UNITED NATIONS UNIVERSITY
UNU-WIDER

WIDER Working Paper 2021/168

Aid and social cohesion

Michael Danquah[1] and Bazoumana Ouattara[2]

November 2021

United Nations University World Institute for Development Economics Research
wider.unu.edu

Abstract: A plethora of work has been done on the effectiveness of foreign aid. However, virtually none of the previous studies has investigated the impact of aid on social cohesion. Yet, in order to promote the achievement of the targets in SDG 16, donors and global partners of developing countries have put emphasis on social cohesion in recent decades. As a result, large amounts of development aid have been channelled into many developing countries to support the building of peaceful, just, and inclusive societies. The question is, however, can aid bolster cooperation and respect among different identity-based groups in a country? We contribute to the literature by exploring the effect of development aid on social cohesion for a relatively large panel of aid-recipient countries. Our empirical results suggest that aid produces a strong, positive, and significant effect in improving social cohesion. Moreover, the results reveal that the effect of aid is positive and significant in countries characterized by low social cohesion but becomes insignificant in more cohesive societies. The main results are robust to various specifications, estimation procedures, and measures of aid used.

Key words: social cohesion, foreign aid, panel data

JEL classification: C23, F35, N10, O10

Note: On 16 November 2021, a small error in Table 5 was corrected.

[1] UNU-WIDER, Finland, corresponding author: danquah@wider.unu.edu; [2] University of Manchester, UK

This study has been prepared within the UNU-WIDER project Addressing group-based inequalities.

Information and requests: publications@wider.unu.edu

ISSN 1798-7237 ISBN 978-92-9267-108-2

https://doi.org/10.35188/UNU-WIDER/2021/108-2

Typescript prepared by Joseph Laredo.

United Nations University World Institute for Development Economics Research provides economic analysis and policy advice with the aim of promoting sustainable and equitable development. The Institute began operations in 1985 in Helsinki, Finland, as the first research and training centre of the United Nations University. Today it is a unique blend of think tank, research institute, and UN agency—providing a range of services from policy advice to governments as well as freely available original research.

The Institute is funded through income from an endowment fund with additional contributions to its work programme from Finland, Sweden, and the United Kingdom as well as earmarked contributions for specific projects from a variety of donors.

Katajanokanlaituri 6 B, 00160 Helsinki, Finland

1 Introduction

Generally, discussions on the concept of social cohesion and the definitions agreed by social scientists can arguably be traced back to Le Bon (1897)'s theory of collective behaviour and contagion. However, Festinger et al. (1950) were conceivably the ones who laid down the modern definition of social cohesion used by many researchers. In fact, they define social cohesion as the desire of individuals to maintain their alliance with a group through various actions. Along these lines, Kearns and Forrest (2000: 997) defined 'a socially cohesive society' as 'one in which the members share common values which enable them to identify common aims and objectives and share a common set of moral principles and codes of behaviour through which to conduct their relations with one another'. Berkman and Kawachi (2000) similarly refer to social cohesion as two broad, interlinked features of society, namely the absence of latent conflict (in the form of inequality, ethnic tensions, disparities in political participation/polarization) and the presence of strong social bonds—the myriad of associations that bridge social divisions and the existence of institutions of conflict management.[1] In the ensuing discussions in this paper, social cohesion refers to relations of co-operation and respect among different ethnic, linguistic, religious, or identity-based groups in a society (see Pervaiz et al. 2013). This view of social cohesion has gained acceptance within the social science literature and some policy circles, such as the European Union and the World Bank (OECD 2011; World Bank 2013).

Social cohesion has become an important component of the development studies literature and, more importantly, the development policy debate in recent years. This is because of the nature and persistence of social fragmentation across developing countries (see figure B1) in particular and the significance of social interactions and the ways societies manage collective decisions. Social cohesion plays a crucial role in preventing latent conflicts from turning violent and has also been credited with boosting developmental outcomes, particularly economic performance, wellbeing, and good health. Along these lines, Ritzen and Woolcock (2000) note that social cohesion in a country contributes to the inclusiveness of its people and thereby plays a crucial role in managing the success of that country's policy response to the uncertainties of the wider economy. With respect to the economic development implications of social cohesion, several studies have argued that social cohesion may lead to better economic outcomes for diverse reasons such as sharing of information and increased cooperation, which could lead to a reduction in transaction costs (e.g. Bjørnskov 2017; Knack and Keefer 1997; Robison et al. 2002; Tabellini (2010); Whiteley 2000). Other studies have posited that the lack of social cohesion could impede economic development via socio-political instability and intergroup conflicts (e.g. Alesina et al. 1999; Easterly and Levine 1997; Pervaiz and Chaudhary 2015; Rodrik 1999).

Can development aid influence patterns of social interaction and cooperation among different ethnic, linguistic, religious, or identity-based groups in a country? Although the literature on the effectiveness of development aid is voluminous and diverse, this question has not been examined in the aid literature to date. Only one study, by Fearon et al. (2009), has touched on this subject. Using randomized field experiments in the context of Liberia, Fearon et al. (2009) showed that post-conflict development aid impacts positively on social cohesion. Most studies, however, have focused on the link between aid and growth (e.g. Arndt 2015; Arndt et al. 2010; Brückner 2013; Burnside and Dollar 2000; Clemens et al. 2012; Hansen and Tarp 2001; Juselius et al. 2014; Ouattara and Strobl 2008; Rajan and Subramanian 2008). A limited number of studies have sought to explore the link between aid and other developmental outcomes. For instance, some have

[1] The authors in fact argued that social capital forms a subset of the notion of social cohesion.

looked at the link between aid and health outcomes (Feeny and Ouattara 2013; Gormanee et al. 2005; Mishra and Newhouse 2009; Mukherjee and Kizhakkethalackal 2013). Others have investigated the effect of aid on poverty, inequality, human development, and education (Alvi and Senbeta 2012; Dreher et al. 2008; Gormanee et al. 2005; Kasuga and Morita 2018; Pickbourn and Ndikumana 2013). The strand of the aid literature that is perhaps the most closely related to the relationship between aid and social cohesion includes the studies that have investigated the impact of aid on conflicts and wars. For example, Collier and Hoeffler (2002) find that total aid has no direct effect on conflicts in general but may exert an indirect effect in preventing civil conflicts through the growth and structure of income. The results by de Ree and Nillesen (2009) show that negative aid shocks hasten armed conflicts. Along similar lines, Besley and Persson (2011) report a positive association between variations in aid flows and variations in political violence. The positive link between aid, broadly defined, and conflicts is confirmed by several other studies, including Crost et al. (2014), Dube and Naidu (2011), and Nunn and Qian (2014).

The lack of current studies on understanding the link between aid and social cohesion is surprising given that billions of dollars in development aid are spent on peace-building among communities, and social cohesion in particular. Over the years, many developing countries have received large amounts of development aid channelled through the World Bank and other development organizations to bolster the achievement of targets in SDG 16, which largely aims to 'promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels'. Understanding the role of aid will offer policy and programmatic guidance in achieving SDG 16 and thereby promote the principles of accountable, inclusive, and effective governance in aid-recipient countries.

The current paper is, therefore, an attempt to contribute to the scant literature on aid and social cohesion. To this end we assemble a panel of 122 aid-recipient countries over the period 1990–2015 and examine the effect of aid on social cohesion. Our results suggest that aid improves social cohesion. Even after our results are subjected to a battery of robustness checks, this finding remains compelling.

The remainder of this paper is organized as follows. Section 2 provides a brief review of how aid can transmit to social cohesion. Section 3 outlines the model, discusses the empirical strategy adopted in the paper, and describes the data. Section 4 presents and discusses the results. Finally, Section 5 offers concluding remarks.

2 How does aid transmit to social cohesion?

The social science literature has indicated some channels through which development aid may affect social cohesion. One obvious route is via the economic growth channel (Baliamoune-Lutz 2009). Through the boosting of economic growth and, therefore, employment, foreign aid could help promote social cohesion. Focusing on the pathways from jobs to social cohesion, Wietzke (2014) shows that access to jobs, particularly formal employment, generates social interactions and wellbeing, which translate into wellbeing spillovers and improved group relations. Cramer (2015) suggests that high unemployment, particularly among young men, may be a threat to social cohesion, as they have a low opportunity cost for embracing violence and adhering to armed groups.

Aid can also foster social cohesion by modernizing societies via the provision of infrastructural and technical assistance, the strengthening of the legislature and judiciary, increased support to civil society organizations and the media, and improvements in education and health. All these

may result in increased incomes and wellbeing, which are conducive to social cohesion (Knack 2004).

Another channel through which aid can impact social cohesion is democratization. Along these lines, Mosley et al. (2004) argue that aid money invested in promoting democracy can help nurture social cohesion. Several other authors appear to support the view that democratization leads to a more cohesive society (e.g. Fox 1996; Levi 1996; Rahn et al. 1999). These authors contend that group associations are more likely to exist in democracies than in autocracies. Democratization would reduce regime controls and 'disappearances' and build up civil liberties, which in turn will provide an environment that enhances trust among individuals (Paxton 2002).

3 Data and methodology

To explore the link between social cohesion and foreign aid we compile a panel dataset on relevant indicators for 122 countries (see Table A1 in Appendix A) during the 1990–2015 period. Following the aid effectiveness literature, we adopt the following general specification:

$$Cohesion_{it} = \alpha_i + \beta Aid_{it} + \gamma'_{it} Z_{it} + \eta_t + \varepsilon_{it} \quad (1)$$

where a and η capture, respectively, country and time effects, and ε represents the error term. *Cohesion* is Intergroup Social Cohesion, our dependent variable of interest. This variable, obtained from the International Institute of Social Studies database, captures 'relations of cooperation and respect between identity groups in a society'. The data are available from 1990 to 2015 at 5-year intervals. *Aid* is foreign aid (normalized by income), which is taken from the AidData database (see below). For robustness purposes we also use aid data from the OECD-DAC (see Section 4.1). Z is a set of control variables: drawing from the aid effectiveness literature we include income per capita (*gdppc*); religion represented by the share of Christians (*christian*) and share of Muslims (*muslim*); natural resources (*nat res*)—a dummy variable taking the value of 1 if the country is an exporter of oil or gas; urbanization (*rc_wdi_urban*); income inequality (*gini_disp*); migrant stock (*wdi_imig*); human capital (*pwt_hci*); and democracy/institutions (*fh_ipolity2*). Table B2 in Appendix B provides a description and sources of all the variables, whilst Table B1 offers the summary statistics.

In the aid effectiveness literature, GMM (or a variant) has extensively been used as the main method of estimation (e.g. Clemens et al. 2012; Dalgaard et al. 2004; Hansen and Tarp 2001; Ouattara and Strobl 2008). We adopt a similar approach in the current study. Under these settings, Equation (1) is transformed to a dynamic model, where the 1-period lag of cohesion is included:

$$Cohesion_{it} = \alpha_i + Cohesion_{it-1} + \beta Aid_{it} + \gamma'_{it} Z_{it} + \eta_t + \varepsilon_{it} \quad (2)$$

However, to ensure that our results are not driven by the choice of this particular method, we also use alternative estimators. Indeed, we start the analysis by estimating Equation (1) using cross-section analysis. One advantage of doing so is that it allows us to capture the long-term effect of aid on social cohesion. Next, we estimate Equation (1) using pooled OLS, fixed effects, and random effects. These various estimators are based on different underlying identification assumptions; employing them thus ensures the robustness of our main results.

To complement the results obtained from the estimators discussed above, we explore whether the impact of aid varies along the social cohesion distribution. To be sure, we could speculate that the effect of aid will be different in more fragmented societies and more cohesive societies, even

though it is difficult to predict a priori in which category aid will be more effective. To tackle this issue, we adopt a quantile regressions analysis. In doing so we are able to capture any potential non-linearity in the relation between aid and social cohesion.

4 Results

As mentioned above, we start the analysis by looking at the long-run impact (cross-section data) of aid on social cohesion. Results are summarized in Table 1.

Table 1: Cross-section results

Variables	**(1)**	**(2)**	**(3)**	**(4)**
aid_net_gdp	1.099***	1.494***	1.440***	1.558***
	(0.309)	(0.370)	(0.384)	(0.387)
lngdppc	0.0220***	0.0358***	0.0164	0.0264*
	(0.00804)	(0.00889)	(0.0133)	(0.0137)
Christian		-0.000821***	-0.000972***	-0.00109***
		(0.000232)	(0.000229)	(0.000261)
Muslim		-0.000478**	-0.000773***	-0.00101***
		(0.000226)	(0.000228)	(0.000254)
nat res			-0.00851	-0.0430**
			(0.0177)	(0.0186)
rc_wdi_urban			0.00120*	0.00200***
			(0.000626)	(0.000723)
gini_disp			-0.00130	-0.00242*
			(0.00157)	(0.00129)
wdi_imig				-0.000530
				(0.00118)
pwt_hci				-0.0160
				(0.0291)
fh_ipolity2				-0.00678
				(0.00434)
Constant	0.422***	0.356***	0.507***	0.542***
	(0.0591)	(0.0662)	(0.0757)	(0.0887)
Observations	87	72	70	63
R-squared	0.111	0.265	0.316	0.466

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

The baseline model in Column (1), which includes aid and income per capita, shows that the estimated effect of aid on social cohesion is positive (1.099) and highly significant in statistical terms. In Column (2) we control for religious diversity by including shares of Christians and Muslims as additional variables. The estimated coefficient of aid on social cohesion remains positive (1.494) and highly significant statistically. Moreover, adding further control variables does not alter our finding that foreign aid enhances social cohesion, as can be seen from Columns (3)–(4).

While the cross-section results are useful, it is important to take advantage of the panel data structure of our sample. Indeed, we construct 5-year average panels over the period 1990–2015. Tables 2, 3, and 4 portray, correspondingly, the pooled OLS, fixed effects, and random effects results. To lessen the issue of potential endogeneity of the right-hand side variables, we follow

some existing empirical studies (e.g. Acemoglu et al. 2013; Harms and an de Meulen 2013; Ouattara and Standaert 2020) by using one-period lag of these variables in lieu of the actual variables.

Starting with the pooled OLS results (Table 2), it can be seen that the estimated coefficients of aid are all positive and highly significant in statistical terms.

Table 2: Pooled OLS results

Variables	**(1)**	**(2)**	**(3)**	**(4)**
lagaid_net	1.392***	1.712***	1.593***	1.775***
	(0.309)	(0.346)	(0.372)	(0.421)
Laggdp	0.0230***	0.0325***	0.0128	0.0225*
	(0.00557)	(0.00662)	(0.0124)	(0.0130)
Lagchristian		-0.000632***	-0.000823***	-0.000944***
		(0.000150)	(0.000165)	(0.000179)
Lagmuslim		-0.000537***	-0.000807***	-0.00106***
		(0.000148)	(0.000161)	(0.000183)
Lagnatres			-0.0111	-0.0349**
			(0.0124)	(0.0158)
Lagurb			0.00122***	0.00183***
			(0.000460)	(0.000497)
Laggni			-0.000311	-0.00159*
			(0.00109)	(0.000947)
Lagimig				-0.000296
				(0.000584)
Laghci				-0.0181
				(0.0164)
lagpolity2				-0.00426
				(0.00288)
Constant	0.421***	0.390***	0.410***	0.448***
	(0.0426)	(0.0480)	(0.0567)	(0.0645)
Observations	*282*	*248*	*227*	*209*
R-squared	*0.407*	*0.435*	*0.460*	*0.518*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

In Table 3, which captures the fixed effects estimates, it can be seen that, whilst the estimates of aid are positive, they drop in statistical significance. Indeed, in two of the four models these estimates are significant at the 10 per cent level and in the other two at the 5 and 1 per cent levels. It is also worth stressing that in the fixed effects models the religious diversity variables dropped out during the estimation process due to high collinearity. The random effects results (Table 4), however, turned out to be similar to our previous results in terms of statistical significance. However, all the reported estimates for the coefficient of aid are highly significant (at the 1 per cent level) in statistical terms.

Table 3: Fixed effects results

Variables	**(1)**	**(2)**	**(3)**	**(4)**
lagaid_net	1.949*	1.981*	2.402***	2.131**
	(0.989)	(1.009)	(0.831)	(0.960)
Laggdp	0.136***	0.111***	0.0929**	0.135***
	(0.0364)	(0.0365)	(0.0445)	(0.0479)
lagnatres			0.0647**	0.0594**
			(0.0284)	(0.0292)
Lagurb			0.00368	0.00417
			(0.00239)	(0.00293)
laggni			-0.0122**	-0.0138***
			(0.00464)	(0.00515)
lagimig				-0.000749
				(0.00529)
laghci				-0.0806
				(0.0598)
lagpolity2				0.00798
				(0.00539)
Constant	-0.365	-0.207	0.258	0.133
	(0.250)	(0.253)	(0.258)	(0.287)
Observations	*282*	*248*	*227*	*209*
R-squared	*0.100*	*0.073*	*0.157*	*0.190*

Table 4: Random effects results

Variables	**(1)**	**(2)**	**(3)**	**(4)**
lagaid_net	1.103***	1.382***	1.362***	1.438***
	(0.344)	(0.369)	(0.399)	(0.416)
laggdp	0.0206***	0.0295***	0.00363	0.0136
	(0.00742)	(0.00828)	(0.0150)	(0.0160)
lagchristian		-0.000641***	-0.000896***	-0.00104***
		(0.000218)	(0.000239)	(0.000254)
lagmuslim		-0.000487**	-0.000840***	-0.00109***
		(0.000214)	(0.000213)	(0.000238)
lagnatres			-0.00466	-0.0202
			(0.0177)	(0.0225)
lagurb			0.00157***	0.00205***
			(0.000610)	(0.000624)
laggni			-0.000303	-0.00174
			(0.00148)	(0.00123)
lagimig				6.15e-05
				(0.000881)
laghci				-0.0309
				(0.0221)
lagpolity2				-0.000268
				(0.00414)
Constant	0.489***	0.452***	0.588***	0.645***
	(0.0571)	(0.0637)	(0.0708)	(0.0835)
Observations	*282*	*248*	*227*	*209*
R-squared	*0.266*	*0.337*	*0.369*	*0.469*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' constructions.

As pointed out earlier, in our estimations so far we did not account for a persistence effect. Indeed, it could be that previous values of social cohesion explain current levels; thus, failing to account for the persistence effect could produce misleading results. To cater for this, we estimate a dynamic panel model, represented by Equation (2). To this end, we use the system-GMM estimator. Results are shown in Table 5.

Table 5: Dynamic panel (GMM-SYS)

Variables	**(1)**	**(2)**	**(3)**	**(4)**
L.intergroup_cohesion	0.647***	0.683***	0.745***	0.770***
	(0.161)	(0.161)	(0.201)	(0.202)
lagaid_net	1.809**	1.908*	1.879**	2.026**
	(0.839)	(0.988)	(0.818)	(0.794)
Laggdp	0.0319*	0.0281	0.0216	0.0364*
	(0.0164)	(0.0220)	(0.0188)	(0.0205)
Lagchristian		0.000608	0.000207	0.000286
		(0.000608)	(0.000810)	(0.000746)
Lagmuslim		0.000522	-0.000339	-0.000511
		(0.000441)	(0.000341)	(0.000518)
Lagnatres			-0.00692	-0.0228*
			(0.0155)	(0.0132)
Lagurb			-1.79e-05	-0.000233
			(0.000932)	(0.00106)
Laggni			-0.00192	-0.00241
			(0.00223)	(0.00190)
Lagimig				-0.000369
				(0.00115)
Laghci				-0.0127
				(0.0386)
lagpolity2				-0.00462
				(0.00343)
Constant	-0.0175	-0.0585	0.147	0.124
	(0.158)	(0.172)	(0.160)	(0.169)
Observations	*252*	*229*	*213*	*196*
AR(1) (p-value)	*0.019*	*0.014*	*0.014*	*0.022*
AR(2) (p-value)	*0.897*	*0.848*	*0.761*	*0.821*
Hansen test (p-value)	*0.026*	*0.147*	*0.145*	*0.168*
Difference-in-Hansen test (p-value)	*0.054*	*0.445*	*0.188*	*0.246*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

We also report results based on the dynamic pooled OLS and dynamic random effects models (Tables C1 and C2 in Appendix C).[2] For consistency we use one-period lag of the right-hand side variables as regressors. It is evident from the results in the various tables that persistence matters, and the estimated coefficient of the lagged dependent variable is positive and highly significant statistically. Turning to the effect of aid on social cohesion, irrespective of the method/ identification strategy adopted, the estimates of aid remain positive and significant in all the

[2] It is well established that applying fixed-effects methods in the context of a dynamic panel leads to bias estimates. For this reason we do not apply the fixed effects to our dynamic specification.

specifications. Loosely speaking, these results broadly confirm our earlier finding that foreign aid is positively associated with social cohesion.

To probe deeper into the relationship between social cohesion and aid we perform quantile regression analysis based on the cross-section data. Table 6 shows the results. It can be seen from the results that the effect of aid is larger in countries with low social cohesion. However, as we move along the distribution of social cohesion, the estimated effect (size) becomes smaller and smaller, going from 1.935 (10th quantile) to 0.683 (90th quantile). More importantly, the results show that the estimated coefficient of aid is statistically significant in the lower quantiles, namely the 10th and 25th; however, beyond the 25th quantile the statistical significance disappears. Altogether, these results suggest that aid is effective in improving social cohesion in socially fragmented countries but is ineffective in more cohesive societies. These results are intuitive.

Table 6: Quantile regression

	(1)	(2)	(3)	(4)	(5)
Variables	**0.1**	**0.25**	**0.5**	**0.75**	**0.9**
aid_net	1.935**	1.855**	1.025	0.850	0.683
	(0.870)	(0.854)	(0.892)	(0.924)	(1.118)
Gdp	0.0331	0.0340	0.0117	0.0176	0.000732
	(0.0225)	(0.0239)	(0.0216)	(0.0249)	(0.0227)
Christian	-0.000903**	-0.000946**	-0.00133***	-0.00100**	-0.000785**
	(0.000401)	(0.000446)	(0.000475)	(0.000450)	(0.000348)
Muslim	-0.00151***	-0.00155***	-0.000922**	-0.000785*	-0.000323
	(0.000499)	(0.000437)	(0.000357)	(0.000432)	(0.000429)
nat res	-0.0509	-0.0347	-0.0456	-0.0387	-0.0482
	(0.0345)	(0.0315)	(0.0308)	(0.0321)	(0.0356)
rc_wdi_urban	0.00221*	0.00198*	0.00201*	0.000976	0.00203
	(0.00117)	(0.00114)	(0.00110)	(0.00125)	(0.00162)
gini_disp	-0.00744**	-0.00697***	-0.000355	-0.00197	0.000379
	(0.00280)	(0.00241)	(0.00219)	(0.00213)	(0.00217)
wdi_imig	-0.00145	-0.000211	-0.00119	0.00495	-0.000597
	(0.00274)	(0.00270)	(0.00330)	(0.00348)	(0.00345)
pwt_hci	-0.00289	-0.00190	-0.0168	0.000704	0.0172
	(0.0483)	(0.0510)	(0.0438)	(0.0460)	(0.0418)
fh_ipolity2	-0.0102	-0.00866	-0.00308	-0.00105	-0.0120*
	(0.00792)	(0.00664)	(0.00755)	(0.00698)	(0.00673)
Constant	0.652***	0.628***	0.559***	0.589***	0.603***
	(0.158)	(0.160)	(0.128)	(0.110)	(0.121)
Observations	*63*	*63*	*63*	*63*	*63*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

4.1 Further robustness

In the above analysis, following recent trends in aid effectiveness studies, we used aid data from the research release of the AidData database (version 3.1; see Tierney et al. 2011).[3] For robustness purposes we also use standard OECD-DAC aid data, which have been widely adopted in previous studies. This allows us to check the validity of our results against alternative aid measures and

[3] Version 3.1 was released in 2017.

sources. Indeed, we replicate the above exercise using OECD-DAC aid data. Results are summarized in Tables D1–D8 in Appendix D. The reported results are broadly consistent with our finding that aid is positively correlated to social cohesion.

5 Conclusion

It is well recognized that social cohesion is important because it has not only an intrinsic value but also, and more importantly, an instrumental value through its ability to foster economic development. The importance of social cohesion in reducing violence and related death rates and in developing effective, accountable, and inclusive decision-making at all levels is also clearly captured in SDG 16. Despite the fact that significant amounts of development aid have been disbursed along the lines of promoting cohesiveness in societies, broadly speaking, empirical studies focusing on the impact of aid effectiveness on social cohesion are very rare—the paper by Fearon et al. (2009) being a notable exception. The current paper is therefore an attempt to contribute to this embryonic literature. The empirical results show that foreign aid produces a strong, positive, and significant effect on social cohesion. This finding is robust across various specifications and econometric techniques, based on different identifying assumptions, as well as alternative measures of aid.

The findings provide insights into the role of aid; therefore, donors and aid-recipient countries could draw some policy guidance from them. Some of this policy could focus on expanding opportunities for groups who face barriers that undermine their self-esteem, participation in decision-making, and contribution to society. Aid can therefore be used to support programmes on transparency and access to information, and also to increase fairness and equality of opportunity for all. For instance, programmes that support employment for at-risk populations such as the youth can influence their values and behaviours, thereby contributing to improved relations between groups.

References

Acemoglu, D., and J.A. Robinson (2013). 'Economics versus politics: pitfalls of policy advice'. *Journal of Economic Perspectives*, 27(2): 173–92. https://doi.org/10.1257/jep.27.2.173

Alesina, A., R. Baqir, and W. Easterly (1999). 'Public goods and ethnic divisions'. *Quarterly Journal of Economics*, 114: 1243–84. https://doi.org/10.1162/003355399556269

Alvi, E., and A. Senbeta (2012). 'Does foreign aid reduce poverty?' *Journal of International Development*, 24: 955–76. https://doi.org/10.1002/jid.1790

Arndt, C. (2015). 'Assessing foreign aid's long run contribution to growth and development'. *World Development*, 69: 6–18. https://doi.org/10.1016/j.worlddev.2013.12.016

Arndt, C., S. Jones, and F. Tarp (2010). 'Aid, growth, and development: have we come full circle?' *Journal of Globalisation and Development*, 1(2), Article 5. https://doi.org/10.2202/1948-1837.1121

Baliamoune-Lutz, M. (2009). 'Institutions, trade, and social cohesion in fragile states: implications for policy conditionality and aid allocation'. *Journal of Policy Modeling*, 31(6): 877–90. https://doi.org/10.1016/j.jpolmod.2009.07.003

Berkman, L.F., and I. Kawachi (2000). *Social Epidemiology*. New York: Oxford University Press

Besley, T., and T. Persson (2011). 'The logic of political violence.' *Quarterly Journal of Economics*, 126(3): 1411–45. https://doi.org/10.1093/qje/qjr025

Bjørnskov, C. (2017) 'Social trust and economic growth'. In *Oxford Handbook of Social and Political Trust*. Oxford: Oxford University Press. https://doi.org/10.1093/oxfordhb/9780190274801.013.24

Brückner, M. (2013). 'On the simultaneity problem in the aid and growth debate'. *Journal of Applied Econometrics*, 28(1): 126–50. https://doi.org/10.1002/jae.1259

Burnside, C., and D. Dollar (2000). 'Aid, policies, and growth'. *American Economic Review*, 90(4): 847–68. https://doi.org/10.1257/aer.90.4.847

Clemens, M.A., S. Radelet, and R. Bhavnani (2012). 'Counting chickens when they hatch: timing and the effects of aid on growth'. *The Economic Journal*, 122(561): 590–617. https://doi.org/10.1111/j.1468-0297.2011.02482.x

Collier, P., and A. Hoeffler (2002). 'Aid, policy, and peace: reducing the risks of civil conflict'. *Defense and Peace Economics*, 13(6): 435–50. https://doi.org/10.1080/10242690214335

Cramer, C. (2015). 'Jobs, unemployment and violence'. GSDRC Professional Development Reading Pack 10. Birmingham: University of Birmingham. http://gsdrc.org/docs/open/reading-packs/jobsunemploymentviolencerp.pdf

Crost, B., J. Felter, and P. Johnston (2014). 'Aid under fire: development projects and civil conflict'. *American Economic Review*, 104: 1833–56. https://doi.org/10.1257/aer.104.6.1833

De Ree, J., and E. Nillesen (2009). 'Aiding violence or peace? The impact of foreign aid on the risk of civil conflict in sub-Saharan Africa'. *Journal of Development Economics*, 88(2): 301–13. https://doi.org/10.1016/j.jdeveco.2008.03.005

Dreher, A., P. Nunnnenkamp, and R. Thiele (2008). 'Does aid for education educate children? Evidence from panel data'. *The World Bank Economic Review*, 22(2): 291–314. https://doi.org/10.1093/wber/lhn003

Dube, A., E. Kaplan, and S. Naidu (2011). 'Coups, corporations, and classified information'. *The Quarterly Journal of Economics*, 126(3): 1375–409. https://doi.org/10.1093/qje/qjr030

Easterly, W., and R. Levine (1997). 'Africa's growth tragedy: policies and ethnic divisions'. *Quarterly Journal of Economics*, 112: 1203–50. https://doi.org/10.1162/003355300555466

Fearon, J.D., M. Humphreys, and J.M. Weinstein (2009). 'Can development aid contribute to social cohesion after civil war? Evidence from a field experiment in post-conflict Liberia'. *American Economic Review*, 99(2):, 287–91. https://doi.org/10.1257/aer.99.2.287

Feeney, S., and B. Ouattara (2013). 'The effects of health aid on child health promotion in developing countries: cross-country evidence'. *Applied Economics*, 45(7): 911–19. https://doi.org/10.1080/00036846.2011.613779

Festinger, L., K.W. Back, and S. Schachter (1950). *Social pressures in informal groups: a study of human factors in housing*. Lincoln: Stanford University Press. https://doi.org/10.2307/3707362

Fox, J. (1996). 'How does civil society thicken? The political construction of social capital in rural Mexico'. *World Development*, 24: 1089–103. https://doi.org/10.1016/0305-750X(96)00025-3

Gormanee, K., O. Morrissey, P. Mosley, and A. Verschoor (2005). 'Aid, government expenditure and aggregate welfare'. *World Development*, 33(3): 355–70. https://doi.org/10.1016/j.worlddev.2004.09.005

Hansen, N., and F. Tarp (2001). 'Aid and growth regressions'. *Journal of Development Economics*, 64(2): 547–70. https://doi.org/10.1016/S0304-3878(00)00150-4

Harms, P., and P. an de Meulen (2013). 'Demographic structure and the security of property rights: the role of development and democracy'. *European Journal of Political Economy*, 29: 73–89. https://doi.org/10.1016/j.ejpoleco.2012.08.001

Juselius, K., N.F. Møller, and F. Tarp (2014). 'The long-run impact of foreign aid in 36 African countries: insights from multivariate time series analysis'. *Oxford Bulletin of Economics and Statistics*, 76(2): 153–84. https://doi.org/10.1111/obes.12012

Kasuga, H., and Y. Morita (2018). 'Does aid affect inequality?'. *Applied Economics*, 50(58): 6249–62. https://doi.org/10.1080/00036846.2018.1489512

Kearns, A., and R. Forrest (2000). 'Social cohesion and multilevel urban governance'. *Urban Studies*, 37(5–6): 995–1017. https://doi.org/10.1080/00420980050011208

Knack, S. (2004). 'Does foreign aid promote democracy?'. *International Studies Quarterly*, 48(1): 251–66. https://doi.org/10.1111/j.0020-8833.2004.00299.x

Knack, S., and P. Keefer (1997). 'Does social capital have an economic payoff? A cross-country investigation'. *Quarterly Journal of Economics*, 112: 1251–88. https://doi.org/10.1162/003355300555475

Le Bon, G. (1897). *The crowd: a study of the popular mind*. London: Fischer.

Levi, M. (1996). 'Social and unsocial capital: a review essay of Robert Putnam's "Making democracy work"'. *Politics and Society*, 24: 45–55. https://doi.org/10.1177/0032329296024001005

Mishra, P., and D. Newhouse (2009). 'Does health aid matter?'. *Journal of Health Economics*, 28(4): 855–72. https://doi.org/10.1016/j.jhealeco.2009.05.004

Mosley, P., J. Hudson, and A. Verschoor (2004). 'Aid, poverty reduction, and the new conditionality'. *Economic Journal*, 114: F217–43. https://doi.org/10.1111/j.1468-0297.2004.00220.x

Mukherjee, D., and E.T. Kizhakkethalackal (2013). 'Empirics of health aid, education and infant mortality: a semiparametric study'. *Applied Economics*, 45(22): 3137–50. https://doi.org/10.1080/00036846.2012.699186

Nunn, N., and N. Qian (2014). 'US food aid and civil conflict: dataset'. *American Economic Review*, 104(6): 1630–66. https://doi.org/10.1257/aer.104.6.1630

OECD (2011). *Perspectives on global development 2012: social cohesion in a shifting world*. Paris: OECD.

Ouattara, B., and S. Standaert (2020). 'Property rights revisited'. *European Journal of Political Economy*, 64: 101895. https://doi.org/10.1016/j.ejpoleco.2020.101895

Ouattara, B., and E. Strobl (2008). 'Aid, policy and growth: does aid modality matter?'. *Review of World Economics*, 144(2): 347–65. https://doi.org/10.1007/s10290-008-0150-3

Paxton, P. (2002). 'Social capital and democracy: an interdependent relationship'. *American Sociological Review*, 67(2): 254–77. https://doi.org/10.2307/3088895

Pervaiz, Z., A.R. Chaudhary, and I.P. van Staveren (2013). 'Diversity, inclusiveness and social cohesion'. Study 2013-01. The Hague: International Institute of Social Studies of Erasmus University Rotterdam (ISS).

Pervaiz, Z., and A.R. Chaudhary (2015). 'Social cohesion and economic growth: an empirical investigation'. *Australian Economic Review*, 48(4): 369–81. https://doi.org/10.1111/1467-8462.12128

Pickbourn, L., and L. Ndikumana (2013). 'Impact of sectoral allocation of foreign aid on gender equity and human development'. WIDER Working Paper 2013/066. Helsinki: UNU-WIDER. https://doi.org/10.2139/ssrn.2647165

Rahn, W.M., J. Brehm, and N. Carlson (1999). 'National elections as institutions for generating social capital'. In T. Skocpol and M. Fiorina (eds), *Civic engagement in American democracy*. Washington, DC: Brookings Institution.

Rajan, R.G., and A. Subramanian (2008). 'Aid and growth: what does the cross-country evidence really show?.' *The Review of Economics and Statistics*, 90(4): 643–65. https://doi.org/10.1162/rest.90.4.643

Ritzen, J.M., and M.J. Woolcock (2000). 'Social cohesion, public policy, and economic growth: implications for countries in transition'. Presented at Annual Bank Conference on Development Economics (Europe), Paris, 26–28 June.

Robison, L.J., A.A. Schmid, and M.E. Siles (2002). 'Is social capital really capital?'. *Review of Social Economy*, 60: 1–21. https://doi.org/10.1080/00346760110127074

Rodrik, D. (1999). 'Where did all the growth go? External shocks, social conflict, and growth collapses'. *Journal of Economic Growth*, 4: 385–412. https://doi.org/10.1023/A:1009863208706

Tabellini, G. (2010). 'Culture and institutions: economic development in the regions of Europe'. *Journal of European Economic Association*, 8: 677–716. https://doi.org/10.1111/j.1542-4774.2010.tb00537.x

Tierney, M.J., et al. (2011). 'More dollars than sense: refining our knowledge of development finance using AidData'. *World Development*, 39(11): 1891–906. https://doi.org/10.1016/j.worlddev.2011.07.029

Whiteley, P.F. (2000). 'Economic growth and social capital'. *Political Studies*, 48: 443–66. https://doi.org/10.1111/1467-9248.00269

Wietzke, F.B. (2015). 'Pathways from jobs to social cohesion'. *The World Bank Research Observer*, 30(1): 95–123. https://doi.org/10.1093/wbro/lku004

World Bank (2012). *Word Development Report 2013: Jobs*. Washington, DC: World Bank. https://doi.org/10.1596/978-0-8213-9575-2

Appendix A

Table A1 List of countries studied

Afghanistan	Cyprus	Lao PDR	Senegal
Albania	Dominican Republic	Lebanon	Serbia and Montenegro
Algeria	Ecuador	Liberia	Sierra Leone
Angola	Egypt	Libya	Singapore
Argentina	El Salvador	Macedonia, FYR	Somalia
Armenia	Equatorial Guinea	Madagascar	South Africa
Azerbaijan	Eritrea	Malawi	Sri Lanka
Bahamas	Ethiopia	Malaysia	Sudan
Bahrain	Gabon	Mali	Suriname
Bangladesh	Gambia, Rep. of The	Malta	Syrian Arab Republic
Belarus	Georgia	Mauritania	Taiwan, China
Bhutan	Ghana	Mexico	Tajikistan
Bolivia	Guatemala	Moldova	Tanzania, UR
Bosnia and Herzegovina	Guinea	Mongolia	Thailand
Botswana	Guinea Bissau	Morocco	Togo
Brazil	Guyana	Mozambique	Trinidad and Tobago
Brunei Darussalam	Haiti	Myanmar	Tunisia
Burkina Faso	Honduras	Namibia	Turkey
Burundi	India	Nicaragua	Turkmenistan
Cambodia	Indonesia	Niger	Uganda
Cameroon	Iran, Islamic Rep.	Nigeria	Ukraine
Chad	Iraq	Oman	United Arab Emirates
Chile	Israel	Pakistan	Uruguay
China	Jamaica	Panama	Uzbekistan
Colombia	Jordan	Papua New Guinea	Venezuela, BR
Congo	Kazakhstan	Paraguay	Viet Nam
Congo, Dem. Rep.	Kenya	Peru	Yemen
Costa Rica	Korea, Dem. Peo. Rep.	Philippines	Zambia
Côte d'Ivoire	Korea, Rep.	Qatar	Zimbabwe
Croatia	Kuwait	Rwanda	
Cuba	Kyrgyzstan	Saudi Arabia	

Appendix B

Table B1 Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.
Social cohesion	.583	.1000	0.000	0.771
aid_net_gdp	.0171	.028	-.0004	.321
oda_gdp	.076	.0845	0	.501
Gdppc	1499.125	1681.221	116.844	8818.086
Christian share	29.771	35.806	0	97.3
Muslim share	31.065	38.895	0	99.8
Natural resources	.331	.461	0	1
Urban share	45.118	20.727	5.718	93.033
Gini	41.022	7.4225	21	63.02
Share of migrants	7.025	13.100	.0326	87.840
Human capital	2.072	.5779	1.031	3.540
fh_ipolity2	4.902	2.919	0	10

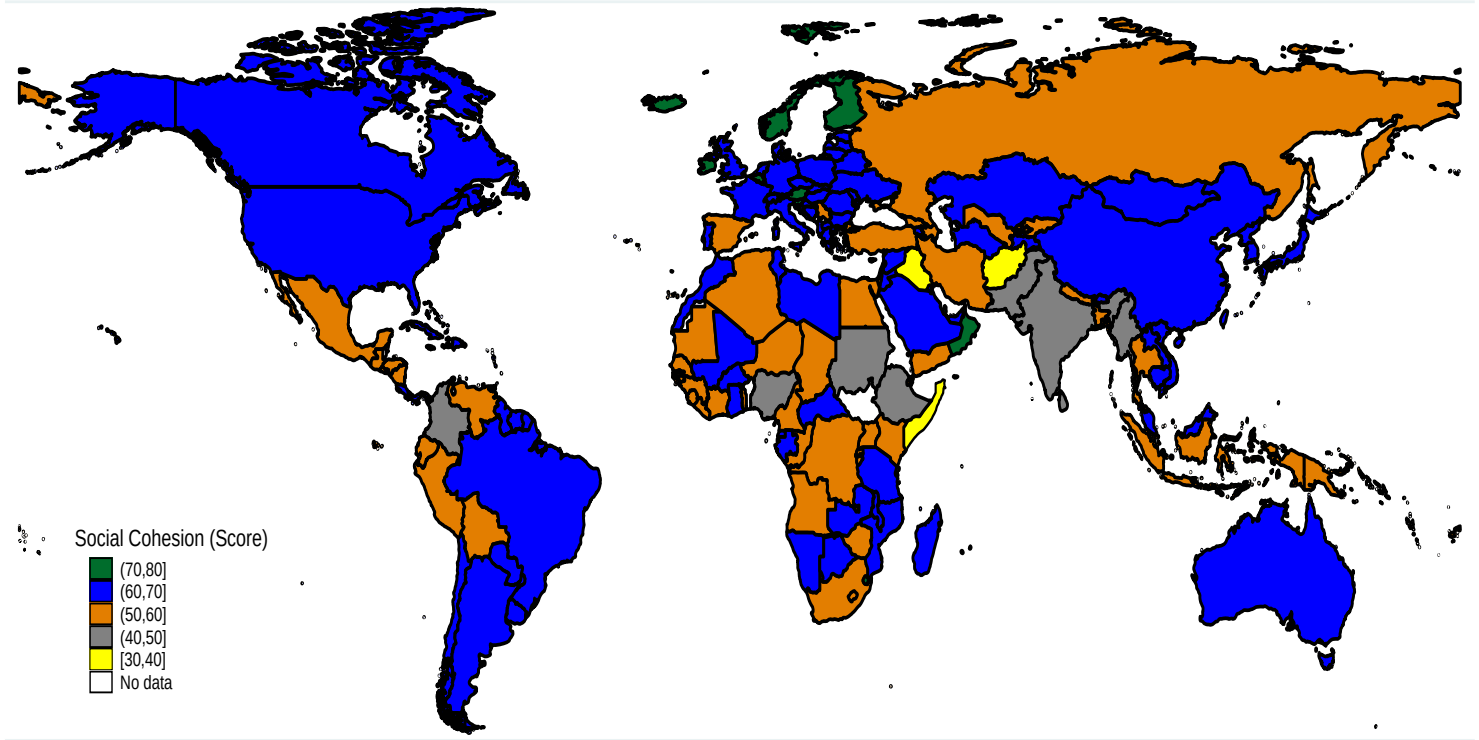
Source: authors' construction.

Table B2 Description of variables and sources

Variable	Sources	Description
Social cohesion	International Institute of Social Studies	The intergroup cohesion refers to relations of cooperation and respect between identity groups in a society and ranges between low (0) and high cohesion (1).
aid_net_gdp	AidData	Aid as a share of GDP. Current aggregated aid commitments have been converted into real values, then multiplied by 100 and divided by constant GDP (PPP).
oda_gdp	OECD database	Aid: total grants and loans net ODA, ODA grants, and ODA loans relative to GDP
Gdppc	World Bank's World Development Indicators	GDP per capita is calculated in constant (2000) US dollars.
Christian	QOG	Christians as a share of population in 1980
Muslim share	QOG	Muslims as a share of population in 1980
Natural resources	QOG	Takes a value of one if either oil or gas net exports (per capita) are greater than zero.
Urban share	WDI	Urban population refers to people living in urban areas as defined by national statistical offices.
Gini	F Solt (2016) SWIID	Net income inequality
Share of migrants	World Bank's World Development Indicators	International migrant stock (% of population)
Human capital	Penn World Tables	Human Capital Index, based on years of schooling and assumed returns.
fh_ipolity2	Freedom house	Level of Democracy: scale ranges from 0 to 10, where 0 is least democratic and 10 most democratic.

Source: authors' construction.

Figure B1 Social cohesion distribution (average 1990–2015)



Source: authors' construction.

Appendix C

Table C1: Dynamic panel (pooled OLS)

Variables	**(1)**	**(2)**	**(3)**	**(4)**
L.intergroup_cohesion	0.684***	0.669***	0.693***	0.665***
	(0.0660)	(0.0727)	(0.0765)	(0.0745)
lagaid_net	0.903***	0.944***	0.720**	1.045***
	(0.303)	(0.327)	(0.353)	(0.377)
Laggdp	0.0129***	0.0133**	0.00298	0.00571
	(0.00476)	(0.00590)	(0.0106)	(0.0109)
lagchristian		-0.000111	-0.000181	-0.000264
		(0.000124)	(0.000160)	(0.000175)
lagmuslim		-0.000297**	-0.000352**	-0.000441***
		(0.000115)	(0.000140)	(0.000164)
lagnatres			-0.00929	-0.0230*
			(0.00988)	(0.0128)
Lagurb			0.000449	0.000891**
			(0.000424)	(0.000433)
Laggni			0.000623	-0.000130
			(0.000889)	(0.000831)
Lagimig				-0.000548
				(0.000539)
Laghci				0.00145
				(0.0127)
lagpolity2				-0.00261
				(0.00238)
Constant	-0.00448	0.126**	0.131*	0.177**
	(0.0535)	(0.0529)	(0.0757)	(0.0765)
Observations	*252*	*229*	*213*	*196*
R-squared	*0.665*	*0.662*	*0.673*	*0.704*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

Table C2: Dynamic panel (random effects)

Variables	**(1)**	**(2)**	**(3)**	**(4)**
L.intergroup_cohesion	0.684***	0.669***	0.693***	0.665***
	(0.0599)	(0.0627)	(0.0793)	(0.0730)
lagaid_net	0.903***	0.944***	0.720*	1.045***
	(0.322)	(0.320)	(0.381)	(0.377)
Laggdp	0.0129**	0.0133**	0.00298	0.00571
	(0.00511)	(0.00562)	(0.0121)	(0.0121)
lagchristian		-0.000111	-0.000181	-0.000264
		(0.000111)	(0.000154)	(0.000166)
lagmuslim		-0.000297***	-0.000352**	-0.000441***
		(0.000101)	(0.000140)	(0.000156)
Lagnatres			-0.00929	-0.0230
			(0.0110)	(0.0141)
Lagurb			0.000449	0.000891*
			(0.000449)	(0.000463)
Laggni			0.000623	-0.000130
			(0.00101)	(0.000816)
Lagimig				-0.000548
				(0.000529)
Laghci				0.00145
				(0.0141)
lagpolity2				-0.00261
				(0.00243)
Constant	0.163***	0.177***	0.196**	0.227**
	(0.0599)	(0.0635)	(0.0797)	(0.0884)
Observations	*252*	*229*	*213*	*196*
R-squared	*0.802*	*0.822*	*0.803*	*0.852*

Note: (a) robust standard errors in parentheses; (b) ***, ** , * represent 1, 5, 10 percent significance levels, respectively.

Source: authors' construction.

Appendix D

Table D1: Cross-section results (ODA)

	(1)	(2)	(3)	(4)
Variables	**baseline**	**column 2**	**column 3**	**column 4**
oda	0.222**	0.299***	0.379***	0.418***
	(0.107)	(0.110)	(0.111)	(0.121)
lngdppc	0.0220***	0.0309***	0.0190	0.0373**
	(0.00673)	(0.00764)	(0.0126)	(0.0146)
Christian		-0.000735***	-0.000860***	-0.00103***
		(0.000185)	(0.000202)	(0.000215)
muslim		-0.000432***	-0.000725***	-0.00112***
		(0.000162)	(0.000172)	(0.000201)
nat res			-0.00198	-0.0263*
			(0.0120)	(0.0151)
rc_wdi_urban			0.00105**	0.00161***
			(0.000490)	(0.000574)
gini_disp			-0.00142	-0.00284**
			(0.00121)	(0.00123)
wdi_imig				-0.000208
				(0.000872)
pwt_hci				-0.0348*
				(0.0182)
fh_ipolity2				-0.00498*
				(0.00265)
Constant	0.417***	0.385***	0.487***	0.520***
	(0.0518)	(0.0568)	(0.0696)	(0.0777)
Observations	*339*	*302*	*279*	*258*
R-squared	*0.041*	*0.081*	*0.115*	*0.177*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

Table D2: Pooled OLS results (ODA)

Variables	**(1)**	**(2)**	**(3)**	**(4)**
lagoda	0.303***	0.357***	0.418***	0.448***
	(0.0963)	(0.101)	(0.0822)	(0.0914)
laggdp	0.0240***	0.0326***	0.0166	0.0288**
	(0.00637)	(0.00726)	(0.0125)	(0.0137)
lagchristian		-0.000636***	-0.000821***	-0.000957***
		(0.000154)	(0.000167)	(0.000180)
lagmuslim		-0.000447***	-0.000695***	-0.000994***
		(0.000148)	(0.000157)	(0.000182)
lagnatres			-0.00529	-0.0307*
			(0.0125)	(0.0159)
lagurb			0.00120**	0.00181***
			(0.000463)	(0.000498)
laggni			-9.72e-05	-0.00135
			(0.00104)	(0.000923)
lagimig				-0.000349
				(0.000576)
laghci				-0.0249
				(0.0160)
lagpolity2				-0.00468*
				(0.00279)
Constant	0.412***	0.384***	0.463***	0.497***
	(0.0490)	(0.0538)	(0.0623)	(0.0692)
Observations	*284*	*250*	*229*	*212*
R-squared	*0.402*	*0.420*	*0.457*	*0.515*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

Table D3: Fixed-effects results (ODA)

Variables	**(1)**	**(2)**	**(3)**	**(4)**
lagoda	0.176	0.213	0.460**	0.362
	(0.229)	(0.249)	(0.205)	(0.229)
laggdp	0.132***	0.109***	0.102**	0.140***
	(0.0387)	(0.0387)	(0.0468)	(0.0492)
lagnatres			0.0722**	0.0600**
			(0.0288)	(0.0294)
lagurb			0.00396	0.00400
			(0.00241)	(0.00299)
laggni			-0.0120**	-0.0142***
			(0.00490)	(0.00525)
lagimig				-0.00213
				(0.00556)
laghci				-0.0691
				(0.0626)
lagpolity2				0.00856
				(0.00547)
Constant	-0.327	-0.182	0.172	0.104
	(0.270)	(0.272)	(0.293)	(0.309)
Observations	284	250	229	212
R-squared	0.077	0.051	0.148	0.179

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

Table D4: Random effects results (ODA)

Variables	**(1)**	**(2)**	**(3)**	**(4)**
lagoda	0.215**	0.261**	0.363***	0.359***
	(0.109)	(0.116)	(0.0718)	(0.0773)
laggdp	0.0204**	0.0282***	0.00699	0.0182
	(0.00808)	(0.00916)	(0.0144)	(0.0161)
lagchristian		-0.000646***	-0.000908***	-0.00105***
		(0.000228)	(0.000245)	(0.000257)
lagmuslim		-0.000425*	-0.000740***	-0.00101***
		(0.000222)	(0.000213)	(0.000234)
lagnatres			0.00220	-0.0138
			(0.0179)	(0.0228)
lagurb			0.00155**	0.00200***
			(0.000610)	(0.000617)
laggni			2.23e-05	-0.00144
			(0.00141)	(0.00119)
lagimig				0.000104
				(0.000884)
laghci				-0.0356
				(0.0218)
lagpolity2				-0.000445
				(0.00406)
Constant				
	0.493***	0.465***	0.545***	0.608***
	(0.0632)	(0.0704)	(0.0730)	(0.0854)
Observations	*284*	*250*	*229*	*212*
R-squared	*0.398*	*0.416*	*0.452*	*0.502*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

Table D5: Dynamic panel (pooled OLS) (ODA)

Variables	**(1)**	**(2)**	**(3)**	**(4)**
L.intergroup_cohesion	0.695***	0.690***	0.698***	0.670***
	(0.0660)	(0.0731)	(0.0764)	(0.0742)
Lagoda	0.192***	0.201***	0.204***	0.264***
	(0.0629)	(0.0679)	(0.0713)	(0.0768)
Laggdp	0.0129***	0.0131**	0.00513	0.00893
	(0.00474)	(0.00568)	(0.0103)	(0.0111)
lagchristian		-8.97e-05	-0.000181	-0.000279
		(0.000124)	(0.000160)	(0.000174)
lagmuslim		-0.000227**	-0.000297**	-0.000410**
		(0.000110)	(0.000137)	(0.000160)
lagnatres			-0.00629	-0.0222*
			(0.00984)	(0.0128)
Lagurb			0.000461	0.000920**
			(0.000417)	(0.000429)
Laggni			0.000642	-8.86e-05
			(0.000842)	(0.000793)
Lagimig				-0.000669
				(0.000532)
Laghci				-0.00172
				(0.0120)
lagpolity2				-0.00294
				(0.00233)
Constant	0.0879	0.0957*	0.118	0.152*
	(0.0550)	(0.0578)	(0.0726)	(0.0784)
Observations	*255*	*232*	*215*	*199*
R-squared	*0.666*	*0.662*	*0.674*	*0.705*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

Table D6: Dynamic panel (random effects) (ODA)

	(1)	(2)	(3)	(4)
Variables				
L.intergroup_cohesion	0.695***	0.690***	0.698***	0.670***
	(0.0597)	(0.0642)	(0.0783)	(0.0722)
Lagoda	0.192***	0.201***	0.204***	0.264***
	(0.0588)	(0.0615)	(0.0739)	(0.0748)
Laggdp	0.0129***	0.0131**	0.00513	0.00893
	(0.00467)	(0.00521)	(0.0116)	(0.0121)
lagchristian		-8.97e-05	-0.000181	-0.000279*
		(0.000112)	(0.000153)	(0.000163)
lagmuslim		-0.000227**	-0.000297**	-0.000410***
		(0.000101)	(0.000135)	(0.000152)
lagnatres			-0.00629	-0.0222
			(0.0109)	(0.0139)
Lagurb			0.000461	0.000920**
			(0.000438)	(0.000440)
Laggni			0.000642	-8.86e-05
			(0.000941)	(0.000782)
Lagimig				-0.000669
				(0.000504)
Laghci				-0.00172
				(0.0132)
lagpolity2				-0.00294
				(0.00231)
Constant	0.158***	0.166***	0.173**	0.206**
	(0.0597)	(0.0630)	(0.0823)	(0.0895)
Observations	*255*	*232*	*215*	*199*
R-squared	*0.666*	*0.662*	*0.674*	*0.705*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

Table D7: Dynamic panel (GMM-SYS) (ODA)

	(1)	(2)	(3)	(4)
Variables				
L.intergroup_cohesion	0.586***	0.623***	0.592***	0.709***
	(0.133)	(0.138)	(0.195)	(0.164)
lagoda	0.241	0.213	0.683***	0.475**
	(0.160)	(0.164)	(0.232)	(0.193)
laggdp	0.0239*	0.00449	0.0298	0.0496
	(0.0137)	(0.0208)	(0.0287)	(0.0304)
lagchristian		-0.000167	-0.00132**	-0.000579
		(0.000624)	(0.000657)	(0.000696)
lagmuslim		-0.00111	-0.000963*	-0.00103*
		(0.00112)	(0.000572)	(0.000571)
lagnatres			0.00733	-0.0218
			(0.0222)	(0.0141)
lagurb			0.00121	0.000717
			(0.00102)	(0.00143)
laggni			-0.000323	-0.00213
			(0.00229)	(0.00222)
lagimig				-0.000583
				(0.00165)
laghci				-0.0488
				(0.0412)
lagpolity2				-0.00360
				(0.00338)
Constant	0.146	0.299	0.0924	0.121
	(0.137)	(0.216)	(0.211)	(0.179)
Observations	*255*	*232*	*215*	*199*
AR(1) (p-value)	*0.014*	*0.014*	*0.023*	*0.011*
AR(2) (p-value)	*0.884*	*0.851*	*0.9651*	*0.870*
Hansen test (p-value)	*0.109*	*0.296*	*0.157*	*0.473*
Difference-in-Hansen test (p-value)	*0.361*	*0.712*	*0.203*	*0.715*

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction.

Table D8: Quantile regression (ODA)

	(1)	(2)	(3)	(4)	(5)
Variables	**0.1**	**0.25**	**0.5**	**0.75**	**0.9**
Oda	0.00463**	0.00578***	0.00490**	0.00404*	0.00290
	(0.00226)	(0.00214)	(0.00202)	(0.00225)	(0.00306)
Gdp	0.0294	0.0453*	0.0360	0.0284	0.00788
	(0.0281)	(0.0250)	(0.0240)	(0.0218)	(0.0289)
Christian	-0.00114**	-0.00127***	-0.00144***	-0.00104**	-0.000716*
	(0.000491)	(0.000441)	(0.000472)	(0.000457)	(0.000424)
Muslim	-0.00146***	-0.00110**	-0.00104***	-0.000675*	-0.000437
	(0.000479)	(0.000444)	(0.000378)	(0.000384)	(0.000467)
Nat res	-0.0353	-0.0187	-0.0343	-0.0287	-0.0410
	(0.0379)	(0.0327)	(0.0240)	(0.0303)	(0.0425)
rc_wdi_urban	0.00245*	0.00160	0.00210**	0.00108	0.00219
	(0.00126)	(0.00113)	(0.00102)	(0.00112)	(0.00168)
gini_disp	-0.00635**	-0.00189	-0.000814	-0.000977	0.000959
	(0.00266)	(0.00230)	(0.00188)	(0.00205)	(0.00235)
wdi_imig	-0.000270	-0.000677	-0.00153	0.00368	-0.000767
	(0.00301)	(0.00355)	(0.00277)	(0.00378)	(0.00359)
pwt_hci	-0.0179	-0.00324	-0.0337	-0.00905	0.00327
	(0.0507)	(0.0404)	(0.0407)	(0.0366)	(0.0413)
fh_ipolity2	-0.00745	-0.0124*	-0.00514	-0.00188	-0.0131*
	(0.00740)	(0.00666)	(0.00707)	(0.00606)	(0.00731)
Constant	0.623***	0.362**	0.434**	0.470***	0.545***
	(0.201)	(0.160)	(0.170)	(0.116)	(0.147)
Observations	64	64	64	64	64

Note: robust standard errors in parentheses; ***, ** , * represent 1, 5, 10 per cent significance levels, respectively.

Source: authors' construction