Social Cohesion,Institutions and Public Policies: New Evidence from the MENA region

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Do Social Cohesion and Institutions Enhance the Effectiveness of Public Policies? New Evidence from the MENA region

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Abstract

This paper documents the effects of social cohesion and institutions on public policies in the MENA region using the three-stage least squares (**3SLS**) method for panel data to deal with the problems of simultaneity and correlation of errors. Our main findings show that the impact of social cohesion on public policies is strengthened only at high qualities of institutions. In other words, there is a threshold effect of institutions beyond which social cohesion has a positive impact on public policies.

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1. Introduction

Recent years have seen renewed interest in the concept of social cohesion due especially to rising of income inequalities (Bernard, 1999; Stiglitz, 2006; Rajulton, 2007; 2012; Alesina et al. 2016) despite the emergence at the global level of a middle class (OCDE, 2012). We are thus witnessing an increase in social conflicts and tensions (Wilkinson, 2004; Foa, 2011) notably as a consequence of shifting wealth (OCDE, 2012). These phenomena have greatly undermined trust (Putnam et al. 1993; Fukuyama, 1995) especially in the Middle East and North Africa (MENA), those countries undergoing major demographic, social and cultural changes (Courbage and Todd, 2007), but also serious disturbances (World Bank, 2015) and deterioration of their welfare (Dang and Ianchovichina, 2016). Whether or not they are oil producers, these countries do indeed experience higher levels of corruption (in some cases reaching state capture) and suffer from weak skills of public sector officials and insufficiently democratic and participatory ways of governance (Manning, 2001; Amar and Berthier, 2007; Cameron, 2010, Cammett and Diwan, 2013), This raises the question of the quality of institutions and the effectiveness of the public policies pursued.

We note that there are few written works or studies on the relationship between social cohesion, institutions and public policies in the MENA region. For our part, we believe that a new focus based on neo-institutional theory (Williamson, 1996) is required, highlighting the role of social cohesion in the dynamics of institutional strengthening and the effectiveness of public policies.

The paper proceeds as follows: Section 1 provides a brief review of previous research on trust, institutions and public policies. Section 2 discusses the model, data source, variables, and estimation methods used in our analysis. Section 3 presents and discusses our main results on the relationship between trust, institutions and public policies in the MENA region and Section 4 concludes the paper.

2.1 Trust and institutions

Of the many definitions of social cohesion, we refer to the one given by Chan et al. (2006) according to which: "*Social cohesion is a state of affairs concerning both the vertical and the horizontal interactions among members of society as characterized by a set of attitudes and norms that includes trust, a sense of belonging and the willingness to participate and help, as well as their behavioural manifestations*" (Chan et al, 2006, p18). Coleman (1988), Putnam et al. (1993) and Fukuyama (1995) attribute a key role to social capital and trust in strengthen economic efficiency. According to these authors, trust and social capital determine the performance of institutions of society. Beugelsdjik (2006) argues that the macro measure of trust and the existing measures of institutions represent elements of the same dimension. Together they measure the performance of institutions. Thus, according to Mangematin (1998), institutional trust building can be likened to subscribing to the social contract [Rousseau], a high level of trust between citizens affecting positively the performance of all institutions of society including companies (Fukuyama, 1995).

2.2 Trust and public policies

According to Easterly et al. (2006), social cohesion determines the quality of institutions, which in turn have an effect on the conception and implementation of pro-growth policy. In the same way, La porta et al. (1997) explain that general trust results in better government performance. Indeed, according to Humphrey and Schmitz (1998) trust produces cooperation, which in turn reduces transaction costs by facilitating coordination. It thus appears that cohesive societies are those having the best quality of institutions. In these societies, people are unlikely to be able so easily to take advantage of the public infrastructure (Roth, 2009) because it would be easier to cope with the free rider problem (Humphrey and Schmitz, 1998).

3. Methodology and Data
3.1 Empirical model

In order to investigate the relationship between social cohesion, institutions and public policies in the MENA region, following Easterly et al. (2006), our parsimonious model may be written as:

In the first step, social cohesion and education such as Alesina and Perotti (1996) will be determining factors of institutions (equation 1):

$$INST_{it} = \alpha_i + \beta_1 TRUST_{it} + \beta_2\ EDUC_{it} + \varepsilon_{it} \qquad (1)$$

Where $INST_{it}$ represents institutions, $TRUST_{it}$ is the indicator of social cohesion, $EDUC_{it}$ is the proxy of human capital, and ε_{it} is the error term.

In the second stage, institutions and social cohesion will be introduced into the public policies function (equation 2):

$$PUBPOL_{it} = \zeta_i + \gamma_1 INST_{it} + \gamma_2\ CONF_{it} + \mu_{it} \qquad (2)$$

Where public policies $PUBPOL_{it}$ will be determined based on institutions $INST_{it}$, social cohesion $TRUST_{it}$ and μ_{it} is the error term.

We applied the three-stage least squares 3SLS method (Zellner and Theil, 1962 ; Cameron et Trivedi, 2005) to estimate our simultaneous equations model. This choice is justified by the fact that 3SLS allows us to correct both the correlation between the errors as well as the possible simultaneity problem between the dependent variable and some explanatory variables. To use this method in the light of panel data Cornwell et al. (1992) explain that, in order to have efficient estimators, the three-stage least squares method can be applied to data that have undergone a "within" transformation.

3.2 Description and sources of the data

- **Social cohesion**

Unlike social capital that is defined as a variable at the micro level, our study focuses on the characteristics of the whole society where the concept of social cohesion will be more appropriate. In the literature we find several indicators to measure social cohesion at the societal level; among these measures we shall use trust as a proxy for social cohesion in a country.

- **Measuring trust**

The question used to assess the level of trust in a society is: "*Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?*" As is the case of Knack and Keefer (1997) our trust indicator is the percentage of respondents in each nation replying "most people can be trusted" (after deleting the "don't know"

responses). The question is from the World Value Survey that provides a longitudinal, international database of norms, attitudes and values.

Because of the problem of missing data on trust, we rely on the dataset developed by Castellacci and Natera (2011) who used a method of multiple imputations in order to construct a large dataset containing a great number of indicators including trust over the period 1980-2008. This dataset provide data on six countries in the MENA region that will the subject of our analysis which are: Algeria, Iran, Jordan, Morocco, Saudi Arabia and Turkey.

Table 1 shows the description and definition of all variables used in our analysis (see Appendix).

Table 2 shows the descriptive statistics

Through this work, we shall examine empirically the link between social cohesion, institutions and public policies from a panel of six MENA countries with time intervals between 1980 and 2008. On the basis of the framework presented above and following Easterly et al. (2006), the underlying assumption is formulated as follows:

Hypothesis: Public policies are more effective in a high quality institutional environment and such institutions in turn are more likely to be found in cohesive societies.

The aim of our work is to verify, on the one hand, if cohesion is a key determinant of institutions, and on the other hand, whether the effect of social cohesion on public policies is conditional on the existence of good institutions. We therefore seek to check if there is a threshold beyond which the effect of social cohesion on public policies becomes significantly positive. To this end, we include into our model two interaction terms, namely:

The interplay is analysed between social cohesion and institutions (CS * INST) and the interplay between social cohesion and the institutions squared (CS * $INST^2$).

4. Results and Discussion

The main purpose of this paper is to examine the relationship between social cohesion, institutions and public policies through a Panel analysis. The findings are presented in Tables 3, 4, 5 and 6 (see Appendix). In the first step estimations (Table 3) we introduced the number of hospital beds as a proxy for public policy expenditure and the rule of law as an indicator of institutions. Results (equations 1 and 2) show a significant negative effect of trust on public

policies and a significant positive effect on institutions, whereas institutions exhibit no significant effect on public policies. These results disprove partially our predictions. Equations 3 and 4 (Table 3) introduce an interaction term between trust and institutions (***Trust*Inst***), presenting a negative coefficient indicating that even improving the quality of institutions, the relationship between trust and public policies remains negative. For further insight into these findings, we test the presence of nonlinearity like Baliamoune-Lutz and Mavrotas (2009) and Baliamoune-Lutz (2012). In equations 5 and 6 we also include the interaction between trust and institutions (using the square of institutions). We find that the interaction term (***Trust*Inst^2***) has a positive and statistically significant impact suggesting that the effect of trust on public

policies is strengthened solely in high quality institutions. Otherwise, there is a threshold effect of institutions beyond which trust has a positive impact on public policies.

Similar results are obtained in Tables 4, 5 and 6 when we used other indicators of both institutions and public policies. It should be noted that that we have tested other indicators, but we present only those that yield significant results.

The effect of education on institutions is statistically significant and presents mitigated results. Indeed, education has a positive effect on the rule of law and civil liberties, whereas, this effect is negative when it comes to voice and accountability and political rights.

5. Conclusion

In this paper, we have examined the relationship between social cohesion, institutions and public policies in the MENA region over the period 1980-2008 using the three-stage least squares (**3SLS**) estimation. The underlying purpose of this study is to explore if social cohesion enhances institutions, and if those institutions constitute the channel through which social cohesion affects public policies. Our main findings show that good institutions are more likely to be found in cohesive societies, and that more effective public policies require an environment of good institutions and social cohesion. They also show the existence of a threshold effect of institutions beyond which social cohesion has a positive impact on public policies. We contend that the neo-institutional hypothesis according to which institutions and structures of government are inter-independent (Williamson, 1996) is based on the notion that it is necessary to implement social policy in conjunction with strengthening institutional structures (Errami and Cargneoll-Charles, 2016). This interdependence in MENA countries

between regime changes and reforms in public policy reforms constitutes the principal concern in the phases of 'transition' and democratic 'consolidation' (Bezes, 2007) associated with democratic rules and the operational characteristics of authoritarian regimes (Diamond, 2002). These results emphasise the absence of consideration of the social role of institutions and founders of public services in emerging economies (Errami and Cargnello-Charles, 2016).

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Appendix

Table (1): Description and definition of variables

Variable	Description	Source
Trust	Most people can be trusted. Percentage of respondents who "agree" with this statement.	Castellacci, F and J. M.Natera (2011)
Education	The average years of total schooling completed in population over 15.	Barro and Lee (2001)
Fixed telephone subscriptions	Fixed telephone subscriptions (per 100 people).	World Bank
Voice and Accountability	Captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media (-2,5 ; 2,5).	WGI
Rule of Law	Captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence (-2,5 ; 2,5).	WGI
Political rights	Measures the free popular participation in the political process (-7, -1).	Freedom House
Civil liberties	Measures the basic freedoms of citizens without interference from the State (-7, -1).	Freedom House
Internet	Internet users (per 100 people)	World Bank
Paved roads	Paved roads, surfaced with crushed stone, hydrocarbon binder, bituminized agents as a percentage of the total of the entire road network length of the country.	Banque mondiale
Hospital beds	Per 1000 people Hospital beds include inpatient beds available in public, private, general, and specialized hospitals and rehabilitation centers.	World Bank

Table (2): Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Trust	174	26.10	13.33	4.9	65.3
Education	174	6.53	1.39	3.49	9.13
Democracy	174	-2.24	5.68	-10	8
Political rights	174	-5.35	1.18	-7	-3
Civil liberties	174	-5.14	1.12	-7	-3
Voice and accountability	174	-0.86	0.50	-1.7	-0.03
Rule of law	174	-0.17	0.46	-1.192538	0.45
Fixed telephone subscriptions	174	430.04	360.36	44.84866	1627.06
Paved road	174	57.94	25.08	21.47	100
Hospital beds	174	2.17	0.76	0.8	4.1

Table (3): Social cohesion, institutions and public policies

	3SLS					
VARIABLES	Hospital beds (1)	Rule of law (2)	Hospital beds (3)	Rule of law (4)	Hospital beds (5)	Rule of law (6)
Trust	-1.731*	2.212***	-3.673**	2.213***	-3.113*	2.213***
	(1.008)	(0.785)	(1.800)	(0.785)	(1.861)	(0.785)
Institution	-0.303		2.336**		2.244**	
	(0.348)		(0.922)		(0.903)	
Trust*Inst			-1.107**		-1.310***	
			(0.454)		(0.413)	
Trust*Inst2					2.465*	
					(1.471)	
Education		0.00916***		0.00929***		0.00929***
		(0.00287)		(0.00287)		(0.00287)
Constant	2.561***	-2.030***	5.054***	-2.034***	4.971***	-2.034***
	(0.492)	(0.256)	(0.554)	(0.256)	(0.552)	(0.256)
Observations	174	174	174	174	174	174
R-squared	0.933	0.962	0.979	0.962	0.981	0.962

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.
Hospital beds : proxy of public policies
Rule of law : proxy of institutions

Table (4): Social cohesion, institutions and public policies

	3SLS					
VARIABLES	**paved raod** (1)	**voiceaccnt** (2)	**paved raod** (3)	**voiceaccnt** (4)	**paved raod** (5)	**voiceaccnt** (6)
Trust	-1.75*	0.609	-3.687***	1.039**	-3.993***	1.039**
	(1.06)	(0.493)	(1.240)	(0.461)	(1.309)	(0.461)
Institution	-0.0469		1.019***		0.862***	
	(0.0605)		(0.340)		(0.283)	
*Trust*Inst*			-3.113***		-4.281***	
			(1.146)		(1.525)	
*Trust*Inst2*					0.807**	
					(0.324)	
Education		-0.0156***		-0.0951*		-0.0951*
		(0.00537)		(0.0494)		(0.0494)
Constant	0.643***	0.596	1.841***	-0.566	1.675***	-0.566
	(0.0674)	(0.585)	(0.366)	(0.362)	(0.308)	(0.362)
Observations	174	174	174	174	174	174
R-squared	0.987	0.889	0.801	0.855	0.879	0.855

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1
 Paved road: proxy of public policies
 Voice and accountability: proxy of institutions

Table (5): Social cohesion, institutions and public policies

	3SLS					
VARIABLES	**internet** (1)	**civlib** (2)	**internet** (3)	**civlib** (4)	**internet** (5)	**civlib** (6)
Trust	-0.385*	1.33	-0.981*	0.219	-0.675***	0.866
	(0.200)	(0.984)	(0.565)	(1.09)	(0.172)	(1.09)
Institution	0.178***		0.114***		0.902***	
	(0.0257)		(0.0325)		(0.254)	
*Trust*Inst*			-0.225**		-2.773***	
			(0.101)		(0.700)	
*Trust*Inst2*					0.268***	
					(0.0717)	
Education		0.490**		0.659***		0.685***
		(0.238)		(0.107)		(0.106)
Constant	1.011***	-2.919**	0.602***	-9.591***	2.300***	-9.769***
	(0.137)	(1.430)	(0.161)	(0.774)	(0.549)	(0.770)
Observations	174	174	174	174	174	174
R-squared	0.810	0.850	0.854	0.818	0.871	0.817

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1
 Internet: proxy of public policies
 Civil liberties: proxy of institutions

Table (6): Social cohesion, institutions and public policies

VARIABLES	3SLS					
	internet	**polrights**	**internet**	**polrights**	**internet**	**polrights**
	(1)	(2)	(3)	(4)	(5)	(6)
Trust	-0.412*	-0.274	-1.503***	-0.592	-3.540***	-0.560
	(0.211)	(0.809)	(0.402)	(0.805)	(0.898)	(0.814)
Institution	0.106		0.829***		3.556***	
	(0.0811)		(0.190)		(0.849)	
*Trust*Inst*			-2.504***		-1.567***	
			(0.687)		(0.408)	
*Trust*Inst2*					1.641***	
					(0.438)	
Education		-0.570**		-0.504**		-0.556**
		(0.255)		(0.238)		(0.259)
Constant	0.736	-2.602*	5.007***	-2.971**	7.481***	-2.578
	(0.484)	(1.543)	(1.125)	(1.445)	(1.635)	(1.568)
Observations	174	174	174	174	174	174
R-squared	0.896	0.930	0.901	0.930	0.987	0.933

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Internet : proxy of public policies
Political rights : proxy of institutions