Shadow Economy, Poverty and Institutional Quality

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Motivation

- Shadow economy is a controversial phenomenon gaining increasing interest among scholars (Schneider, 2006),

- shadow economy has effects on government expenditure and economic growth, which in turn affects poverty,

- the link between shadow economy, poverty and institutional factors has been less investigated and remains tentative,

- large informal sectors can increase inequality (Rosser et al., 2000),

- poverty as an alternative measure to income inequality,

- better institutions are associated with lower inflation, higher income taxes and less informal activity (Aruoba, 2010).

Research Question

- What kind of relationship is there between shadow economy, poverty and institutional factors?,

- the relationship is likely to be complex and the direction of causality may be unclear,

- what is the role of institutional factors?,

- large informal markets are associated with institutional factors: excessive regulation, poor law enforcement and corruption (Johnson et al. 1998, Friedman et al. 2000),

- this is addressed by adding in the model some institutional elements as explanatory variables.

Literature

- Multiple definitions of the shadow economy and different measuring techniques (Schneider, 2006),

- poverty and shadow economy have larger indices in developing and transition countries (Obayelu & Uffort, 2007),

- an increase in the shadow economy may lead to a decrease/increase in poverty through the level of growth (Nikopour & Habibullah, 2010),

- La Porta and Schleifer (2008) present some correlations related to the characteristics and the productivity of the official and unofficial developing country's firms,

- Dell'Anno (2003) estimated the Italian shadow economy using a structural equation approach; confirmation of results,

- Fidrmuc et al. (2011, 2015) underlines the key role of institutions in economic developments.

Data and variables

- Panel of data for 33 OECD countries on the size of the shadow economy, 1999 to 2013, from the CESifo Database for Institutional Comparisons in Europe (DICE), (Schneider et al. 2010, 2013),

- Eurostat and OECD databases for the risk of poverty rate,

- Fraser Institute 2014 index of economic freedom for hiring regulations, minimum wage, bureaucracy costs, extra payments/bribes/favoritism, labor market regulations and the integrity of the legal system,

- Heritage Foundation for a measure of the index of business freedom.

Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Shadow	487	20,11643	7,98848	6,6	37,3
Pov	391	15,83913	3,981061	8,0	26,5
Wage	386	6,28057	2,471754	2,2	10,0
Free	495	76,70788	10,57148	53,7	100,0
Bureau	420	4,620714	2,260013	0,8	10,0
Bribes	403	7,08139	1,580329	2,0	9,7
Labor	403	6,579653	5,007883	2,8	72,0
Legal	429	8,239394	1,348177	4,2	10,0

Data analysis
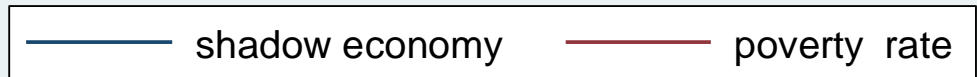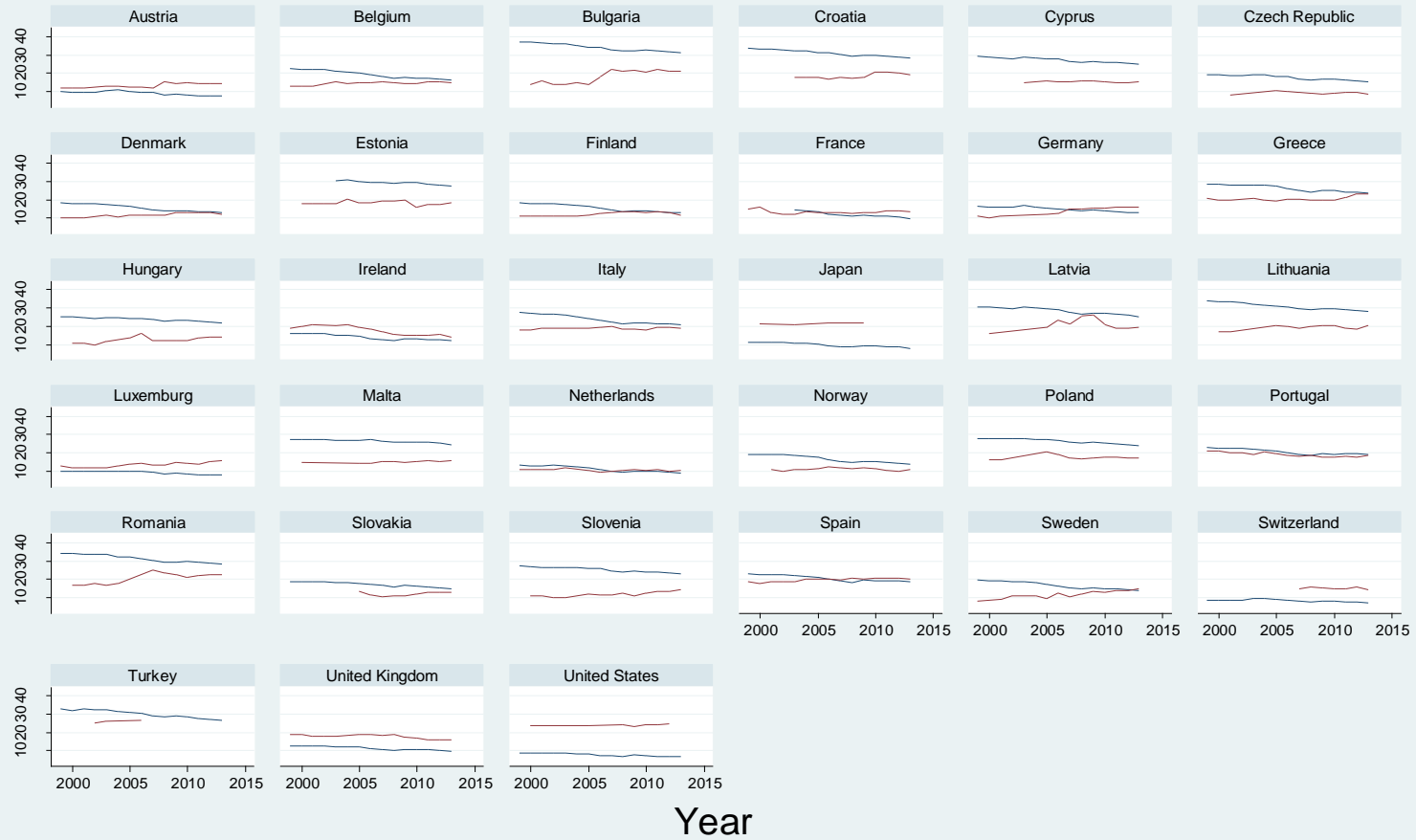
Graphs by Country

Estimation model

- Fixed-effects (FE) estimation model is employed to

   1. explore the relationship between the dependent and the independent variables;

   2. remove the effect of time-invariant bias between the variables.

$$se_{it} = \beta_1 pov_{it} + \beta_2 wage_{it} + \beta_3 free_{it} + \beta_4 bureau_{it} + \beta_5 bribes_{it} + \beta_6 labor_{it} + \beta_7 legal_{it} + \alpha_i + u_{it}$$

Fixed-effects estimation

	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)
Fixed-effects	shadow	shadow	shadow	shadow	shadow	shadow	shadow
pov	-0.401***	-0.324**	-0.185*	-0.251**	-0.245*	-0.327**	-0.350***
	(0.125)	(0.124)	(0.096)	(0.098)	(0.127)	(0.123)	(0.123)
wage		-0.135					
		(0.082)					
free			-0.134***				
			(0.021)				
bureau				0.458***			
				(0.046)			
bribes					0.850***		
					(0.191)		
labor						-0.016	
						(0.013)	
legal							0.296
							(0.449)
constant	26.203***	25.877***	33.138***	22.124***	17.864***	25.343***	23.148***
	(1.976)	(1.852)	(1.235)	(1.656)	(2.982)	(1.897)	(5.024)
No of obs.	384	313	384	337	322	323	340
R-squared	0.156	0.144	0.446	0.589	0.321	0.132	0.166
No of countries	33	33	33	33	33	33	33

robust standard errors in parentheses
***, ** and * denote significance at 1%, 5% and 10% level

Estimation and results

- The relationship is complex, the direction of causality unclear,

- poverty may increase the share of the shadow economy, but shadow economy can also raise poverty traps,

- similar relations can be expected also for institutional quality,

- strong negative correlation between poverty and shadow,

- bureaucracy costs and bribes are strongly and positively correlated to shadow economy,

- labor regulations are not significant and the legal system is moderately associated to a change in the size of shadow economy.

Conclusion and further research

- There is a strong link between shadow, poverty and institutional factors,

- key role of institutional quality (bureaucracy costs and bribes/favoritism/extra payments),

- other factors might also explain shadow economy (innovation performances, creativity or competition),

- informal economy reinforces social and economic inequalities (Casson et al. 2010, Williams et al. 2014),

- effect of informality on poverty and inequality is not clear a priori (Winkelried, 2005).

Conclusion and future research

- What is the line between informal and formal economy? (Airbnb case),

- enlarge the formal economy to encourage growth and access to opportunities,

- inclusive and pro-growth institutions make nations prosper (Acemoglu and Robinson 2012),

- discuss whether all shadow activities are undesirable and should be discouraged (La Porta and Schleifer 2008).