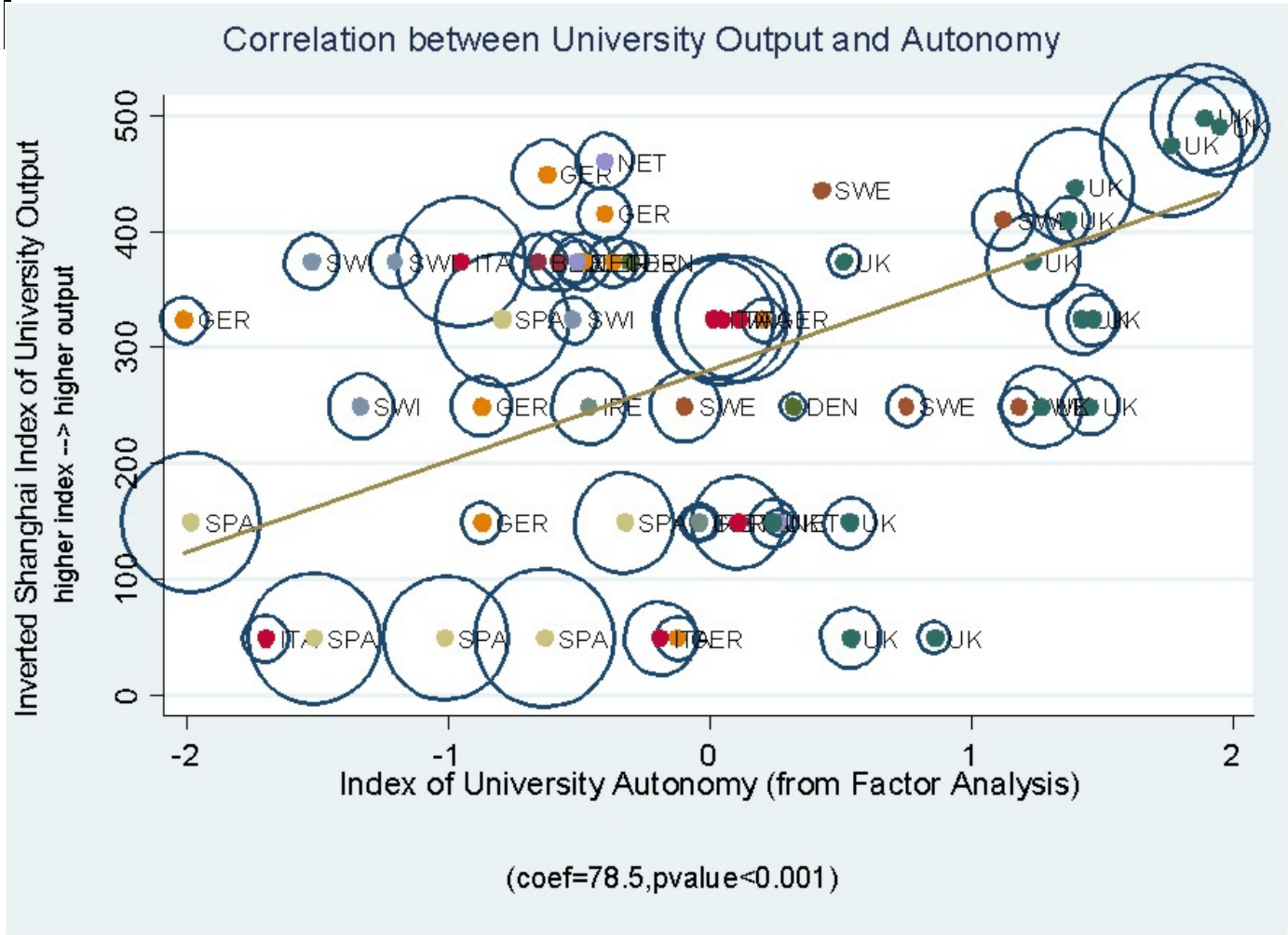


- Autant les meilleures universités de recherche américaines apparaissent comme des modèles , autant le système américain présente-t-il une performance globale très médiocre au regard des moyens mis en oeuvre

Source : The governance and performance of research universities: evidence form Europe and the U.S. – P. Aghion et alii – NBER avril 2009

Autonomy of universities

Autonomie



Source : The Governance and Performance of ResearchUniversities: Evidence from Europe and the U.S. – P. Aghion et alii – NBER avril 2009

Vertical targeting

- Revisit and rethink industrial policy

Industrial Policy

- Over time, and particularly since the 1980s, economists have come to dislike sectoral (“industrial”) policy on two grounds:
  - (i) it focuses on big incumbents (‘national champions);
  - (ii) governments are not great in ‘picking winners’.
- Current dominant view is that sectoral policy should be avoided especially when it undermines competition

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
- US versus German models of outsourcing

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;
  - Governance: do not focus aid on one firm in a sector, minimize concentration of aid.

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

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

Effects on TFP

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

Squaring the circle: how to reconcile targeted investments and targeted growth investments

- Fiscal reform
- Reduction in public spending...where?

Squaring the circle: how to reconcile targeted investments and targeted growth investments

- Fiscal reform
- Reduction in public spending...where?

Fiscal reform: three objectives

- Redistribute to increase social cohesion
- Finance growth investments
- Do not discourage innovation
  - The Northern European model

Reduction in public spending

- Reduce administrative duplications and go for administrative simplification
- Decentralize health systems
- Make some social transfers revenue dependent

Conclusion (1)

- Several instruments to deliver innovation and growth while meeting our budgetary commitments
  - Countercyclical macroeconomic policy
  - Targeted investments in innovation
  - Fiscal and spending reform

Conclusion (2)

- Growth generates inequality, however excessive inequality is detrimental to growth:
  - It encourages violence and corruption and undermines trust
  - It encourages capture and undermines competition
  - The top end stops contributing to public good provision

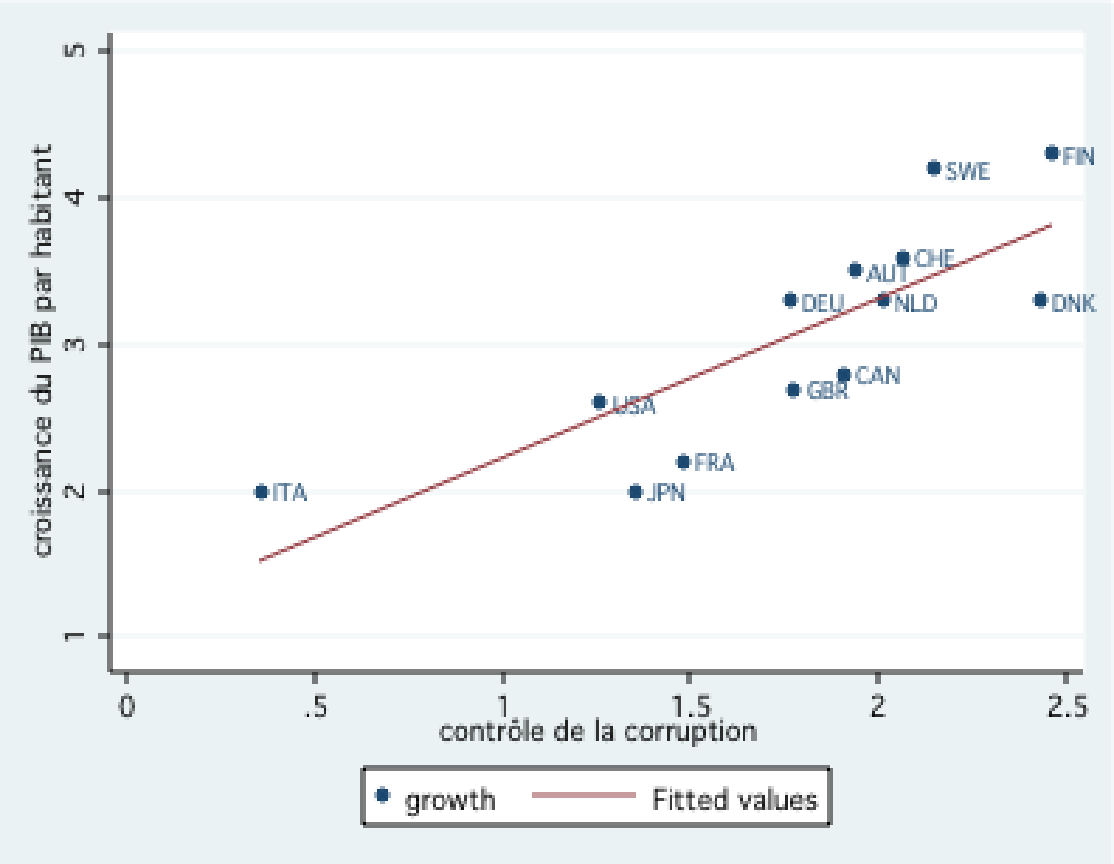
Conclusion (3)

- Importance of democracy (1)
  - Social dialogue helps enhance trust which in turn fosters market liberalization

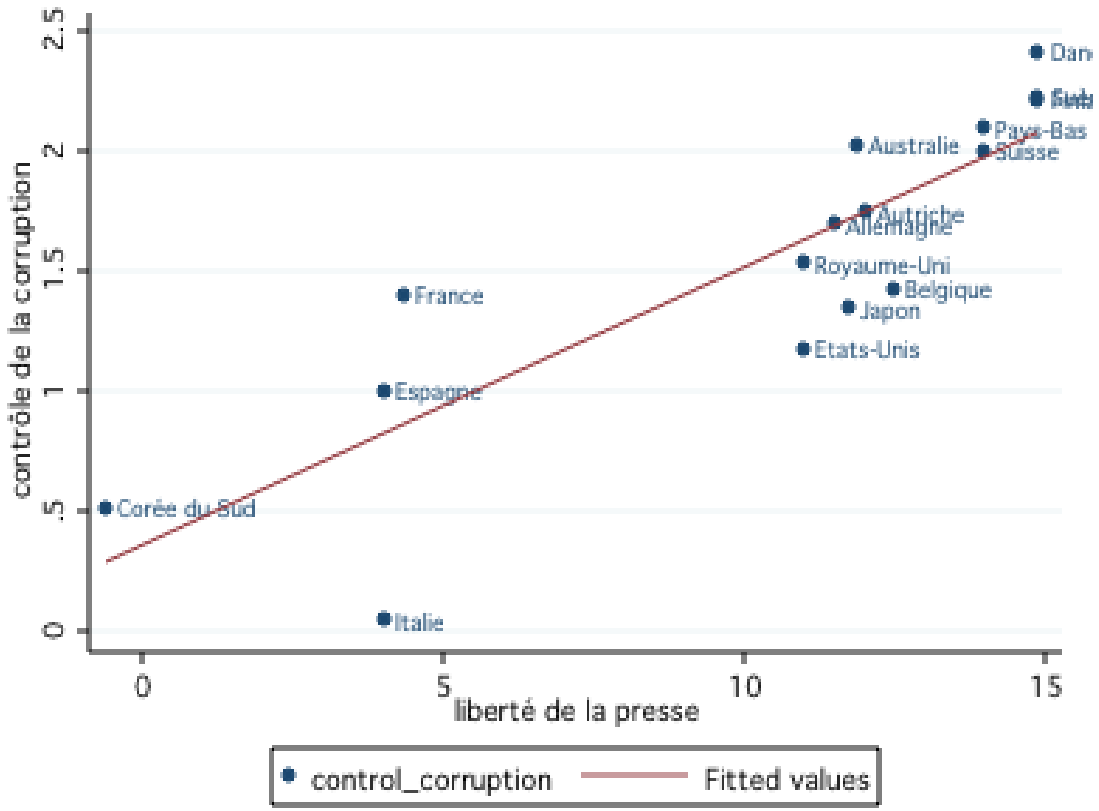
Conclusion (3)

- Importance of democracy (2)
  - Role of democracy (media independence, evaluation of public policies) to reduce corruption
    - Lower corruption facilitates entry and innovation
    - Lower corruption guarantees transparency of targeted growth investments

Reducing corruption or increasing trust enhances growth



Free press reduces corruption



Wrapping-Up

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