INTERNATIONAL CENTER FOR PUBLIC POLICY

International Center for Public Policy
Working Paper 14-24
June 2014

But Most of All We Love Each Other: Does Social Cohesion Pay off? Evidence from FDI Flows to Middle Income Countries

Wasseem Mina

Georgia State University | Andrew Young School of Policy Studies

Georgia State University | Andrew Young School of Policy Studies

International Center for Public Policy
Working Paper 14-24

But Most of All We Love Each Other: Does Social Cohesion Pay off? Evidence from FDI Flows to Middle Income Countries

Wasseem Mina

June 2014

International Center for Public Policy
Andrew Young School of Policy Studies
Georgia State University
Atlanta, Georgia 30303
United States of America

Phone: (404) 651-1144
Fax: (404) 651-4449
Email: hseraphin@gsu.edu
Internet: http://aysps.gsu.edu/isp/index.html

Georgia State University | ANDREW YOUNG SCHOOL OF POLICY STUDIES

International Center for Public Policy
Andrew Young School of Policy Studies

The Andrew Young School of Policy Studies was established at Georgia State University with the objective of promoting excellence in the design, implementation, and evaluation of public policy. In addition to two academic departments (economics and public administration), the Andrew Young School houses seven leading research centers and policy programs, including the International Center for Public Policy.

The mission of the International Center for Public Policy is to provide academic and professional training, applied research, and technical assistance in support of sound public policy and sustainable economic growth in developing and transitional economies.

The International Center for Public Policy at the Andrew Young School of Policy Studies is recognized worldwide for its efforts in support of economic and public policy reforms through technical assistance and training around the world. This reputation has been built serving a diverse client base, including the World Bank, the U.S. Agency for International Development (USAID), the United Nations Development Programme (UNDP), finance ministries, government organizations, legislative bodies and private sector institutions.

The success of the International Center for Public Policy reflects the breadth and depth of the in-house technical expertise that the International Center for Public Policy can draw upon. The Andrew Young School's faculty are leading experts in economics and public policy and have authored books, published in major academic and technical journals, and have extensive experience in designing and implementing technical assistance and training programs. Andrew Young School faculty have been active in policy reform in over 40 countries around the world. Our technical assistance strategy is not to merely provide technical prescriptions for policy reform, but to engage in a collaborative effort with the host government and donor agency to identify and analyze the issues at hand, arrive at policy solutions and implement reforms.

The International Center for Public Policy specializes in four broad policy areas:

- Fiscal policy, including tax reforms, public expenditure reviews, tax administration reform
- Fiscal decentralization, including fiscal decentralization reforms, design of intergovernmental transfer systems, urban government finance
- Budgeting and fiscal management, including local government budgeting, performance-based budgeting, capital budgeting, multi-year budgeting
- Economic analysis and revenue forecasting, including micro-simulation, time series forecasting,

For more information about our technical assistance activities and training programs, please visit our website at http://aysps.gsu.edu/isp/index.html or contact us by email at hseraphin@gsu.edu.

But Most of All We Love Each Other: Does Social Cohesion Pay off? Evidence from FDI Flows to Middle Income Countries

Wasseem Mina[1]
United Arab Emirates University
(wmina@uaeu.ac.ae)

Abstract:

The World Bank (2013) argues that social cohesion shapes the context in which entrepreneurs make investment decisions and therefore job creation. In this paper, we focus on FDI as one link of primary importance in this argument, and empirically examine the relationship between social cohesion and FDI flows.

Using panel data on 52 middle income countries for the period 1984-2012, we first identify social cohesion-related institutions using principal component analysis and then examine the influence of those institutions individually and as a principal component on FDI flows. PCA identifies religion in politics, internal and external conflicts, and ethnic tensions as institutions with highest loadings. Adopting dynamic panel estimation methodologies - FE, IV and system GMM, the paper finds that religion in politics stands out with its positive influence on FDI inflows. A one percentage point improvement in religion in politics increases FDI flows by about 0.5 percentage point. The positive influence is robust to the estimation methodology adopted and to the sample size.

The novelty of the paper lies first in identifying social cohesion-related institutions and principal component and second in discovering the positive influence of less religion in politics on FDI flows to middle income countries.

JEL classification: F21, C23, C26, O12, O17

Keywords: Social cohesion, FDI, Institutions, Religion in politics, Ethnic tensions, Conflicts, Panel data models, Fixed effects, Instrumental variables estimation, System GMM.

[1] I would like to thank Ibrahim Abdalla for help with interpretation of principal component results of an earlier version of this paper. I am also grateful to Amany Al Anshasy, Paul Alagidede, Mohamed Belkhair, Abdulnasser Hatemi, Hideyuki Kamiryo, Selini Katsaiti, Chiraz Labidi, Louis Jaeck, Osiris Parcero, Emilie Rutledge, Mrittika Shamsuddin, Osama Sweidan, Mariko Watanabe, Fernando Zanella, and participants at the Western Economic Association International 10th Biennial Pacific Rim conference in Tokyo, Japan, the second Critical Studies in Accounting and Finance Conference in Abu Dhabi, UAE, and the Department of Economics and Finance Research Seminar Series (United Arab Emirates University) for helpful comments and suggestions on earlier versions of this paper. All errors are mine.

1. INTRODUCTION

Calls for social cohesion or shared and inclusive societies have gone beyond immigrant-receiving countries, such as Canada and Australia, to Arab Spring countries experiencing political and social developments over the past three years. Recently this issue has attracted the attention of the World Bank, which focused in its World Development Report 2013 on job creation as a root of social cohesion. Though it is not a straightforward and specific concept to define, the World Bank (2013) defines social cohesion as the capacity of societies to manage collective decision making peacefully without conflicts.[2]

OECD (2012) stresses the multi-dimensionality of the concept, and points out that social cohesion is comprised of social exclusion, social capital, and social mobility. Social exclusion takes place when "all individuals and groups are wholly or partly prevented from participating in their society and in various aspects of cultural and community life" (Bossert et al. 2007).[3] Socially excluded individuals suffer poor education, training, employment, transportation, access to functioning, and financial resources, which affect their earnings (Bossert et al. 2007; Lucas 2012, Sen 1985; Stanley et al. 2012; Teraji 2011).[4] Social capital, the second component of social cohesion, combines measures of trust and various behavioral forms of civic engagement (Bourdieu 1993; Dickes et al. 2011; Lin 2001; Putnam 1995). Trust is associated with the presence of formal and informal social networks. Social capital requires the presence of processes and institutions, in particular voice and accountability, and inclusive participation of diverse groups, which shape individual and group interactions and social relations (World Bank 2013). Social mobility, the third component, reflects people's belief and capabilities to progress in society.

Social cohesion has been argued to have its economic payoffs.[5] Collective decision making serves the provision of public goods through voluntary contribution (Alesina and La Ferrara 2000). In fractionalized societies the provision of public goods tends to be weaker (Alesina et al. 1999; Keefer and Khemani 2005).

Social capital and trust help create an economic and political environment conducive to growth.[6] Trust reduces transactions cost and uncertainty, eases coordination and cooperation among individuals, groups and firms, and helps in the exchange of knowledge and furthering innovation (Foa 2011; World Bank 2013). The economic and social inclusion of communities and individuals enhances trust in the ability of the government to undertake growth-oriented economic and political reforms, even if it is painful (Easterly et al. 2006) and increases the economy's resilience to external shocks. Rodrik (1999) argues that divided societies, ethnically and economically, with weak institutions are less resilient to external shocks than united societies with high quality institutions. Fractionalization influences the quality and effectiveness of public institutions thus acting as a constraint on politicians' efforts to undertake reforms (Alesina et al.

[2] While international organizations, such as OECD, and governments, such as the Australian and Canadian governments, have focused on the multi-facet nature of the concept with a range of broad indicators, empirical studies have focused on limited number of indicators driven by data availability, such as fractionalization as in Alesina et al. (2003) and Easterly et al. (2006) and ethnic tensions as in Baliamoune-Lutz and Mavrotas (2009) and Baliamoune-Lutz (2005).

[3] Bossert et al (2007) argue that social exclusion is a relative and dynamic concept. An individual feels socially excluded relative to other members of society. In addition the deprivation of individual may persist or worsen over time.

[4] See Teraji (2011) on how poor education and training affects individuals opportunities and earnings, Lucas (2012) and Stanley et al (2012) on the influence of transportation on social exclusion, and Bossert et al (2007) and Sen (1985) on functionings.

[5] See Foa (2011).

[6] Easterly and Levine (1997) find negative effect of ethnic fractionalization on growth, while Alesina et al. (2003) find negative effect of ethnic, linguistic, and religious fractionalization.

2003; Mauro 1995). Social capital is associated with better school effectiveness, collective health and well-being (Putnam 1995; Sobel 2002). Social mobility may be influenced by industrialization, economic inequality, migration, and political regimes (Yaish and Andersen 2012).

In this paper we explore the benefits of social cohesion further. World Bank (2013) argues that social cohesion shapes the context in which entrepreneurs make investment decisions and therefore job creation. We focus on the first relationship in the World Bank argument that social cohesion matters for investors and shapes their decisions to invest. Our emphasis in this paper is on foreign investors' realized FDI flows. Out of the three facets of social cohesion – social exclusion, social capital, and social mobility – social capital is the most relevant facet to this paper.

As mentioned above, social capital combines measures of trust and behavioral forms of civic engagement. Trust is associated with the presence of formal institutions and informal social networks. Social capital thus requires the presence of a) formal institutions, such as voice and accountability and civic participation, and possibly government stability and rule of law, and b) informal social networks, which develop in presence of trust in society.

In this paper we empirically examine the influence of social cohesion-related institutions on FDI flows. We first identify those institutions using principal component analysis (PCA) and International Country Risk Guide's (ICRG) political risk indicators. PCA identifies religion in politics, internal and external conflicts, and ethnic tensions as institutions with highest loadings on a notably "social cohesion" principal component. These indicators correspond to the formal institutions of the social capital component of social cohesion. We then examine the influence of those institutions individually and of the social cohesion principal component on FDI inflows. We adopt dynamic panel estimation methodologies: fixed effects (FE), instrumental variables (IV) and two-step system generalized method of moments (GMM). The paper finds that, out of the four identified social cohesion-related institutions, religion in politics stands out with its positive influence on FDI inflows. A one percentage point improvement in religion in politics increases FDI flows by about 0.5 percentage point. This influence is robust to changes in estimation methodologies and sample size.

This paper is different from the previous literature in two main respects. First, although the concept of social cohesion has been discussed in the literature, no study to the best of our knowledge has identified social cohesion institutions. In this paper, we do not impose a specific measure of social cohesion and seek to identify the relevant institutions empirically using statistical methods though we are guided by previous theoretical definitions of social cohesion. Second, while previous research examined the effect of social cohesion on growth, pro-development policies, policy reforms and resilience to external shocks, the effect of social cohesion on foreign investors' FDI flows has not been examined before to the best of our knowledge.

The structure of the paper proceeds as follows. Section 2 discusses the empirical model and data. Section 3 discusses the empirical issues and estimation methodology. Sections 4 and 5 present and discuss the empirical results. Section 6 concludes.

2. EMPIRICAL MODEL AND DATA

a. Empirical Model

The empirical model of this paper builds on the location advantage hypothesis of Dunning's (1981) ownership-location-internalization (OLI) paradigm. According to the OLI paradigm, a firm produces abroad building on three types of advantages: ownership (O), location (L), and internalization (I). A firm's ownership advantages arise from its possession of intangible assets, such as technology, patents, and skilled management. The firm itself does not possess location advantages but rather the host economy it invests in. For example, the host economy may enjoy large market size and potential, cheap skilled labor, developed infrastructure, openness to trade and capital flows, developed financial markets, friendly business environment, and quality domestic institutions. Domestic institutions may influence social cohesion. The internalization advantage emanates from the firm's own engagement in production abroad rather than relying on the market, in the form of licensing or subcontracting for example, because of the higher transaction costs of the latter.

Since the purpose of this paper is to examine the effect of host country social cohesion on foreign entrepreneurs' FDI flows, we focus on the location advantage hypothesis. We express the empirical model as:

$$FDI_{i,t} = \beta_0 + \beta_1 FDI_{i,t-1} + \beta_2 GROWTH_{i,t} + \beta_3 TRADE_{i,t} + \beta_4 FINANCE_{i,t} + \beta_5 INFRASTRUCTURE_{i,t} + \beta_6 COHESION_{i,t} + \varepsilon_{i,t} \quad \textbf{(1)}$$

where *FDI* is FDI inflows as a percentage of GDP, *GROWTH* is market potential as measured by real GDP growth rate, *TRADE* is trade openness as measured by the sum of imports and exports as a percentage of GDP, *FINANCE* is the degree of financial development as measured by the total value of stocks traded as a percentage of GDP, *INFRASTRUCTURE* is the degree of infrastructure development as measured by the number of telephone lines per 100 people, and *COHESION* is the individual social cohesion-related institutions and principal component, as identified and extracted by PCA.[7,8] With the exception of real GDP growth rate, these variables are in logarithmic form.

A number of domestic institutions may in principle be correlated with the degree of social cohesion in a country. Countries in which laws do not differentiate between citizens and are enforced equally on them are likely to be more socially cohesive and less fractionalized. The presence of stable governments may suggest the absence or presence of little divisions and government popularity among citizens. Divisions along racial, nationality, or language lines may be associated with ethnic tensions and thus reduce social cohesion. Civil wars, political violence and terrorism ignite internal conflicts and weaken social cohesion. External conflicts may induce internal conflicts and ethnic tensions, which in turn weaken social cohesion. Politicians may use religion to manipulate people. Extremism and fanaticism in religion and its manipulation to serve political purposes may result in intolerance and friction among people inducing ethnic tensions, internal and possibly external conflicts, which reduce social cohesion. The military may

[7] We decided to exclude nominal GDP (in log form) as a measure of market size due to the presence of unit root process. First difference of log nominal GDP yields the growth rate.

[8] A similar model specification is used in Meon and Sekkat (2013), who study the role of institutions and trust in promoting FDI flows. They explain FDI flows in terms of GDP, GDP growth, GDP per capita, infrastructure (measured by the percentage of paved roads in total roads), education (measured by primary school enrollment), openness (measured by the indicator of economic openness produced by Economic Freedom Network), institutions (measured by ICRG's investment profile and the World Bank's formal protection of misbehavior of directors), trust (obtained from World Values Survey), and an interaction term for institutions and trust.

manipulate internal conflicts and ethnic tensions in order to remain in power at the expense of reduced social cohesion.

b. Data

In our analysis we use panel data on a sample of 52 middle income countries covering the period 1984-2012. These countries are classified as middle income by the World Bank in July 2012. In addition to being middle income, the sample countries are characterized by having social cohesion (*COHESION*) and financial development (*FINANCE*) data available on them from the Political Risk Services' (PRS) International Country Risk Guide (ICRG) and the World Bank's World Development Indicators (WDI), respectively. Of these countries eight are from East Asia and Pacific, 11 from Europe and Central Asia, 17 from Latin America and Caribbean, six from Middle East and North Africa, three from South Asia, and seven are from Sub-Saharan Africa. The list of countries is provided in Appendix A.

Data on FDI inflows are obtained from UNCTADSTAT database.[9] Data on market potential, trade openness, financial development, and the degree of infrastructure development are obtained from WDI.[10] Data on social cohesion-related institutions can be obtained from a number of sources, such as ICRG, the World Bank's World Governance Indicators (WGI), and Freedom House's Freedom Index (FI). Table B1 of Appendix B provides a comparison of the components of the three indicators, their score ranges and indications, and periods and countries covered.

In this paper we use ICRG's political risk index for two main reasons. First, it covers a number of aspects beyond democratic institutions that may influence social cohesion, such as government stability, the enforcement of law and order, the presence of internal conflicts and ethnic tensions, and the manipulation of religion to serve political purposes. These aspects are mostly correlated with WGI's political stability and to a less extent with FI's civil liberties, as Table B2 of Appendix B shows. However, WGI and FI, aggregated or disaggregated, lump these components together and thus hide information that might be useful to this paper. Second, compared to WGI and FI, ICRG is available annually and for a longer time period. Yet ICRG is available on a fewer number of countries compared to WGI and FI. This limitation is minor given that the focus of this paper is on middle income countries that can attract FDI flows.[11]

ICRG data include 12 political risk components: a) government stability, b) socioeconomic conditions, c) investment profile, d) internal conflict, e) external conflict, f) corruption, g) military in politics, h) religion in politics, i) law and order, j) ethnic tensions, k) democratic accountability, and l) bureaucracy quality. Higher (lower) political risk ratings indicate lower (higher) risk and better (worse) performance.

Out of these ICRG components, we expect law and order, government stability, ethnic tensions, internal conflict, external conflict, religion in politics, and military in politics to be related to social cohesion.[12] Law and order assesses the strength and impartiality of the legal

[9] Data are available at http://unctad.org/en/Pages/Statistics.aspx .
[10] Data are available at http://data.worldbank.org/indicator/all .
[11] The number of observations on middle income countries with data on value of stocks traded is 1021 compared to 1870 for all middle income countries.
[12] We excluded other components in accordance to their definitions. The socioeconomic conditions risk component assesses socioeconomic pressures in society regarding unemployment, consumer confidence, and poverty. The maximum score is 12. Investment profile assesses risk of expropriation, profit repatriation, and payment delays. The maximum score is 12. Corruption assesses political system corruption, which constitutes a threat to foreign investment. Corruption may potentially distort the economic and financial environment, and reduce government and business efficiency when associated with assumption of power through patronage rather competency. Actual corruption may also take the form of demands for special payments and bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans. The maximum score is 6. Democratic accountability is a measure of how responsive government is to its people. The maximum score is 6. Bureaucracy quality measures the

system and the popular observance of the law. The maximum score is 6. Government stability measures the ability of the government to undertake its declared program and stay in office. Such ability is assessed through government unity, legislative strength and popular support. A popular government indicates citizens' approval of its programs and policies. The maximum score is 12. Ethnic tensions measure the degree of tension associated with divisions related to race, nationality, or language. The maximum score is 6. Internal conflict measures political violence and its impact on governance. High scores indicate no armed or civil opposition to the government and the government does not indulge in arbitrary violence, direct or indirect, against its own people on the other hand. The maximum score is 12. External conflict measures the risk to the incumbent government of war, cross-border conflict, and foreign pressures. The maximum score is 12. Religion in politics measures the domination of society and/or governance by a single religious group that seeks to replace civil law by religious law and to exclude other religions from the political and/or social process. The maximum score is 6. Military in politics assesses the degree of involvement of military in politics. Such involvement may diminish democracy or cause a threat to an elected civilian government. The maximum score is 6.

3. EMPIRICAL ISSUES AND ESTIMATION METHODOLOGY

The empirical methodology of this paper addresses four main issues. The first issue is to identify institutions, the second is endogeneity, the third is non-stationarity, and the fourth is the logarithmic treatment of negative and zero values.

a. Identification of Social Cohesion Component and Institutions

The first issue is to identify the institutions, which are likely related to social cohesion. Identifying social cohesion-related institutions is not a straightforward task since there is not a clear theory or body of empirical literature that addresses social cohesion *per se*. In the empirical literature, the influence of corruption, rule of law, conflicts, or property rights protection, for example, on FDI in particular or capital flows in general is examined. For example, previous empirical FDI literature shows positive relationship between government stability and law and order on the one hand and FDI flows on the other (Chakrabarti 2001; Asiedu 2006; Mishra and Daly 2007; Naudé and Krugell 2007; Kolstad and Wiig 2012). The literature also shows negative relationship between ethnic tensions, internal conflicts and external conflicts and FDI inflows (Busse and Hefeker 2007). No study in the capital flows literature to the best of our knowledge, however, has attempted to identify the social cohesion-related institutions.

We will therefore adopt Principal Component Analysis (PCA) to transform the numerous ICRG correlated political risk institutions into a smaller number of principal components. As Norman and Streiner (2008) explain, the idea of PCA is to explain the variance among a number of variables in terms of orthogonal principal components. In doing so, PCA obtains a series of linear combinations of variables which define each component, with the number of linear combinations or components equal to the number of variables, or institutions in this paper.[13] A principal component i takes the following form:

$$PC_i = w_{i1}x_1 + w_{i2}x_2 + \cdots + w_{ik}x_k \qquad \textbf{(2)}$$

where x is a variable, w is the weight, i is variable indicator with $i = 1, \ldots, k$. The weight w has two subscripts, with the first one indicating the principal component, and the second one

institutional strength and quality of the bureaucracy. It tends to minimize the impact of government change shocks on policy revisions. The maximum score is 4.

[13] See Norman and Streiner (2008) page 198.

indicating the variable it relates to. The *w*'s for the principal components are chosen in such a way that sequentially expresses the largest amount of variance in the sample. For example for the first principal component, *w*'s express the largest amount of variance in the sample, while for the second component *w*'s are derived in such a way that the second component is uncorrelated to the first one and expresses the next largest amount of variance.

One criterion for choosing among the derived principal components is the Kaiser criterion. According to this criterion, principal components with eignevalues exceeding 1 are selected. In interpreting the principal components, we will adopt and compare the results of orthogonal (Varimax) and oblique (Promax) rotation methods to ensure robustness of the identified principal components.

b. Endogeneity, Causes, and Estimation

The second issue is to address potential endogeneity, defined as the correlation between the explanatory variables and the error term. The presence of endogeneity results in inconsistent ordinary least squares (OLS) estimates.

Endogeneity may result from the presence of time-invariant, unobservable country-specific and/or time-specific effects, simultaneity, and variable omission. The presence of unobservable effects results in a correlation between the explanatory variables and the error term. Either fixed or random effects models can be adopted depending on the Hausman specification test statistics. We will report both country, and country and time fixed effects estimation results.

Dynamic panel fixed effects estimation could suffer from the Hurwicz or Nickell problem of downward coefficient bias when the time dimension of the panel is very short.[14] With T=29 and N=52, the downward bias may not be strong. Robustness of results will be checked using system GMM estimation methodology. System GMM allows us to address enedogeneity more generally.

Another potential source of endogeneity is reverse causality between FDI inflows and the explanatory variables including the social cohesion-related institutions.[15] FDI inflows may enhance growth, stimulate trade and financial development, and contribute to the development of infrastructure. FDI inflows may improve social and economic conditions in society through reduction in unemployment and poverty and thus increase growth and enhance government stability. They may also raise the opportunity costs of external conflicts and thus reduce the likelihood of involvement in such conflicts. Granger causality tests will be used to detect reverse causality.

System, as opposed to difference, GMM estimation is used because difference GMM suffers weak instrument problem, affecting its asymptotic properties (Arellano and Bover 1995; Blundell and Bond 1998), and consequently both point estimates and hypothesis tests become unreliable.[16,17] For system GMM, lagged differences of explanatory variables are used as instruments, assuming the absence of serial correlation in the error term, and between these instruments and the error term. We use the Arellano-Bond test to test the lack of second-order serial correlation and the Hansen/Sargan tests of over-identifying restrictions to test for instrument validity.

[14] See Burger et al (2013) for a discussion of this issue in the context of political instability and greenfield FDI in the MENA region.

[15] Endogeneity could also result from the correlation between the lagged dependent variable and the error term. System GMM estimation methodology accounts generally for endogeneity.

[16] For recent applications of GMM estimators see for example Che et al (2012), Sen et al (2007), and Rioja and Valev (2004).

[17] The lagged levels of the explanatory variables are used as instruments for the differenced explanatory variables on the conditions that the error term of the differenced equation is not serially correlated and that the lagged levels of the explanatory variables are weakly exogenous.

With the growth in time dimension (T=29), instrument proliferation can become an issue. The Hansen instrument orthogonality test under system GMM might suffer notable size distortion, which results in poor detection of orthogonality violation (Che et al 2013). To overcome this problem and also mitigate the finite sample bias, Roodman (2009) suggests collapsing the instruments, which we follow in this paper.[18] In addition to adopting system GMM estimation methodology to deal with endogeneity, we will also adopt an instrumental variables approach accounting for fixed (country) effects for robustness of results.

c. Presence of Unit Root

The third issue is to detect potential unit root process, which results in spurious regressions. We use a battery of panel unit root tests.[19] The first test is the Levin, Lin and Chu (LLC) unit root test, which assumes identical first-order autoregressive coefficients across countries. The test involves the following regression equation:

$$\Delta y_{it} = \alpha_i + \gamma_i y_{it-1} + \sum_{j=1}^{k} \alpha_j \Delta y_{it-j} + \varepsilon_{it} \qquad \textbf{(3)}$$

The subscripts i and t are country and time indicators with $i=1,...,N$ and $t=1,...,T$. The null hypothesis of the LLC unit root test is H_0: $\gamma_i = \gamma = 0, \forall\, i$ against the alternative hypothesis H_1: $\gamma_1 = \gamma_2 = \cdots = \gamma_N < 0, \forall i$. We also use the Im, Pesaran and Shin (IPS) W-stat and the Augmented Dickey Fuller - Fisher Chi-squared tests, which allow the first-order autoregressive coefficients to vary across countries under the alternative hypothesis H_1: $\gamma_i < 0, \forall i$.

d. Logarithmic Treatment of Negative and Zero Values

The fourth issue is the logarithmic transformation of negative and zero values of the dependent and explanatory variables. Similar to Mina (2012), Kerner (2009), Neumayer and Spess (2005), and Blonigen and Davies (2004), in dealing with negative FDI values, we take the negative of the log of the absolute value. As for zero FDI values, we add one thousandth of one percentage point before taking the log, while for the social cohesion-related institutions, we add one tenth. Finally, due to the inclusion of financial development variable (*FINANCE*) in the empirical model, the sample of middle income countries on which value of stocks traded data are available is reduced from 70 originally to 52.[20]

4. EMPIRICAL RESULTS

a. Identification of Social Cohesion Component and Institutions

In our sample of middle income countries, the highest average performance on ICRG political risk components is on external conflicts, followed by religion in politics, internal conflicts, ethnic tensions and government stability while the lowest is on corruption (Table 1).[21] In other words, the sample middle income countries highest performance is on their involvement in external conflicts, while their lowest performance was on corruption. The sample countries

[18] Though it is interesting to compare estimation results under (non-collapsed instruments) system and difference GMM, we have decided for paper brevity not to include estimation results in this paper.
[19] The treatment of endogeneity and unit-root process issues is similar to Mina (2012).
[20] Excluded middle income countries are Albania, Algeria, Angola, Azerbaijan, Belarus, Cameroon, Congo Republic, Cuba, Dominican Republic, Gabon, Honduras, Iraq, Libya, Nicaragua, Senegal, Sudan, Suriname, Syria, and Yemen.
[21] We exclude the socioeconomic conditions indicator since it assesses socioeconomic pressures in society resulting from unemployment, consumer confidence, and poverty.

show highest performance (mean-scaled) variation on the degree of military involvement in politics.

TABLE 1
Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Max	Min	Index Score	Mean (%)
BQ	1021	2.0	0.7	4.0	0.0	4	50.7
C	1021	2.5	0.9	5.0	0.0	6	42.2
DA	1021	3.9	1.3	6.0	0.0	6	65.0
ET	1021	4.0	1.4	6.0	0.0	6	66.6
EC	1021	10.1	1.5	12.0	2.6	12	84.4
GS	1021	8.0	1.9	12.0	1.0	12	66.5
IC	1021	8.8	2.0	12.0	0.0	12	73.6
IP	1021	7.4	2.0	11.5	1.3	12	62.0
LO	1021	3.4	1.1	6.0	0.0	6	56.2
MP	1021	3.7	1.5	6.0	0.0	6	61.9
RP	1021	4.5	1.5	6.0	0.5	6	74.9
SC	1021	5.3	1.6	10.0	1.0	12	43.8

Notes: BQ: bureaucracy quality. C: Corruption. DA: democratic accountability. ET: ethnic tensions. EC: external conflict. GS: government stability. IC: internal conflict. IP: investment profile. LO: law and order. MP: military in politics. RP: religion in politics. SC: Socioeconomic conditions.

Identifying correlation coefficients of 0.3 and above in the correlation matrix is the basic requirement for a successful factor extraction, as Norman and Streiner (2008) point out based on Tabachnick and Fidell (2001). The correlation coefficients matrix for the different ICRG institutions is presented in table 2. Among those institutions we expect to be related to social cohesion, there is reasonable correlation between internal conflict and law and order (0.57), military in politics (0.50), religion in politics (0.37), ethnic tensions (0.47) and external conflict (0.45). This may suggest the formulation of a “social cohesion” component.

TABLE 2
Correlation Matrix for Institutions Variables

	BQ	C	DA	ET	EC	GS	IC	IP	LO	MP	RP	SC
BQ	1.000											
C	0.342	1.000										
DA	0.251	0.163	1.000									
ET	0.100	0.135	0.022	1.000								
EC	0.046	0.213	0.105	0.244	1.000							
GS	0.006	-0.060	-0.124	0.241	0.128	1.000						
IC	0.120	0.150	0.138	0.473	0.452	0.342	1.000					
IP	0.189	-0.015	0.276	0.187	0.220	0.408	0.325	1.000				
LO	0.086	0.214	0.022	0.297	0.180	0.349	0.571	0.210	1.000			
MP	0.275	0.240	0.400	0.281	0.277	0.143	0.495	0.390	0.349	1.000		
RP	0.087	0.170	0.163	0.345	0.386	0.126	0.369	0.240	0.118	0.381	1.000	
SC	0.365	0.203	0.004	0.129	0.136	-0.013	0.224	0.257	0.218	0.183	0.115	1.000

Notes: BQ: bureaucracy quality. C: Corruption. DA: democratic accountability. ET: ethnic tensions. EC: external conflict. GS: government stability. IC: internal conflict. IP: investment profile. LO: law and order. MP: military in politics. RP: religion in politics. SC: socioeconomic conditions.

TABLE 3
Principal Component Analysis of Institutions

	Initial Eigenvalues			Components													
Comp	Total	% Variance	% Cumulative		Non-Rotated					Orthogonally Rotated*					Obliquely Rotated**			
					1	2	3	4		1	2	3	4		1	2	3	4
1	**3.40**	**30.92**	**30.92**	IC	0.80	-0.23	-0.12	0.03	RP	**0.77**	0.00	0.23	-0.01	RP	**0.77**	0.19	0.31	0.13
2	**1.55**	**14.10**	**45.02**	MP	0.73	0.26	0.16	-0.05	EC	**0.75**	0.07	0.07	0.05	EC	**0.76**	0.24	0.17	0.17
3	**1.15**	**10.47**	**55.49**	LO	0.60	-0.29	-0.10	0.48	ET	**0.53**	0.41	-0.05	0.13	ET	**0.60**	0.51	0.07	0.22
4	**1.07**	**9.73**	**65.22**	ET	0.58	-0.23	-0.27	-0.02	GS	0.01	**0.79**	0.11	-0.24	GS	0.14	**0.77**	0.18	-0.20
5	0.81	7.33	72.55	RP	0.58	0.06	-0.21	-0.51	LO	0.16	**0.74**	-0.03	0.32	LO	0.32	**0.76**	0.09	0.36
6	0.75	6.82	79.37	EC	0.56	-0.02	-0.33	-0.39	IC	**0.56**	**0.59**	0.15	0.16	IC	**0.68**	**0.72**	0.29	0.27
7	0.59	5.33	84.69	DA	0.35	0.62	0.38	-0.20	DA	0.12	-0.22	**0.76**	0.20	DA	0.17	-0.09	**0.76**	0.27
8	0.54	4.92	89.62	GS	0.43	-0.59	0.33	0.22	IP	0.11	0.44	**0.70**	-0.20	IP	0.23	0.52	**0.74**	-0.11
9	0.44	3.99	93.61	BQ	0.33	0.56	0.12	0.43	MP	0.40	0.25	0.57	0.28	MP	0.52	0.41	**0.66**	0.39
10	0.41	3.68	97.29	C	0.36	0.49	-0.46	0.38	C	0.21	0.00	-0.02	**0.82**	C	0.29	0.07	0.06	**0.84**
11	0.30	2.71	100.00	IP	0.57	-0.07	0.63	-0.10	BQ	-0.13	0.08	0.42	**0.65**	BQ	0.00	0.12	0.46	**0.65**

Notes: *Orthogonal rotation using the Varimax method. **Oblique rotation using the Promax method.

Table 3 shows the 11 principal components obtained, with four components having eigenvalues exceeding 1 according to the Kaiser criterion and explaining more than 65 percent of the total variance of the data. The first component alone explains about one third of the variance. The factor loadings of the first component show highest correlation (absolute value of about 0.6) with internal conflict, military in politics, law and order, ethnic tensions, religion in politics and external conflict. The factor loadings of the second component show highest correlation with democratic accountability, government stability, and bureaucracy quality. The factor loadings of the third component show highest correlation with investment profile. For the fourth component, religion in politics, law and order, and bureaucracy quality have the highest correlation though the correlation coefficients are about 0.5.

To identify institutions that are possibly associated with social cohesion, we need to interpret the factors. Norman and Streiner (2008) point out that the factor loadings (component) matrix should satisfy four conditions: a) variance should be evenly distributed across retained factors; b) each variable should load on only one factor; c) factor loadings should be close to 1 or zero; and d) factors should be unipolar (either positive or negative). These four conditions ease the interpretation of the factor analysis results and create structural simplicity.

Assessing these four conditions in light of table 3, the retained factors account for 0.31, 0.14, 0.10 and 0.10 of the variance, respectively. This may not be, in our opinion, an extremely uneven distribution. Seven of the 11 institutions have high factor loadings (of about 0.6) on the first factor. However, only two of the seven institutions (IP and LO) load on other factors (the second and fourth, respectively). The third and fourth conditions are to some extent violated with factor loadings being in the middle range of 0.5 (especially for the first factor) and with ten institutions carrying positive and negative loadings. Norman and Streiner (2008) argue nonetheless that, "From a mathematical viewpoint, nothing is wrong with most of the variance being in one factor, or with factorial complexity, or with loadings in the middle range, or with bipolar factors. However, it is easiest to interpret the results of a factor analysis if we can meet these criteria and aim for structural simplicity. This is what rotating the factors tries to do." (page 202).

Thus our next step is to rotate the extracted factors. For comparison purposes and robustness, we will adopt orthogonal and oblique rotation approaches, using the Varimax and Promax respectively. The orthogonal rotation approach assumes no correlation among the principal factors, while the oblique rotation does not.[22] Table 3 reports the rotated factors.

The Varimax method reports religion in politics, external conflict, internal conflict displaying the highest factor loadings (of about 0.60) (followed by ethnic tensions if the cut off loading is slightly lowered to 0.50). The Promax method reports the same institutions but with higher factors loadings.

Both methods report government stability, law and order, and internal conflict having the highest factor loadings of the second component. The factor loadings of the third component show highest correlation for democratic accountability, investment profile, and military in politics under both methods. For the fourth component, corruption and bureaucracy quality have the highest correlation under both methods.

One may interpret the first component as social cohesion: conflicts, ethnic tensions, and the manipulation of religion to serve politics are all factors that reduce the attachment and steadfastness of society. The second component may be interpreted

[22] Varimax minimizes the number of variables, which have high loadings on each factor, and thus helps simplify factor interpretation.

as stability and order. Internal conflicts play an important role in the social cohesion and stability of society. The third component may be interpreted as the respect of rights and liberties, while the fourth component may be interpreted as the quality of public administration. Guided by these results, we will report the estimation results for the four identified institutions and the social cohesion principal component in examining the influence of social cohesion on FDI flows.

b. Regional and Country Performance

The regional performance on of the four social cohesion-related institutions is provided in table 4. Latin American and Caribbean countries were the highest performers on the role of religion in politics, East Asian and Pacific on external conflict, European and Central Asian on internal conflict, and the Middle Eastern and North African countries on ethnic tensions. In contrast, the South Asian countries were the least performers on all four institutions. For the total sample, the highest performance was on external conflict, followed by ethnic tensions, internal conflict, and lastly by religion in politics.

Table 5 provides the empirical model variable means. As the table shows, Mongolia (Iran) had the highest (lowest) average FDI inflows relative to GDP, while China (Guyana) had the largest (smallest) market size. Armenia (Guyana) had the highest (lowest) market potential. Guyana (Brazil) was the most (least) open economy (relative to its market size). Malaysia (Armenia) was the most (least) financially developed. Serbia (Nigeria) was the most (least) developed infrastructure-wise. As for the social cohesion-related variables, Bolivia, El Salvador, Ghana, Guatemala, Guyana, Jamaica, Moldova, Namibia, Paraguay (Pakistan) had the highest (lowest) religion in politics average. Guatemala (Lebanon) had the highest (lowest) external conflict average. Botswana (Sri Lanka) had the highest (lowest) internal conflict average, while Argentina, Costa Rica, and El Salvador (Sri Lanka) had the highest (lowest) ethnic tensions average.

c. Panel Unit Roots and Granger Causality

We report the panel unit root test results in table 6. Results of the three tests – LLM, IPS, and ADF - indicate rejection of the null hypothesis of presence of unit root process for *FDI*, *GROWTH*, *TRADE*, *FINANCE*, *INFRASTRUCTURE* and *COHESION*. The variables are stationary in the level.[23]

Although reverse causality between *FDI* and the social cohesion-related institutions is an initial concern, Granger causality test statistics, shown in table 7, indicate the rejection of the null hypothesis of *FDI* not causing all the explanatory variables except *FINANCE* and *INFRASTRUCTURE*. Accordingly we included them in addition to the dependent and lagged dependent variable among the GMM variables in Stata's two-step system GMM estimation.

d. *Estimation Results*

Fixed effects estimation results, accounting for unobservable country, and country and time effects, are presented in tables 8 and 9. The first four columns correspond to the identified individual social cohesion-related institutions: religion in

[23] Panel unit root tests for (log) nominal GDP indicated that the null hypothesis of presence of unit root process could not be rejected. Panel unit root tests for the first difference of (log) nominal GDP indicated stationarity. However, the first difference of (log) nominal GDP is the nominal GDP growth rate. The real GDP growth rate (*GROWTH*) is included in the empirical model.

politics, internal conflict, external conflict, and ethnic tensions. The last two columns report the results for the Varimax and Promax principal components. The R-squared for the estimated country-effects models suggest the estimated models explain nearly one third of the variation in the dependent variable. The explanatory power of the model nearly doubles when the time effects are included as well. The *F* tests indicate the joint significance of the explanatory variables.

Results show that among the four social cohesion-related institutions, religion in politics has a positive and statistically significant influence on FDI flows at the one percent level. A one percentage point improvement in the role religion in politics, i.e. less religion in politics,

TABLE 4
Social Cohesion-Related Institutional Performance
(by Region)

	Obs.	Mean	Std. Dev.	Max	Min	Index Score	Mean (%)
East Asia and Pacific							
RP	161	3.883	1.373	6.0	1.0	6	64.7
EC	161	10.656	1.155	12.0	6.0	12	88.8
IC	161	9.216	1.828	12.0	4.0	12	76.8
ET	161	3.698	1.282	5.5	1.0	6	61.6
Europe and Central Asia							
RP	167	4.933	0.636	6.0	3.0	6	82.2
EC	167	9.853	1.289	12.0	6.9	12	82.1
IC	167	9.511	1.529	12.0	4.3	12	79.3
ET	167	3.699	1.111	6.0	1.7	6	61.6
Latin America and Caribbean							
RP	330	5.507	0.579	6.0	4.0	6	91.8
EC	330	10.533	1.171	12.0	7.5	12	87.8
IC	330	8.702	1.849	12.0	2.8	12	72.5
ET	330	4.648	1.172	6.0	2.0	6	77.5

Middle East and North Africa							
RP	135	3.314	1.125	5.5	2.0	6	55.2
EC	135	9.321	1.813	12.0	2.6	12	77.7
IC	135	8.930	1.695	12.0	4.6	12	74.4
ET	135	4.770	0.824	6.0	2.8	6	79.5
South Asia							
RP	75	2.175	1.083	4.0	1.0	6	36.2
EC	75	8.749	2.212	12.0	4.0	12	72.9
IC	75	6.197	2.718	10.8	0.0	12	51.6
ET	75	1.998	1.318	5.0	0.0	6	33.3
Sub-Saharan Africa							
RP	153	4.645	1.601	6.0	0.5	6	77.4
EC	153	10.383	1.241	12.0	5.7	12	86.5
IC	153	9.213	1.822	12.0	4.4	12	76.8
ET	153	3.524	1.202	5.0	0.7	6	58.7
Total							
RP	1021	3.996	1.380	6.0	0.0	6	66.6
EC	1021	10.127	1.511	12.0	2.6	12	84.4
IC	1021	8.838	2.013	12.0	0.0	12	73.6
ET	1021	4.493	1.452	6.0	0.5	6	74.9

Notes: RP: religion in politics. EC: external conflict. IC: internal conflict. ET: ethnic tensions.

TABLE 5
Period Means (1984-2012)

	Country	FDI	GROWTH	TRADE	FINANCE	INFRASTRUCTURE	RP	EC	IC	ET
1	Argentina	2.3	2.9	29.1	3.1	18.9	5.8	10.5	9.9	6.0
2	Armenia	6.0	11.2	68.9	0.0	19.0	5.0	7.4	8.9	5.5
3	Bolivia	5.4	3.9	60.8	0.1	6.7	6.0	10.4	8.4	3.0
4	Botswana	1.7	4.5	92.4	0.8	6.1	5.0	11.0	11.0	4.6
5	Brazil	2.0	2.6	21.4	19.2	15.0	5.8	11.3	9.4	3.9
6	Bulgaria	9.0	2.7	116.9	1.9	32.6	5.1	10.2	10.8	4.7
7	Chile	5.8	5.4	63.7	11.5	16.5	5.5	10.4	9.2	5.2
8	China	3.2	10.3	49.0	58.0	14.4	5.2	10.1	10.3	4.3
9	Colombia	2.6	3.7	35.2	2.6	14.0	4.8	9.3	5.4	5.2
10	Costa Rica	4.2	4.3	88.8	0.5	25.2	5.0	10.7	10.5	6.0
11	Cote d'Ivoire	1.7	1.7	74.1	0.3	1.2	4.4	9.5	8.4	2.7
12	Ecuador	2.0	3.4	53.7	0.4	10.8	5.0	9.8	8.3	3.6
13	Egypt	2.6	4.5	51.4	11.1	8.3	2.5	9.9	8.0	5.1
14	El Salvador	2.2	2.2	67.9	0.4	12.8	6.0	11.0	9.5	6.0
15	Ghana	3.1	5.8	82.9	0.4	1.0	6.0	11.6	9.2	2.9

	Country	FDI	GROWTH	TRADE	FINANCE	INFRASTRUCTURE	RP	EC	IC	ET
16	Guatemala	1.4	4.3	42.8	0.0	3.8	6.0	12.0	9.8	3.8
17	Guyana	5.8	0.6	198.3	0.1	15.4	6.0	9.6	9.3	2.0
18	India	1.0	6.5	30.6	40.5	2.3	2.3	8.6	7.0	2.1
19	Indonesia	0.9	5.4	56.3	10.8	5.3	2.2	10.6	7.4	2.2
20	Iran	0.7	3.9	44.3	2.7	21.0	2.0	7.9	9.2	4.5
21	Jamaica	4.3	1.6	96.6	2.5	12.1	6.0	11.8	9.3	4.8
22	Jordan	5.4	4.3	125.2	36.1	9.3	3.4	10.0	9.0	4.5
23	Kazakhstan	8.3	6.8	86.3	1.8	18.0	4.8	11.0	10.5	5.0
24	Latvia	4.5	4.7	101.2	0.8	28.1	5.0	10.6	10.6	3.2
25	Lebanon	10.7	3.7	63.6	2.5	17.3	2.6	6.4	8.0	5.0
26	Lithuania	3.5	4.5	115.1	1.8	26.1	5.4	10.1	10.7	3.8
27	Malaysia	4.3	6.3	180.2	63.0	15.5	3.6	10.9	10.4	3.5
28	Mexico	2.3	2.9	48.6	8.1	12.7	5.7	10.8	9.0	4.0
29	Moldova	5.7	2.4	130.2	1.8	20.9	6.0	10.0	9.1	3.4
30	Mongolia	11.9	6.4	114.7	0.5	5.6	5.0	11.7	10.9	5.0
31	Morocco	2.2	4.1	64.4	7.2	5.2	4.1	9.7	8.8	4.5

	Country	FDI	GROWTH	TRADE	FINANCE	INFRASTRUCTURE	RP	EC	IC	ET
32	Namibia	4.7	4.5	96.7	0.3	6.1	6.0	10.8	10.9	4.7
33	Nigeria	3.9	6.0	62.9	1.6	0.5	1.9	9.9	7.3	2.5
34	Pakistan	1.1	4.2	34.3	28.0	2.2	1.1	8.0	6.9	2.7
35	Panama	6.7	6.0	158.0	0.5	13.7	5.0	10.3	9.6	5.0
36	Papua New Guinea	1.0	4.3	122.8	0.3	1.2	5.0	10.0	9.6	2.0
37	Paraguay	1.3	2.9	98.4	0.1	5.2	6.0	11.2	8.3	5.0
38	Peru	3.2	3.4	37.4	3.3	6.8	5.7	9.7	6.4	2.8
39	Philippines	1.5	4.1	82.1	11.7	3.0	3.2	11.0	7.5	4.1
40	Romania	3.7	2.8	70.0	1.4	18.5	4.9	11.2	10.3	4.1
41	Russia	2.0	2.6	55.3	23.5	25.1	5.1	9.6	8.4	2.7
42	Serbia	4.9	2.1	72.1	1.7	34.6	5.0	8.7	9.3	3.0
43	South Africa	1.1	2.6	52.3	56.7	9.6	5.1	10.0	8.5	3.2
44	Sri Lanka	1.2	5.2	71.6	2.6	6.1	3.2	9.6	4.7	1.2
45	Thailand	2.8	5.3	111.4	42.4	7.5	4.1	9.7	8.8	3.9
46	Tunisia	3.0	4.1	91.3	1.5	8.8	4.7	10.6	10.3	5.0
47	Turkey	1.0	4.0	44.7	30.1	22.7	3.9	8.8	7.4	2.3

	Country	FDI	GROWTH	TRADE	FINANCE	INFRASTRUCTURE	RP	EC	IC	ET
48	Ukraine	4.0	3.6	104.7	0.9	25.0	5.2	10.2	9.7	4.1
49	Uruguay	3.1	3.6	47.9	0.0	26.1	5.0	11.2	9.4	6.0
50	Venezuela	2.0	2.4	51.1	1.4	13.2	5.0	9.9	8.9	5.0
51	Vietnam	6.2	6.5	142.3	6.6	13.1	4.2	11.5	10.2	4.6
52	Zambia	6.2	5.0	71.4	0.4	0.8	4.9	10.2	10.2	5.0
	Total	3.4	4.3	75.0	11.6	12.1	4.5	10.1	8.8	4.0

Notes: RP: Religion in politics. EC: External conflict. IC: Internal conflict. ET: Ethnic tensions.

TABLE 6
Panel Unit Root Tests

Variable	LLC	IPS	ADF
FDI	0.000	0.000	0.000
	(52, 996)	(51, 963)	(52, 966)
MARKET	1.000	1.000	1.000
	(52, 976)	(51, 973)	(52, 976)
D.MARKET	0.000	0.000	0.000
	(51, 924)	(51, 924)	(51, 924)
GROWTH	0.000	0.000	0.000
	(52, 965)	(51, 957)	(52, 960)
TRADE	0.003	0.009	0.003
	(51, 947)	(49, 941)	(51, 947)
FINANCE	0.000	0.000	0.000
	(52, 958)	(51, 955)	(52, 958)
INFRASTRUCTURE	0.000	0.001	0.002
	(52, 943)	(51,940)	(52, 943)
COHESION			
RP	0.000	0.000	0.000
	(31,632)	(31,632)	(31,632)
EC	0.000	0.000	0.000
	(48,901)	(48,901)	(48,901)
IC	0.000	0.000	0.000
	(52,922)	(52,919)	(52,922)
ET	0.000	0.000	0.000
	(34,688)	(34,688)	(34,688)

Notes: Statistics are based on full sample of middle income countries. LLC, IPS, and ADF are Levin, Lin & Chu (t* test), Im, Pesaran and Shin (W-stat), and Augmented Dickey Fuller (Fisher Chi-square) tests. Panel unit root tests are conducted on variables in log forms except for *GROWTH*. Figures in parentheses are number of countries and observations.

TABLE 7

Granger Causality Test Statistics

	Obs.	F-Statistic	Prob.
H_0: Y does not Granger cause X			
GROWTH	912	1.101	0.333
TRADE	899	0.230	0.794
FINANCE	921	8.375	0.000
INFRASTRUCTURE	924	7.708	0.001
COHESION			
RP	915	0.118	0.889
EC	915	0.299	0.742
IC	915	1.110	0.330
ET	915	0.661	0.516
H_0: X does not Granger cause Y			
GROWTH	912	5.860	0.003
TRADE	899	8.610	0.000
FINANCE	921	4.024	0.018
INFRASTRUCTURE	924	3.080	0.047
COHESION			
RP	915	5.592	0.004
EC	915	4.743	0.009
IC	915	4.731	0.009
ET	915	7.829	0.000

Notes: "H_0: Y does not Granger-cause X" is the null hypothesis that the dependent variable does not Granger cause the explanatory variable. "H_0: X does not Granger cause Y" is the null hypothesis that the explanatory variable does not Granger-cause the dependent variable. Test is based on 2 lags.

increases FDI flows to middle income countries by about one third percentage point. The remaining three institutions are statistically insignificant. The social cohesion principal components, regardless of the rotation method, are statistically insignificant.

Results for the control variables show that trade openness and financial development have positive and statistically significant influence on FDI flows. The positive influence of market potential is only marginally significant in the fixed country effects model specification. The positive coefficient of the lagged dependent variable suggests persistence of FDI flows.

Besides the endogeneity arising from unobservable country and time effects, IV and two-step system GMM estimates account for endogeneity arising from reverse causality, in particular from FDI flows to *FINANCE* and *INFRASTRUCTURE*. The results are reported in tables 10 and 11. The Wald test indicates joint significance of the explanatory variables at the 1 percent level for all specifications. For the system GMM estimation, we fail to reject the null hypotheses of second-order serial correlation of error term and over-identifying restrictions. Accordingly the obtained estimates are consistent.

Both estimation methodologies confirm the fixed effects coefficient estimates. The influence of the role of religion in politics is positive and statistically significant though higher. IV and system GMM estimates show that an improvement of religion in politics by one percentage point increases FDI inflows by 0.4 and 0.5 percentage points, respectively. In addition to the influence of religion in politics, system GMM estimates show a positive and statistically significant coefficient of ethnic tensions of about the same magnitude. Therefore less religion in politics and less ethnic tensions have a positive influence on FDI inflows to middle income countries.

The influence of the extracted social cohesion component on FDI flows has been statistically insignificant regardless of the estimation methodology. The exception is the principal component obtained using oblique (Promax) rotation and system GMM estimation methodology, shown in table 11. Such influence is negative and statistically significant at the one percent level: An improvement in social cohesion by one percentage point reduces FDI inflows by nearly one tenth of a percentage point. This result is implausible, however, in light of the positive estimates of the four major social cohesion institutions. The results of a larger country sample can provide us guidance on the robustness of this estimate.

Compared to the influence of trade openness under the fixed effects estimation methodology, the influence of trade openness stretches from nearly 0.5 under IV estimation to 0.7-0.9 under system GMM estimation. The positive influence of trade openness on FDI flows is robust to estimation methodology unlike any other control variables.

e. Further Robustness Checks

In addition to the implicit robustness checks rendered through the different estimation methodologies, we also re-examine the results using a larger country sample covering the union of ICRG and WDI data. Tables 12 and 13 provide the fixed effects estimation results for the larger country sample, while table 14 and 15 provide those for the IV and system GMM estimation.

TABLE 8
Social Cohesion and FDI Flows
Dependent Variable: FDI Flows % GDP (log)
(Fixed Country Effects)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	RP	EC	IC	ET	Varimax	Promax
L.FDI	**0.413a**	**0.423a**	**0.423a**	**0.422a**	**0.422a**	**0.420a**
	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)
GROWTH	**0.014c**	**0.014c**	**0.013c**	**0.014c**	**0.014c**	**0.014c**
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
TRADE	**0.483a**	**0.515a**	**0.534a**	**0.513a**	**0.511a**	**0.506a**
	(0.137)	(0.141)	(0.145)	(0.144)	(0.140)	(0.140)
FINANCE	**0.094a**	**0.100a**	**0.099a**	**0.100a**	**0.101a**	**0.100a**
	(0.020)	(0.020)	(0.020)	(0.020)	(0.021)	(0.021)
INFRASTRUCTURE	0.103	0.059	0.038	0.061	0.061	0.065
	(0.063)	(0.063)	(0.067)	(0.062)	(0.059)	(0.058)
COHESION	**0.346a**	0.05	0.092	0.004	-0.007	-0.018
	(0.115)	(0.229)	(0.086)	(0.096)	(0.019)	(0.020)
Constant	-2.351a	-2.029b	-2.145a	-1.913a	-1.899a	-1.890a
	(0.574)	(0.803)	(0.628)	(0.617)	(0.551)	(0.552)
Observations	978	978	978	978	978	978
R-squared	0.338	0.332	0.333	0.332	0.332	0.333
Number of countries	52	52	52	52	52	52
F test	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Robust standard errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. All variables are in log form except *GROWTH*. RP, EC, IC, and ET are religion in politics, external conflict, internal conflict, and ethnic tensions, respectively. Varimax and Promax are the social cohesion principal components using the orthogonal and oblique rotation methods, respectively. Figures for *F* test are *p* values.

TABLE 9
Social Cohesion and FDI Flows
Dependent Variable: FDI Flows % GDP (log)
(Fixed Country and Time Effects)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	RP	EC	IC	ET	Varimax	Promax
L.FDI	**0.395a**	**0.404a**	**0.403a**	**0.404a**	**0.404a**	**0.403a**
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
GROWTH	0.012	0.012	0.011	0.012	0.012	0.012
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
TRADE	**0.278c**	**0.306b**	**0.327b**	**0.301b**	**0.300b**	**0.297b**
	(0.148)	(0.15)	(0.153)	(0.153)	(0.15)	(0.15)
FINANCE	**0.072a**	**0.073a**	**0.073a**	**0.073a**	**0.073a**	**0.073a**
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
INFRASTRUCTURE	-0.085	-0.151	**-0.179c**	-0.148	-0.147	-0.145
	(0.095)	(0.095)	(0.097)	(0.093)	(0.091)	(0.091)
COHESION	**0.331a**	0.08	0.122	0.003	-0.005	-0.014
	(0.117)	(0.203)	(0.081)	(0.095)	(0.018)	(0.020)
Constant	-0.841	-1.595	-1.770c	-1.722c	-1.704b	-1.692b
	(0.709)	(1.031)	(0.925)	(0.893)	(0.861)	(0.860)
Observations	978	978	978	978	978	978
R-squared	0.625	0.623	0.623	0.622	0.623	0.623
Number of countries	52	52	52	52	52	52
F test	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Robust standard errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. All variables are in log form except *GROWTH*. RP, EC, IC, and ET are religion in politics, external conflict, internal conflict, and ethnic tensions, respectively. Varimax and Promax are the social cohesion principal components using the orthogonal and oblique rotation methods, respectively. Figures for *F* test are *p* values.

TABLE 10
Social Cohesion and FDI Flows
Dependent Variable: FDI Flows % GDP (log)
(IV Fixed Effects Estimation)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	RP	EC	IC	ET	Varimax	Promax
L.FDI	**0.457a**	**0.468a**	**0.466a**	**0.467a**	**0.466a**	**0.463a**
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
GROWTH	**0.015b**	**0.014b**	**0.014b**	**0.014b**	**0.015b**	**0.015b**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
TRADE	**0.423a**	**0.466a**	**0.472a**	**0.462a**	**0.457a**	**0.446a**
	(0.148)	(0.149)	(0.150)	(0.149)	(0.148)	(0.148)
FINANCE	0.055	0.073	0.074	0.072	0.073	0.071
	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)
INFRASTRUCTURE	**0.140c**	0.066	0.053	0.068	0.071	0.076
	(0.072)	(0.069)	(0.071)	(0.069)	(0.069)	(0.069)
COHESION	**0.407a**	0.191	0.08	0.047	0.01	-0.031
	(0.119)	(0.206)	(0.086)	(0.087)	(0.019)	(0.02)
Constant	-2.270a	-2.179a	-1.906a	-1.789a	-1.713a	-1.678a
	(0.616)	(0.792)	(0.639)	(0.620)	(0.596)	(0.595)
Observations	869	869	869	869	869	869
Number of countries	52	52	52	52	52	52
R-squared	0.357	0.35	0.35	0.35	0.35	0.351
Wald test	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Standard errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. RP, EC, IC, ET, and PC are religion in politics, external conflict, internal conflict, ethnic tensions, and the social cohesion principal component, respectively. IVs for FINANCE and INFRASTRUCTURE are *L2.FINANCE, L1.INFRASTSTUCTURE, and L2.INFRASTRUCTURE.* Figures for Wald test are *p* values.

TABLE 11
Social Cohesion and FDI Flows
Dependent Variable: FDI Flows % GDP (log)
(Two-step System GMM Estimation)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	RP	EC	IC	ET	Varimax	Promax
L.FDI	0.052	0.038	0.041	0.057	0.042	0.029
	(0.068)	(0.07)	(0.068)	(0.070)	(0.069)	(0.065)
GROWTH	**0.032b**	**0.031a**	**0.028b**	**0.029b**	**0.034a**	**0.032a**
	(0.013)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
TRADE	**0.775a**	**0.725a**	**0.761a**	**0.855a**	**0.737a**	**0.707a**
	(0.287)	(0.163)	(0.257)	(0.218)	(0.266)	(0.169)
FINANCE	0.006	-0.024	-0.016	0.008	-0.023	-0.019
	(0.033)	(0.028)	(0.028)	(0.030)	(0.030)	(0.028)
INFRASTRUCTURE	0.066	**0.194b**	**0.172c**	0.099	0.169	0.128
	(0.108)	(0.097)	(0.100)	(0.085)	(0.106)	(0.098)
COHESION	**0.495b**	0.217	0.34	**0.478b**	0.009	**-0.087a**
	(0.246)	(0.600)	(0.212)	(0.187)	(0.025)	(0.027)
Constant	-3.392a	-3.181b	-3.541b	-3.701a	-2.703b	-2.486a
	(1.277)	(1.518)	(1.421)	(1.062)	(1.099)	(0.760)
Observations	813	813	813	813	813	813
Number of countries	51	51	51	51	51	51
Wald test	0.000	0.000	0.000	0.000	0.000	0.000
Number of instruments	113	113	113	113	113	113
A-B (AR2) test	0.443	0.494	0.494	0.493	0.467	0.459
Hansen test	1.0	1.0	1.0	1.0	1.0	1.0

Notes: Robust standard errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. RP, EC, IC, ET, and PC are religion in politics, external conflict, internal conflict, ethnic tensions, and the social cohesion principal component, respectively. GMM variables are *FDI*, *FINANCE* and *INFRASTRUCTURE*. IV variables are *GROWTH*, *TRADE, L2.FINANCE, L3.FINANCE, L1.INFRASTSTUCTURE, L2.INFRASTRUCTURE, COHESION*, and time dummies. Instruments are collapsed. Figures for Wald, A-B(AR2) and Hansen tests are *p* values.

TABLE 12
Social Cohesion and FDI Flows: Robustness Check using Full Sample
Dependent Variable: FDI Flows % GDP (log)
(Fixed Country Effects)

	(1)	(2)	(3)	(4)	(5)	(6)
	RP	EC	IC	ET	Varimax	Promax
L.FDI	**0.284a**	**0.289a**	**0.288a**	**0.289a**	**0.285a**	**0.287a**
	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)
GROWTH	**0.015b**	**0.015b**	**0.015b**	**0.016b**	**0.016b**	**0.016b**
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
TRADE	**0.735a**	**0.755a**	**0.759a**	**0.754a**	**0.749a**	**0.732a**
	(0.148)	(0.148)	(0.152)	(0.151)	(0.146)	(0.148)
FINANCE	**0.166a**	**0.169a**	**0.169a**	**0.167a**	**0.168a**	**0.169a**
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
INFRASTRUCTURE	**0.112c**	0.069	0.055	0.068	**0.097c**	0.090
	(0.058)	(0.058)	(0.061)	(0.058)	(0.057)	(0.058)
COHESION	**0.409a**	0.265	0.122	0.14	**0.048b**	0.019
	(0.123)	(0.181)	(0.087)	(0.087)	(0.019)	(0.015)
Constant	-3.843a	-3.825a	-3.458a	-3.395a	-3.265a	-3.171a
	(0.645)	(0.740)	(0.666)	(0.643)	(0.594)	(0.599)
Observations	1,992	1,992	1,992	1,992	1,992	1,992
R-squared	0.248	0.245	0.244	0.245	0.247	0.244
Number of countries	101	101	101	101	101	101
F test	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Robust standard errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. All variables are in log form except *GROWTH*. RP, EC, IC, and ET are religion in politics, external conflict, internal conflict, and ethnic tensions, respectively. Varimax and Promax are the social cohesion principal components using the orthogonal and oblique rotation methods, respectively. Figures for *F* test are *p* values.

TABLE 13
Social Cohesion and FDI Flows: Robustness Check using Full Sample
Dependent Variable: FDI Flows % GDP (log)
(Fixed Country and Time Effects)

	(1)	(2)	(3)	(4)	(5)	(6)
	RP	EC	IC	ET	Varimax	Promax
L.FDI	**0.267a**	**0.274a**	**0.273a**	**0.274a**	**0.272a**	**0.272a**
	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
GROWTH	**0.017b**	**0.016b**	**0.016b**	**0.018b**	**0.017b**	**0.018b**
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
TRADE	**0.467a**	**0.503a**	**0.521a**	**0.498a**	**0.503a**	**0.477a**
	(0.157)	(0.156)	(0.159)	(0.158)	(0.154)	(0.156)
FINANCE	**0.124a**	**0.126a**	**0.126a**	**0.122a**	**0.124a**	**0.124a**
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
INFRASTRUCTURE	-0.012	-0.072	-0.092	-0.072	-0.030	-0.039
	(0.068)	(0.067)	(0.070)	(0.068)	(0.066)	(0.067)
COHESION	**0.472a**	**0.482a**	**0.202b**	**0.216b**	**0.050a**	**0.026c**
	(0.131)	(0.182)	(0.088)	(0.091)	(0.019)	(0.015)
Constant	-2.314a	-2.590a	-2.014b	-1.675c	-1.616c	-1.483c
	(0.863)	(0.897)	(0.907)	(0.871)	(0.847)	(0.860)
Observations	1,992	1,992	1,992	1,992	1,992	1,992
R-squared	0.591	0.589	0.589	0.589	0.589	0.588
Number of countries	101	101	101	101	101	101
F test	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Robust standard errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. All variables are in log form except *GROWTH*. RP, EC, IC, and ET are religion in politics, external conflict, internal conflict, and ethnic tensions, respectively. Varimax and Promax are the social cohesion principal components using the orthogonal and oblique rotation methods, respectively. Figures for *F* test are *p* values.

TABLE 14
Social Cohesion and FDI Flows: Robustness Check using Full Sample
Dependent Variable: FDI Flows % GDP (log)
(IV Fixed Effects Estimation)

	(1)	(2)	(3)	(4)	(5)	(6)
	RP	EC	IC	ET	Varimax	Promax
L.FDI	**0.219a**	**0.231a**	**0.231a**	**0.229a**	**0.229a**	**0.230a**
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
GROWTH	0.017	0.019	0.019	0.018	**0.021c**	0.02
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
TRADE	**1.463a**	**1.363a**	**1.295a**	**1.375a**	**1.262a**	**1.282a**
	(0.330)	(0.344)	(0.354)	(0.343)	(0.333)	(0.331)
FINANCE	**0.243a**	**0.253a**	**0.260a**	**0.252a**	**0.253a**	**0.249a**
	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)
INFRASTRUCTURE	0.058	0.001	-0.014	0.011	-0.010	-0.008
	(0.099)	(0.097)	(0.097)	(0.098)	(0.096)	(0.097)
COHESION	**0.508a**	0.358	0.226	**0.220c**	0.032	0.018
	(0.144)	(0.285)	(0.177)	(0.129)	(0.020)	(0.020)
Constant	-7.081a	-6.600a	-5.952a	-6.147a	-5.309a	-5.390a
	(1.379)	(1.710)	(1.638)	(1.465)	(1.352)	(1.344)
Observations	1,484	1,484	1,484	1,484	1,484	1,484
R-squared	0.172	0.169	0.171	0.169	0.173	0.172
F test	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Standard errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. RP, EC, IC, ET, and PC are religion in politics, external conflict, internal conflict, ethnic tensions, and the two social cohesion principal components, respectively. Instrumental variables used are L8.*GROWTH*, L10.*TRADE*, *L2.FINANCE, L3.FINANCE, L1.INFRASTSTUCTURE, L2.INFRASTRUCTURE, L1.COHESION (*IC*)* and time dummies. Figures for *F* test are *p* values.

TABLE 15
Social Cohesion and FDI Flows: Robustness Check using Full Sample
Dependent Variable: FDI Flows % GDP (log)
(Two-step System GMM Estimation)

	(1)	(2)	(3)	(4)	(5)	(6)
	RP	EC	IC	ET	Varimax	Promax
L.FDI	-0.032	**-0.091b**	**-0.090b**	-0.070	**-0.092b**	**-0.088b**
	(0.049)	(0.044)	(0.043)	(0.047)	(0.043)	(0.043)
GROWTH	**0.016c**	**0.056a**	**0.058a**	**0.050a**	**0.058a**	**0.058a**
	(0.009)	(0.017)	(0.019)	(0.017)	(0.018)	(0.015)
TRADE	**1.109a**	**1.161a**	**1.161a**	**1.124a**	**1.173a**	**1.189a**
	(0.185)	(0.204)	(0.205)	(0.210)	(0.181)	(0.196)
FINANCE	-0.008	-0.034	-0.031	-0.029	-0.027	-0.030
	(0.029)	(0.030)	(0.029)	(0.025)	(0.028)	(0.027)
INFRASTRUCTURE	0.063	0.128	0.131	**0.149c**	0.125	0.104
	(0.080)	(0.086)	(0.091)	(0.083)	(0.081)	(0.083)
COHESION	**0.423c**	-0.301	-0.132	-0.136	**0.115a**	0.061
	(0.246)	(0.600)	(0.379)	(0.183)	(0.036)	(0.040)
Constant	-4.763a	-3.877a	-4.304a	-4.315a	-4.651a	-4.629a
	(0.830)	(1.456)	(0.990)	(0.852)	(0.741)	(0.787)
Observations	1,484	1,484	1,484	1,484	1,484	1,484
Number of instruments	168	110	110	139	110	110
Wald test	0.000	0.000	0.000	0.000	0.000	0.000
A-B (AR2) test	0.764	0.87	0.868	0.956	0.608	0.766
Hansen test	1.000	0.610	0.609	0.989	0.650	0.698

Notes: Robust standard errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. RP, EC, IC, ET, and PC are religion in politics, external conflict, internal conflict,

ethnic tensions, and the two social cohesion principal components, respectively. GMM variables are *FDI, GROWTH, TRADE, FINANCE, INFRASTRUCTURE,* and *COHESION* (IC). Instrumental variables used are L8.*GROWTH*, L10.*TRADE, L2.FINANCE, L3.FINANCE, L1.INFRASTSTUCTURE, L2.INFRASTRUCTURE, L1.COHESION (*IC*)* and time dummies. Figures for Wald, A-B (AR2), and Hansen tests are *p* values.

As table 12 and 13 report, country effects estimation shows positive and slightly higher influence of religion in politics than the one obtained in the middle income countries sample. The social cohesion Varimax-rotated principal component shows positive influence of about 0.05 percentage point. The country and time fixed effects estimation in table 13 shows an expected positive influence of all social cohesion individual institutions and principal components.

Table 14 reports higher IV estimate and more statistically significant coefficient of religion in politics, as well as positive ethnic tensions coefficient. System GMM estimates in table 15 also report positive coefficient of religion in politics though marginally significant as well as the (Varimax) social cohesion component.

Trade also has a positive influence on FDI flows similar to the result of the middle income country sample. This result holds irrespective of the estimation methodology.

5. DISCUSSION OF RESULTS

The empirical evidence suggests that social cohesion, as the outcome of the interaction of different institutions, does not have an influence on the level of FDI inflows a country can attract in the middle income countries sample though in the full sample it does. One individual institution whose influence is robust is the role of religion in politics. Two questions consequently arise. How does religion get manipulated in politics? And what is the evidence in the literature on the effect of religion on the economy?

a. How Does Religion Get Manipulated in Politics?

ICRG defines and measures religion in politics in terms of the domination of society and/or governance by a single religious group that seeks to replace civil law by religious law and to exclude other religions from the political and/or social process. This definition is similar to the one adopted by Barro and McCleary (2003) building on Barrett et al. (2001). In examining the relationship between religion and economic growth and accounting for endogeneity, Barro and McCleary (2003) instrument for religion using dummy variables for the existence of state religion in the constitution and of a regulated market structure in which the government approves or appoints church leaders, in addition to the composition of a country's religious adherence and a measure of religious diversity. Three of these four aspects – existence of state religion in the constitution, government appointment or approval of religious leaders and religious diversity - reflect how religion is used in politics.

Religion in politics reduces trust and institutional performance, civic engagement, and increases transactions costs. Putnam (1993) argues that hierarchical religions – Catholicism, Orthodox Christianity and Islam - discourage trust between people. Trust in turn influences the performance of institutions (Fukuyama 1995). *Therefore, with the formal adoption of a hierarchical religion by the state, it reinforces discouragement of social ties and trust among people, and reduces institutional performance.* This conjecture is confirmed by La Porta et al. (1997): Countries with hierarchical religions are associated with poor institutional performance -

low efficiency judiciaries, more corruption, and low-quality bureaucracy – and poor civil liberties.[24]

Since it reduces trust and social ties, the manipulation of religion in politics influences society and the conduct of business. On the one hand, reducing trust and social ties weakens informal institutions in society, which are an aspect of social capital and social cohesion. On the other hand, reducing trust increases transactions costs and diminishes the role of large firms in the economy, as La Porta et al. (1997) argue.

Religion in politics results in an inefficient use of public finances and masks failures and crises. As Barro and McCleary (2003) point out, adopting a state religion may require tax collection and subsidies directed towards financing church activities. They also add that financing these activities is inefficient given the constant output of religious beliefs. In addition to the inefficient use of public finances, Platteau (2008) argues that in Islamic countries the use of religion in politics can be used to mask failures and crises. Religion, he argues, provides rulers with "a cheap default option when they are contested" and accordingly do not undertake the necessary institutional reforms.

b. Does Religion Affect Economic Growth?

These channels suggest that religion (in politics) affects economic growth. Inspired by the arguments of Huntington (1996), Landes (1999), and Inglehart and Baker (2000) that economic growth should take into account a nation's culture, Barro and McCleary (2003) empirically find that religion matters for economic growth.[25] Some religious beliefs, mainly beliefs in hell and heaven, are positively associated with economic growth while church attendance negatively associated with growth. They argue that these beliefs influence economic growth through personal traits, such as honesty and work ethics. On the other hand, the negative association of church attendance with economic growth can be viewed as the inefficient use of resources in producing constant output of religious beliefs. Similar to Barro and McCleary (2003), Guiso et al. (2003) find that religion shapes attitudes, which are conducive to growth. Replicating and robustly checking the results of Barro and McCleary (2003), Durlauf et al. (2012) find little evidence in support of religion explaining differences in per capita income growth, however.

Searching for determinants of economic growth in the long run, as opposed to examining the relationship between religion and economic growth, Sala-i-Martin et al. (2004) identify 18 out of 67 variables used to explain growth in the literature. Among the identified variables are the fractions of population who are Confucian, Muslim, and Buddhist, and ethnolinguistic fractionalization. Reflecting religious beliefs, the first three variables may link religion to economic growth similar to Barro and McCleary (2003).

6. CONCLUDING REMARKS

[24] In addition to poor institutional performance, La Porta et al. (1997) add poor macroeconomic performance - higher inflation and higher rates of tax evasion, poor infrastructure, and lower level of importance of large firms in the economy. See also Noland (2005).

[25] Searching for determinants of economic growth in the long run, Sala-i-Martin et al. (2004) identify 18 out of 67 variables used to explain growth in the literature. Among the identified variables are the fractions of population who are Confucian, Muslim, and Buddhist, and ethnolinguistic fractionalization. The first three variables may be linked to religion through religious beliefs. Other variables identified include a) regional dummies (East Asia, Africa, and Latin America), b) education (primary schooling), c) the economy (investment price level, GDP, government consumption share, fraction of GDP in mining, and the number of years the economy has been open), d) population (fraction of population living in tropical areas, and coastal population density), e) health (malaria prevalence and life expectancy), and f) colonization (Spanish colonies).

The finding of this paper lends support to the World Bank's (2013) calls for social cohesion. What this paper has found is that religion in politics, conflicts both internal and external, and ethnic tensions matter for social cohesion. Of prime importance to attracting FDI flows is the role of religion in politics. The empirical evidence may suggest if middle income countries are interested in creating more job opportunities and reducing unemployment, through attracting more FDI, then governments need to lessen the merger of religion with politics. The results of this paper are of particular relevance to Arab Spring countries undergoing political, social, and economic transformations. Whether social cohesion influences domestic investment is a future research question the answer to which complements the findings of this paper.

References:

Alesina, A., R. Baqir and W. Easterly (1999), "Public Goods and Ethnic Divisions", Quarterly *Journal of Economics*, 114, 4, 1243–1284.

Alesina, A., A. Devleeschauwer, W. Easterly, S. Kurlat and R. Wacziarg (2003), "Fractionalization", *Journal of Economic Growth*, 8, 2, 155-194.

Alesina, A. and E. La Ferrara (2000), "Participation in Heterogenous Communities", *Quarterly Journal of Economics*, 115, 3, 847-904.

Alesina, A. and E. La Ferrara (2002), "Who Trusts Others?" *Journal of Public Economics*, 85, 2, 207–234.

Arellano, M. and O. Bover (1995), "Another Look at the Instrumental Variable Estimation of Error-Components Models", *Journal of Econometrics* 68 (1): 29-51.

Asiedu, E. (2006), "Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability", *World Economy*, 29, 1, 63–77.

Baliamoune-Lutz, M. (2005), "Institutions, Social Capital, and Economic Development in Africa: An Empirical Study", International Centre for Economic Research Working Paper 18/2005.

Baliamoune-Lutz, M. and G. Mavrotas (2009), "Aid Effectiveness: Looking at the Aid-Social Capital-Growth Nexus", *Review of Development Economics*, 13, 3, 510-25.

Baltagi, B. H. (2008), Econometric Analysis of Panel Data (New York: John Wiley & Sons).

Barrett, D. B., G. T. Kurian and T. M. Johnson (2001), World Christian Encyclopedia, (Oxford, England: Oxford University Press).

Barro, R. J. and R. M. McCleary (2003), "Religion and Economic Growth Across Countries", *American Sociological Review*, 68, 5, 760–781.

Blonigen, B. A. and R. B. Davies (2004), "The Effects of Bilateral Tax Treaties on US FDI Activity", *International Tax and Public Finance*, 11, 5, 601-622.

Blundell, R. and S. Bond (1998), "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models", *Journal of Econometrics*, 87, 1, 115-143.

Bossert, W., C. D'Ambrosio and V. Peragine (2007), "Deprivation and Social Exclusion", *Economica*, 74, 296, 777-803.

Bourdieu, P. (1993), Sociology in Question (London: Sage).

Burger, M., E. Ianchovichina and B. Rijkers (2013), "Risky Business: Political Instability and Greenfield Foreign Direct Investment in the Arab World", World Bank Policy Research Working Paper 6716.

Busse, M. and C. Hefeker (2007), "Political Risk, Institutions and Foreign Direct Investment", *European Journal of Political Economy*, 23, 2, 397–415.

Chakrabarti, A. (2001), "The Determinants of Foreign Direct Investment: Sensitivity Analyses of Cross-Country Regressions", *Kyklos*, 54, 1, 89–114.

Che, Y., Y. Lu, Z. Tao and P. Wang (2013), "The Impact of Income on Democracy Revisited", *Journal of Comparative Economics*, 41, 1, 159-169.

Dickes, P., M. Valentova and M. Borsenberger (2011), "A Multidimensional Assessment of Social Cohesion in 47 European Countries", CEPS/INSTEAD Working Papers No. 2011-07.

Dunning, J. (1981) International Production and the Multinational Enterprise (London: Allen & Unwin).

Durlauf, S. N., A. Kourtellos and C. M. Tan (2012), "Is God in the Details? A Reexamination of the Role of Religion in Economic Growth", *Journal of Applied Econometrics*, 27, 7, 1059-1075.

Easterly, W. and R. Levine (1997), "Africa's Growth Tragedy: Policies and Ethnic Divisions", *Quarterly Journal of Economics*, 111, 4, 1203-1250.

Easterly, W., J. Ritzen and M. Woolcock (2006), "Social Cohesion, Institutions, and Growth", *Economics & Politics*, 18, 2, 103-120.

Foa, R. (2011), "The Economic Rationale for Social Cohesion: The Cross-Country Evidence", Paper presented at the International Conference on Social Cohesion, OECD Conference Centre, Paris.

Fukuyama, F. (1995), Trust (New York: Free Press).

Guiso, L., P. Sapienza and L. Zingales (2003), "People's Opium? Religion and Economic Attitudes", *Journal of Monetary Economics*, 50, 1, 225–282.

Huntington, S. P. (1996), The Clash of Civilizations and the Remaking of World Order (New York: Simon and Schuster).

Inglehart, R. and W. E. Baker (2000), "Modernization, Cultural Change, and the Persistence of Traditional Values", *American Sociological Review*, 65, 1, 19-51.

Keefer, P. and S. Khemani (2005), "Democracy, Public Expenditures, and the Poor: Understanding Political Incentives for Providing Public Services", *World Bank Research Observer*, 20, 1, 1-27.

Kerner, A. (2009), "Why Should I Believe You? The Costs and Consequences of Bilateral Investment Treaties", *International Studies Quarterly*, 53, 1, 73-102.

Kolstad, I. and A. Wiig (2012), "What Determines China's Outward FDI?" *Journal of World Business*, 47, 1, 26–34.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. W. Vishny (1997), "Trust in Large Organizations", *American Economic Review*, 87, 2, 333–338.

Landes, D. S. (1999), The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor (New York: Norton).

Lin, N. (2001), Social Capital (Cambridge: Cambridge University Press).

Lucas, K. (2012), "Transport and Social Exclusion: Where Are We Now?" *Transport Policy*, 20, March, 105-113.

Mauro, P. (1995), "Corruption and Growth", *Quarterly Journal of Economics*, 110, 3, 681-712.

Méon, P.-G. and K. Sekkat (2013), "The Formal and Informal Framework of FDI", ERF Working Paper 810.

Mina, W. M. (2012) "Institutional Reforms Debate and FDI Flows to MENA Region: Does One "Best" Fit All?" *World Development*, 40, 9, 1798-1809.

Mishra, A. and K. Daly (2007), "Effect of Quality of Institutions on Outward Foreign Direct Investment", *Journal of International Trade and Economic Development*, 16, 2, 231–44.

Neumayer, E. and L. Spess (2005), "Do Bilateral Investment Treaties Increase Foreign Direct Investment to Developing Countries?" *World Development*, 33, 10, 1567-85.

Noland, M. (2005), "Religion and Economic Performance", *World Development*, 33, 8, 1215–1232.

Norman, G. R. and D. L. Streiner (2008), Biostatistics: The Bare Essentials (Shelton: PAMPH).

OECD (2011), Perspectives on Global Development 2012: Social Cohesion in a Shifting World (OECD Publishing, doi: 10.1787/persp_glob_dev-2012-en)

Naudé, W. A. and W. F. Krugell (2007), "Investigating Geography and Institutions as Determinants of Foreign Direct Investment in Africa Using Panel Data", *Applied Economics* 39, 10, 1223–33.

Platteau, J.-P. (2008), "Religion, Politics, and Development: Lessons from the Lands of Islam", *Journal of Economic Behavior & Organization*, 68, 329-351.

Putnam, R. (1993), Making Democracy Work: Civic Traditions in Modern Italy (Princeton, NJ: Princeton University Press).

Putnam, R. (1995), "Bowling Alone: America's Declining Social Capital", *Journal of Democracy*, 6, 65-78.

Rioja, F. and N. Valev (2004), "Finance and the Sources of Growth at Various Stages of Economic Development", *Economic Inquiry*, 42, 127-140.

Roodman, D. (2009), "How to do Xtabond2: An Introduction to Difference and System GMM in Stata", *Stata Journal*, 9, 86–136.

Rodrik, D. (1999). "Where Did All The Growth Go? External Shocks, Social Conflict, and Growth Collapses", *Journal of Economic Growth*, 4, 4, 385–412.

Sala-i-Martin, X. G. Doppelhofer and R. I. Miller (2004), "Determinants of Long-Run Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach", *American Economic Review*, 94, 4, 813–835.

Sen, A. (1985), Commodities and Capabilities (Amsterdam: North Holland).

Sen, S., K. M. Kasibhatla and D. B. Stewart (2007). "Debt Overhang and Economic Growth – The Asian and the Latin American Experiences", *Economic Systems*, 31, 3-11.

Sobel, J. (2002), "Can we Trust Social Capital?", *Journal of Economic Literature*, 40, 1, 139-154.

Stanley, J. K., D. A. Hensher, J. R. Stanley and D. Vella-Brodrick (2011), "Mobility, Social Exclusion and Well-being: Exploring the Links", *Transportation Research Part A: Policy and Practice* 45, 8, 789-801.

Tabachnick, B. G. and L. S. Fidell (2001), Using Multivariate Analysis (Boston: Allyn and Bacon).

Teraji, S. (2011), "An Economic Analysis of Social Exclusion and Inequality", *The Journal of Socio-Economics*, 40, 3, 217–223.

Yaish, M. and R. Andersen (2012), "Social mobility in 20 Modern Societies: The Role of Economic and Political Context", *Social Science Research*, 41, 3, 527-38.

World Bank (2013) World Development Report 2013: Jobs (Washington DC: World Bank).

APPENDIX A
Regional Distribution of Sample Countries

East Asia & Pacific	Europe & Central Asia	Latin America & Caribbean	Middle East & North Africa	South Asia	Sub-Saharan Africa
China	Armenia	Argentina	Egypt	India	Botswana
Indonesia	Bulgaria	Bolivia	Iran	Pakistan	Cote d'Ivoire
Malaysia	Kazakhstan	Brazil	Jordan	Sri Lanka	Ghana
Mongolia	Latvia	Chile	Lebanon		Namibia
Papua New Guinea	Lithuania	Colombia	Morocco		Nigeria
Philippines	Moldova	Costa Rica	Tunisia		South Africa
Thailand	Romania	Ecuador			Zambia
Vietnam	Russian Federation	El Salvador			
	Serbia	Guatemala			
	Turkey	Guyana			
	Ukraine	Jamaica			
		Mexico			
		Panama			
		Paraguay			

	Peru
	Uruguay
	Venezuela

Notes: Countries are selected based on availability of data for all explanatory variables from both ICRG and WDI.

APPENDIX B
TABLE B1
Institutional Performance Data Sources

ICRG	World Governance Indicators	Freedom Index
Government stability	Voice and accountability	Political rights
Socioeconomic conditions	Political stability and absence of violence/terrorism	Civil liberties
Investment profile	Government effectiveness	Freedom status
Internal conflict	Regulatory quality	Free
External conflict	Rule of law	Partly free
Corruption	Control of corruption	Not free
Military in politics		
Religion in politics		
Law and order		
Ethnic tensions		
Democratic accountability		
Bureaucracy quality		
Component score range: 0-100	Component score range: (-2.5) - 2.5	Component score range: 1-7
Low score=high risk	Low score=weak government	Low score=High freedom
Period: 1984-2013	Period: 1996, 1998, 2000, 2002-2012	Period: 1973-2013
Countries: 146	Countries: 215	Countries: 205
Source: PRS	Source: World Bank	Source: Freedom House

APPENDIX B
TABLE B2
Correlation between ICRG and WGI and FI Indexes

	BQ	C	DA	ET	EC	GS	IC	IP	LO	MP	RP	SC
						WGI						
WGI	0.85	0.79	0.65	0.37	0.47	0.10	0.65	0.73	0.72	0.80	0.42	0.81
CC	0.82	**0.84**	0.53	0.34	0.38	0.12	0.57	0.66	0.72	0.71	0.35	0.80
GE	**0.90**	0.78	0.59	0.32	0.41	0.10	0.58	0.71	0.71	**0.76**	0.33	**0.84**
PS	0.61	0.62	0.40	**0.56**	**0.57**	0.23	**0.82**	0.61	0.68	0.75	**0.52**	0.68
RL	0.84	0.79	0.57	0.35	0.42	0.11	0.61	0.72	**0.78**	0.75	0.32	0.82
RQ	0.82	0.72	0.62	0.31	0.45	0.07	0.56	**0.78**	0.65	0.76	0.35	0.79
VA	0.75	0.70	**0.84**	0.23	0.45	-0.11	0.52	0.62	0.49	0.74	0.42	0.59
						FI						
FI	-0.60	-0.50	-0.81	-0.29	-0.45	-0.11	-0.45	-0.46	-0.43	-0.61	-0.43	-0.42
CL	**-0.60**	**-0.50**	-0.78	-0.30	**-0.46**	-0.13	**-0.47**	**-0.49**	**-0.45**	**-0.61**	-0.43	-0.44
PR	-0.58	-0.49	**-0.79**	-0.27	-0.43	-0.09	-0.42	-0.42	-0.40	-0.59	-0.41	-0.38
Status	-0.50	-0.42	-0.70	-0.26	-0.37	-0.07	-0.37	-0.37	-0.35	-0.53	-0.38	-0.34

Notes: BQ: bureaucracy quality. C: Corruption. DA: democratic accountability. ET: ethnic tensions. EC: external conflict. GS: government stability. IC: internal conflict. IP: investment profile. LO: law and order. MP: military in politics. RP: religion in politics. SC: Socioeconomic

conditions. CC: Corruption control. GE: Government effectiveness. PS: Political stability. RL: Rule of law. RQ: Regulatory quality. VA: Voice and accountability. CL: Civil liberties. PR: Political Rights. Bold fonts indicate correlation of about 0.5 and above.