The Role of The State in Building a Competitive Economy: Political Economy of Innovations

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Motivation and research goal

- The state as an enabler vs. the state as a “bottleneck” in creating a competitive economy (that is associated with increasing productivity and innovation performance)
- Many EU economies (and post-socialist countries in particular) are burdened by low government effectiveness, as well as cronyism and familism
- Exploring the relationship between these constraints and innovation performance
- Do different levels of innovation activities vary in a systematic way with respect to institutional surroundings and incentives provided by the state?
- What are the repercussions on smart specialisation strategy (S3)?

Dependent variable

- **Summary Innovation Index 2016** (SII 2016)
- Measures countries' innovation performance – average performance over all the individual indicators
- 3 sub-groups of indicators

1. Enablers (human resources; open, excellent and attractive research systems; finance and support),
2. Firm activities (firm investments; linkages & entrepreneurship; intellectual assets)
3. Outputs (innovators, economic effects)

Independent variables

- **cronyism** = government officials favouring well-connected firms and individuals when deciding upon policies and contracts (source: GCR)

- **familism** = appointment of senior management positions on the basis of personal ties (as opposed to merit and qualifications) (source: GCR)

- **government effectiveness** = perception of the quality of the policy process and public services, independence from political pressures (source: WGI)

Sample, time period and methodology

- **Sample**

⇒28 EU member states

⇒6 sub-samples based on the VoC literature

- **Time period**

⇒2007-2016

- **Methodology**

⇒Dynamic panel data analysis

⇒9 estimated models in total due to correlation issues

- **Limitations** of the study: relative short time period, inputs based on survey questionnaires

Groups of countries

- Division based on VoC literature (Amable, 2003; Bohle and Greskovits,2012)

- **Post-socialist countries**: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia
- **Višegrad group based capitalism**: Czech Republic, Hungary, Poland, Slovak Republic
- **Weak states capitalism**: Bulgaria, Croatia, Romania
- **Market based capitalism**: Estonia, Latvia, Lithuania, UK
- **Mediterranean capitalism**: Cyprus, Greece, Italy, Malta, Portugal, Spain
- **Continental European capitalism**: Austria, Belgium, France, Germany, Ireland, Netherlands, Slovenia
- **Social-democratic capitalism**: Denmark, Finland, Sweden

Results – descriptive statistics

	Obs	Mean	Std. Dev.	Min	Max
SII	224	.458378	.1484379	.1796093	.7216888
CRONYISM	280	3.584546	1.047127	1.856262	6.046859
FAMILISM	280	4.870993	.8881567	3.274114	6.463518
GVT_EFFECT	252	1.130358	.5901903	-.355744	2.358699
GE R&D	252	.1978175	.0918838	.01	.43
GDP	270	12.05397	1.553771	8.630683	14.94776
DEBT	280	62.72786	35.17712	3.7	179.7
PS_CRO	280	1.08767	1.392266	0	4.232441
VC_FAM	280	.6421631	1.586845	0	5.394471
VC_GOVTEFFCT	280	.0980975	.2620869	0	1.051496
SD_ GOVTEFFCT	280	.196759	.6053961	0	2.358699
MBC_CRO	280	.5082444	1.269295	0	4.587958
MBC_ GOVTEFFCT	280	.1361909	.3770148	0	1.738755

Results – dynamic panel data analysis

	1st model	2nd model
L.SII	0.29	0.04
	(0.37)	(0.40)
CRONYISM	-0.05	
	(0.02)**	
GE R&D	-0.65	-0.60
	(0.26)**	(0.33)*
GDP	0.02	0.04
	(0.04)	(0.04)
DEBT	-0.00	0.00
	(0.00)	(0.00)
GOVT_EFFCT		-0.13
		(0.05)**

- Only models that satisfy statistical requirements (Sargan and AR(2) tests) are the ones with *CRONYISM* (1st model) *and GVT_EFFECT* (2nd model) estimated for EU28

- negative relationship between summary innovation index and our two main institutional variables (*CRONYISM* and *GVT_EFFECT*),
- negative sign regarding the level of government expenditures on R&D, meaning that higher government expenditures lower the level of SII.

Results – dynamic panel data analysis

	3rd model	7th model	9th model
L.SII	0.13	0.13	0.48
	(0.30)	(0.29)	(0.28)*
CRONYISM	-0.01	-0.04	-0.04
	(0.02)	(0.01)**	(0.02)**
GE R&D	-0.55	-0.38	-0.51
	(0.27)**	(0.19)**	(0.23)**
GDP	0.06	0.01	0.01
	(0.03)*	(0.03)	(0.03)
DEBT	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)
CRO_PS	0.13		
	(0.05)***		
MBC_CRO		0.13	
		(0.04)***	
WSC_CRO			0.13
			(0.06)**

- the effect of *CRONYISM* in the group of post-socialist countries

✓positive correlation between GDP and SII

✓negative relationship between government sector expenditure on R&D (% of GDP), and SII

✓positive correlation between SII and CRO_PS (cronyism in post-socialist countries)

<u>Implications:</u>

1. CRONYISM clearly shows some non-linear characteristics;
2. Further analysis - in which post-socialist countries is this effect positive?

Results – dynamic panel data analysis

	3rd model	7th model	9th model
L.SII	0.13	0.13	0.48
	(0.30)	(0.29)	(0.28)*
CRONYSM	-0.01	-0.04	-0.04
	(0.02)	(0.01)**	(0.02)**
GE R&D	-0.55	-0.38	-0.51
	(0.27)**	(0.19)**	(0.23)**
GDP	0.06	0.01	0.01
	(0.03)*	(0.03)	(0.03)
DEBT	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)
CRO_PS	0.13		
	(0.05)***		
MBC_CRO		0.13	
		(0.04)***	
WSC_CRO			0.13
			(0.06)**

- the effect of *CRONYISM* in the **market based capitalism countries** (Baltic countries and UK)

✓negative relationship between government sector expenditure on R&D (% of GDP) and SII

✓negative relationship between *CRONYSM* and *SII,* and positive between *MBC_CRO* and *SII*

- the effect of *CRONYISM* in the **weak state capitalism countries** (SEE countries)

✓negative relationship government sector expenditure on R&D (% of GDP) and SII

✓negative relationship between *CRONYISM* and *SII,* and positive between *WSC_CRO* and *SII*

Results – dynamic panel data analysis

	4th model	5th model	6th model	8th model
L.SII	-0.03	-0.25	0.39	0.43
	(0.40)	(0.43)	(0.31)	(0.24)*
GS	0.08	-0.08	0.05	-0.48
	(0.13)	(0.19)	(0.23)	(0.24)**
GDP	0.05	0.03	0.03	-0.00
	(0.04)	(0.04)	(0.04)	(0.03)
DEBT	-0.00	0.00	0.00	0.00
	(0.00)	(0.00)**	(0.00)*	(0.00)
GOVT_EFFCT		-0.22	-0.18	-0.09
		(0.06)***	(0.06)***	(0.04)**
FAMILISM	-0.09			
	(0.03)***			
VC_FAM	0.08			
	(0.03)**			
VC_GOVTEFFCT		0.40		
		(0.22)*		
SD_GOVTEFFCT			0.20	
			(0.07)***	
MBC_GOVTEFFCT				0.14
				(0.07)**

- the effect of *GOVT_EFFCT* in the **social-democratic capitalism countries**

✓ non-linear relationship between *GOVT_EFFCT* and SII

- the effect of *FAMILISM* and *GOVT_EFFCT* in the **Višegrad based capitalism countries**

✓ non-linear relationship between *FAMILISM* and SII

✓ non-linear relationship between *GOVT_EFFCT* and SII

- the effect of *GOVT_EFFCT* in the **market based capitalism countries**

✓ non-linear relationship between *GOVT_EFFCT* and SII

<u>Implications:</u>

1. The size of the government is less important. It is the effectiveness of the government that matters.
2. Višegrad group – familism occurs in countries that in the last quarter of a century experienced a significant transfer of FDI and know-how.

Implications for S3

- S3 may improve governance (European Commission, 2017), but good governance is a prerequisite for S3
- Measures against cronyism and familism would enhance S3 (in both design and implementation phases) and also the overall innovation performance of a country or a region
- System of indicators that serve to analyse S3 should therefore incorporate variables measuring cronyism and familism

Conclusions

- The paper provides contribution to the discussion of state to facilitate or hinder innovation activities, in the context of VoC
- For post-socialist countries – addressing **cronyism** shows diminishing returns with respect to SII
- For Višegrad countries – addressing **familism** through meritocracy has positive effects on innovation activities
- There are multiple equilibria regarding the relationship between **government effectiveness** and innovation activities
  - Market based and Višegrad countries vs. social-democratic countries
- Future lines of research could focus on alternative measures of innovation and alternative samples of countries

Thank you!

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