

FDI AND INSTITUTIONS: FORMAL AND INFORMAL INSTITUTIONS

2013

Abstract

This paper examines the role of formal and informal institutions in FDI dynamics. We examine the effects of the quality of legal, political and economic formal institution as well as the effect of institutional distance (based on new dataset) on bilateral inwards FDI stocks in 34 OECD countries for the period 1990 to 2010 using a gravity specification. We also examine FDI for the effects of a specific informal institution - attitude of the public towards economic liberal issues. Reactions of FDI to liberal and non liberal public opinion (proxied with a summary index on attitudes on liberalization issues from the World Values Survey and European Values Survey) are examined with and without controlling for formal institutions. Findings show that the quality of legal and political institutions is in fact an important determinant of FDI, that legal and political institutional distance are both significant and important obstacles to FDI, and that public opinion also matters. It is important to control for formal institutions when looking at the effect of informal institutions. We find that nonliberal public attitude significantly reduces inward FDI with a lag. Results are relevant for enterprises' investment strategies, consultancies influencing public opinion as well as for policy makers and governmental agencies involved in investment promotion programs.

Keywords: FDI, gravity equation, institutional quality, institutional distance, public opinion

JEL classifications: F21,F23, B52

1 Introduction

Determinants of foreign direct investments (FDI) have been widely discussed in the last two decades along with ways on how to attract FDI. The importance of FDI determinants has even increased with more dynamics in the international business environment and made the investment decisions making process more complex. A set of traditional gravity variables (such as market size, proximity, trade agreements) is frequently not enough to understand foreign direct investment behavior. More recent discussions are starting to recognize that also factors such as institutional quality are important for attracting FDI and can account for cross country differences in FDI, wealth and development. The literature and business managers pay increasing attention to this issue. Institutions and their transitions pose significant challenges for policymakers, multinational enterprises (MNEs) and corporate strategies.

The aim of this paper is to add to the literature on FDI and institutions. For that purpose, we utilize a new dataset on formal institutional quality, with measures on the quality of legal, political and economic institutions. We pay particular attention to the much neglected concept of not only institutional qualities being important as determinants of FDI, but also institutional distances, that is the differences between the quality of origin's and destination's institutions. Moreover, this paper explores whether FDI flows (reflecting MNEs' investment location decisions) react also to a measure of informal institutions in the form of public opinion towards liberalization issues.

We examine the effects of institutional quality levels, institutional distances and public opinion on bilateral FDI inward stocks in OECD countries using a gravity specification in the period from 1990 to 2010. We proxy public opinion towards FDI with a summary index based on attitudes towards liberalization issues from the World Values Survey and the European Values Survey. We hypothesize that institutional quality of both the origin and destination country will have a positive effect on FDI, that liberal public opinion will also have a positive, while a non-liberal public opinion will have a negative effect on FDI. Public opinion creates pressure for governments, which may - in order to respect electorate - treat FDI differently. Moreover, when we focus on public opinion, we also control for the usual gravity FDI determinants, fixed effects and finally also for formal legal, political and economic institutional environment in the destination and origin country, to eliminate the possible indirect effect of public opinion working through government actions.

The available measures of political risk, such as country risks or country ratings are often insufficient for investors' decision making process and a more detailed analysis is needed. Improved indicators and data bases covering institutional variables are available¹, but most of them have an incomplete or a very focused concept of institutions and further more, concentrate solely on formal institutions, while less attention is given to informal institutions. However, informal institutions such as public opinion can, similarly as weak public governance, inefficient protection of property rights or corruption, also bring additional risks and costs to FDI, and can even affect other formal institutions (or wider country risk).

¹For example the Worldwide governance indicators (Kaufmann et al., 2013), the Global Competitiveness Report (Sala i Martin et al., 2011), the Fraser Institute's database (Gwartney et al., 2012), Heritage Foundation's Economic freedom (Miller et al., 2010), Transparency international Corruption Perception Index (Transparency International, 2013), etc.

The role of public opinion as a determinant of FDI is modestly explored in the literature (one of the rare empirical studies exploring the role of nationalism is offered by Jakobsen and Jakobsen (2011)), yet anecdotic evidence exists, saying that a hostile public attitude toward FDI or raising economic nationalism prevent FDI inflows and/or cause relocation of foreign investors. Business press often reports negative attitudes toward foreign direct investment in the recent years.² Fears were frequently expressed in Europe against FDI from emerging economies and in particular against those coming from Asia, as these economies in the last decade provided a majority share in European FDI inflows (UNCTAD, 2008, 2009, 2011, 2012, 2013). Knowing the relations and the impact of informal institutions such as public opinion on FDI is thus relevant for both enterprises and their investment decision process as well as for policy makers and governmental agencies involved in investment promotion strategies.

Institutional analysis is increasingly used as a policy tool for changing and promoting comparative advantages. Research evidence highlights that institutional environment matters for FDI, yet few studies include institutional distance into bilateral FDI analysis. Using institutional distance (in legal, political and economic institutions) from a newly formed institutional dataset (Kunčič, 2013) in bilateral FDI estimation is the first contribution of this study to the existing literature. Next is including the public opinion into FDI inflows analysis. To our knowledge public opinion has not been tested in any bilateral FDI study so far. Looking into the relationship of the effect of formal institutions and public pressure (informal institutions) on FDI is the third novelty of the study.

This paper is structured as follows. Section 2 presents the theoretical framework. Section 3 presents the empirical framework, data and summary statistics, while section 4 deals with the empirical estimations and discusses the results. Section 5 summarizes and concludes.

2 Theoretical framework and existing evidence

Institutions were recognized as important determinants of cross country differences in wealth and development (IMF, 2003; Acemoglu and Johnson, 2005), but also as a determinant of cross country differences in FDI (Dunning and Lundan, 2008; Wheeler and Mody, 1992; Wei, 2000; Stein and Daude, 2001). Institutions (and their quality) were identified as a source of comparative advantage and nations/governments are reforming institutional (legal, political, economic and cultural) context for firms to improve their working conditions (Pedersen, 2010). Institutional competitiveness has (along with the effort of attracting FDI) become implicitly the aim of industrial policies and a tool for increasing international competitiveness all over the world. Nations and governments not only restructure formal institutions and coordinate different policies and departments, but also intervene in the attitudes, values, aspirations, and interests of citizens and firms in attempts to use behavior change as a means to create comparative advantage (Pedersen, 2010). The concept of international competitiveness has placed institutions in the center of focus the last two decades for business managers, policy makers and international organizations when they measure competitiveness and construct internationalization strategies.

Foreign investors have become increasingly aware of the importance of the institutional quality as they make their investment decisions (Bevan and Estrin, 2004). Current IB research has identified

²One of the famous examples is hostile public opinion towards FDI (especially Wal-Mart) in retail in India.

institutional efficiency as determinant of enterprise performance and also the impact of national institutions on firms strategic choices (e.g., Benito et al. (2003); Delios and Henisz (2003)). The awareness that institutional quality influences the enterprise strategy and performance is rising along with findings that forms of enterprise response differ across national contexts.

Business research and managers initially pay greater attention to economic institutions. Chacar et al. (2010) argue that formal institutions in the product, financial, and labour markets affect the size of pools of exchange partners and the types of exchanges allowed and condoned. Exploring the impact of political and legal institutions got greater research effort recently, including the response of enterprises such as increasing engagement in corporate social responsibility (and also the challenge of corporate political activity (Ozer and Alakent, 2012; Dahan et al., 2013)). Increased interaction among multinational enterprises (MNEs), host governments, and other institutions/actors has made the implementation of foreign direct investments (FDIs) more complex and potentially more prone to conflict (Skippari and Pajunen, 2010). As pointed out in recent research (J.P. and H., 2002; Grosse, 2005; Lambell et al., 2008; Ramamurti, 2001; Teegen et al., 2004), activities of MNEs are often influenced by a diverse set of nongovernmental organizations (NGOs), such as environmental activist groups, human rights organizations, community groups, and social movements in general, which advocate the interests of the civil society in local, national, and global contexts. All these findings warn against considering the economic institutions or the host government as the only source of external legitimacy or bargaining partner.

The economic crisis enhanced these efforts as investment risks increased not only due to a less stable macroeconomic environment but also due to a more volatile social and political environment. Global structural changes and growing influence of emerging economies additionally challenged institutional uncertainty.³ Rising presence of Asian enterprises in the “old developed economies” in Europe has been accompanied with a number of new bilateral investment treaties (BITs), but also with a number of investment restrictions (UNCTAD, 2010, 2011, 2013).⁴ MNEs are responding to the regulatory and other institutional changes, but also leading the change of institutions (and build attitudes, values, aspirations, and interests of consumers). Changes in institutional environment are thus increasingly monitored to evaluate “institutional competitiveness” (Campbell and Pedersen, 2007) and as a consequence, institutional analysis have been growing. Thus, our first hypothesis is:

H1: MNEs and FDI react to formal (legal, political and economic) institutions.

Empirical research on FDI has recently begun to include institutional factors in both the FDI ef-

³Emerging markets MNEs phenomenon along with the global crises has revived new protectionism and nationalism in Europe, where in spite of the efforts to increase FDI inflows, huge challenges for new entries from emerging markets MNEs still exists. Nationalism and hostile public opinion can even more easily develop during and after an economic crisis.

⁴Growing outward FDI by Chinese companies in industrialized and especially in developed countries go along the changing patterns of global economic governance; emerging economies intensify efforts to influence institutions or rules of the game in international trade and investment. Since 1990 China intensified the protection of foreign direct investment through BITs and the variance of the institutional design of Chinese international investment agreements (IIAs) is huge. Nowadays China is demonstrating a new confidence as an actor of importance in the global governance system for FDI shown by its willingness to engage in BIT negotiations with the United States (Berger, 2011). A number of European countries agreed to BITs in the last decade in spite of (or exactly despite of) the “after Lisbon” intention of EU to centralize the IIAs and that a European Model BIT is underway.

fects on domestic economy such as spillovers and growth as well as the determinants of FDI flows. Prüfer and Tondl (2008) discusses the positive effects of good institutional environment in the form of a functioning legal framework and find they are important for FDI spillovers. Moreover, the determinants of FDI or the attraction of FDI itself depends, *inter alia*, on the local environment and institutional system, ranging from the level of corruption to property right protection, for instance see Kostevc et al. (2007). Investment related costs, especially those influencing uncertainty such as the quality of legal institutions and political institutions, affect FDI costs and through that, FDI flows (Demekas et al., 2007; Daniele and Marani, 2006). Recently, Ali et al. (2010) examined institutions as determinants of FDI for a large panel of countries and found that they are a robust determinant of FDI flows, namely legal institutions in the form of property rights, rule of law and expropriation risk.

The quality of institutions in both the country of origin as well as in the importing country plays a direct role in the frequency and magnitude of the above mentioned costs, as emphasized within the OLI paradigm by Dunning (1979, 1981, 1988) and Dunning and Lundan (2008). To this theoretical framework we can include an innovation, which is institutional difference (explained below in more detail). Both within the OLI paradigm and also within the Helpman (2006) model, institutional difference, measured as quality of institutions in the origin country minus the quality of institutions in the receiving country, can be incorporated into the country-pair specific investment costs that are pertinent in the theory.

Levchenko (2007) introduced institutional differences as a source of comparative advantages by using bilateral data between the host and the source country on trade. To the extent that trade and FDI are complements, this could raise FDI too. Aizenman and Spiegel (2006), on the contrary (by using a principal-agent framework where ex-post monitoring of contracts is more costly for foreign investors than for domestic ones) argue that the share of FDI in total investment should be lower in countries with weak institutions (eg. enforcement of property rights). If investors from weak quality of institution countries face lower costs (when investing in weak quality of institutions countries) than investors from strong quality of institutions countries, this would entail that institutional difference between the origin and the host country should have a negative impact on bilateral FDI. Institutional difference can be thus understood with traditional arguments of the literature on management for “psychic distance” as a major impediment to the foreign entry decision of companies. Proximity would reduce either perceived uncertainty or learning costs about the target countries. Institutions based on economic and social history (including the colonization era), attract more FDI, other things equal, amongst countries displaying relatively similar institutions (Habib and Zurawicki, 2002).

The link between institutions and FDI is increasingly studied also as a channel through which institutions promote productivity growth (Benassy-Quere et al., 2007). Good institutions (mainly considered as formal institutions) exert their positive influence on development through the promotion of investment in general, which faces less uncertainty and higher expected rates of return. Since FDI now represent a very large share of capital formation in poor countries (UNCTAD, 2010), and forms one of the most stable sources of capital, the FDI-promoting effect of good institutions might be an important channel of their overall effect on growth and development.

All the above mentioned studies focus mainly on formal institutions, while much less discussion

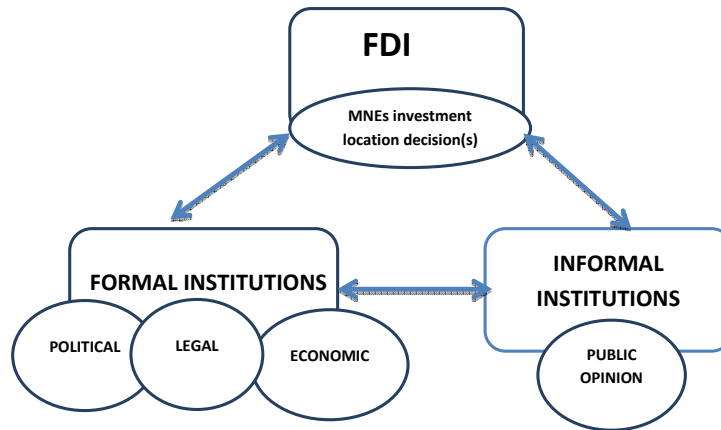
and research has been made on informal institutions. Still, state-society relations are seen as one of the facets of institutional competitiveness and a number of above mentioned actors apply professional means to influence public opinion and government decisions. The impact of public opinion on institutions has been recognized (Jakobsen and Jakobsen, 2011; Jaklič et al., 2011), but rarely studied as a determinant of institutional quality separately or further investigated as a determinant of international trade and capital flows. Multinational firms often report negative attitude in public opinion or chicane due to liability of foreignness.⁵ Anecdotal evidence highlights the difficulties (or even withdrawals) of foreign investors due to underestimated costs of unfavorable and hostile climate. In societies where nationalist sentiments dominate, the public prefers indigenous to foreign firms. This induces host authorities to institute more stringent foreign investment rules, which deter FDI (Jakobsen and Jakobsen, 2011). Public opinion, if hostile, may prolong the process of getting licences, hiring personnel, coordinating with stakeholders, etc. and consequently increases costs and/or return period. Positive attitudes toward FDI (often established due to job creation or wage increases) may on the other hand be a comparative advantage of a location and may indirectly work as an incentive for improved functioning of formal institutions. Public opinion may thus be relevant to MNC's behavior, investment location decisions and performance, thus, next hypotheses are:

H2: Liberal public opinion stimulates FDI, while non-liberal public opinion hinders FDI.

H3: There are complementarities between the formal and informal institutions and their effect on FDI.

Figure 1 below illustrates the theoretical linkages between institutions and MNEs, which make decisions on FDI. Although MNEs and FDI are primarily effected by formal and informal institutions, there are some feedback effects, as well as interplay effects between formal and informal institutions.

Figure 1: MNEs, FDI and Institutions



⁵Public opinion is often related to FDI impact on labour market, through both job creation and wage effects (Jaklič et al., 2011).

3 Empirical framework and data

With the rise of availability of bilateral FDI flows, the empirical literature on FDI quickly adopted the gravity approach from the trade literature. Whether we are exploring market seeking - horizontal FDI, or efficiency seeking - vertical FDI (which is often joined by resource-seeking and asset-seeking FDI), the two motives for FDI can be combined together in a gravity specification of FDI from country i to country j (Markusen and Venables, 1998, 2000). Taking into account that around two thirds of new FDI is in fact mergers and acquisitions (UNCTAD, 2011), Head and Ries (2008) develop a gravity model of FDI, where the bilateral FDI flows depend on origin country i 's characteristics, destination country j 's characteristics and bilateral specific variables such as geographic and cultural distance. The authors also suggest, in line with the trade gravity estimations, that the origin and destination effects can be estimated with i and j fixed effects.

When we log-linearize the multiplicative gravity equation for bilateral FDI from country i to country j in time t , we arrive at an estimable expression such as the one in Equation 2, where FDI is explained by a set of country origin and country destination specific time variant and invariant variables in vectors X_{it} and X_{jt} , and a set of bilateral variables stacked in vector X_{ijt} , all of which are based on the literature and explained below. Additionally, the vector $INST$ contains the variables capturing the institutional environment in the origin country (it), the destination country (jt) or institutional distance (ijt).

$$\ln FDI_{ijt} = const. + \mathbf{X}'_{it}\alpha + \mathbf{X}'_{jt}\beta + \mathbf{X}'_{ijt}\gamma + \mathbf{INST}'_{it}\delta + \mathbf{INST}'_{jt}\theta + \mathbf{INST}'_{ijt}\vartheta + \varepsilon_{ijt} \quad (1)$$

Empirically, the following questions have to be tackled: 1) Should we operate with FDI flows or FDI stocks? 2) Which are the control variables that should be included? 3) Which are the institutional variables that should be included? 4) How to control for possible endogeneity sources in general and how to control for endogeneity of institutions in particular? 5) Which estimation procedure should be employed to account for the zeroes in the FDI flows? We discuss these questions in the pecking order below.

The choice between FDI flows and FDI stocks is not completely straight forward, however, the literature does favor using FDI stocks, namely for three reasons explained in Benassy-Quere et al. (2007, p. 769): "First, foreign investors decide on the worldwide allocation of output, hence on capital stocks. Second, stocks account for foreign direct investment being financed through local capital markets, hence it is a better measure of capital ownership (Devereux and Griffith, 2003). Finally, stocks are much less volatile than flows which are sometimes dependent on one or two large takeovers, especially in relatively small countries." Also, some other recent examinations of bilateral FDI and institutions rely on using stocks instead of FDI flows, such as Júlio et al. (2011), Bellak et al. (2010) or Head and Ries (2008), which is not to say that some other authors do not also rely on flows (Aleksynska and Havrylchyk, 2013) or averaged flows (Andrés et al., 2013). There are two sources of wide country and time coverage for bilateral FDI stocks, OECD and UNCTAD. OECD covers member countries for the period at most from 1985 - 2010, while UNCTAD (UNCTAD's Data Extract Service) covers a wider set of developed, various emerging and developing countries, and covers the period of at most from 1980 to 2007. Due to the recent literature that emphasizes the differential impact of FDI determinants for emerging/non-traditional sources as opposed to the ones for developed countries (Brennan, 2008; Sauvart, 2008), and due to the fact that the UNC-

TAD database is available only for a fee, we use the inwards FDI stock from the OECD database and concentrate our analysis only on OECD countries. Thus, our sample of host countries is more homogenous, and using the inwards instead of outwards FDI stock allows us to focus more on some specific pull factors we are interested in, as the data for OECD countries is more readily available and when focusing on the pull factors, we would ideally want all FDI in a country to be accounted for, which is directly achieved by studying inwards FDI.

The set of control variables we use include firstly the standard bilateral gravity controls based on bilateral trade models, as for instance in Head et al. (2010), where the brackets denote which margin the variables vary on: we include the nominal GDP's in millions of current USD and GDP's per capita for both the origin and the host country (it and jt) from the World Bank's World Development Indicators (WB WDI), geographic distance between each country pair and dummy for contiguity (ij) from Head et al. (2010) and extended to fit our sample. From the same source we also include dummies for common language, common legal origins, colonial history (ij), as well as common currency, both countries being members of GATT (WTO), sharing a regional trade agreement (RTA) (de Sousa, 2012) and sharing a common political entity (country) in the past (ijt) (Mayer and Zignago, 2011). The other variables which are specific to bilateral FDI estimation and are used by the literature (see for instance Andrés et al. (2013) or Bellak et al. (2010)) are again taken from WB WDI and include host country inflation (jt), as a proxy for macroeconomic stability, total tax rate (% of commercial profits), research and development expenditure (% of GDP, to capture the potential attractive spill-over effects). The horizontal motive for FDI is captured with real GDP growth of the host country (along with GDP of the host), and the vertical motive is controlled for with the host's openness to trade, ICT-infrastructure endowment (jt) and with the already included GDP's per capita of origin and host countries, as the difference in GDP's per capita of each country pair proxies the cost benefits of vertical FDI. Resource seeking FDI is captured by resource rents of the host economy, and asset augmenting FDI by the number of patents per host country (jt). Finally, we also include the average FDI stock in the host country (jt), to account for the ever more important agglomeration effects of FDI. All the control variables with sources and remarks are listed in the Appendix.

The question of which institutional variables to include is rarely tackled directly in the literature, as the generic term institutions is used to describe everything from financial market developments to organizational structures. Most often, one of the indices for property rights protection either from the ICRG (The PRS Group, 2013), World Bank World Governance Indicators (Kaufmann et al., 2013) or Freedom House (Freedom House, 2012) is used. This however does not take into account the New Institutional Economics theory, where institutions are defined as formal and informal rules of the game, and their enforcement characteristics North (1990, 1993, 2005). Our own formal institutional measures come from a paper where a set of three institutional measures are developed on the basis of more than thirty established institutional indicators with a wide cross country and year coverage (Kunčič, 2013), and where the calculated institutional quality is linked to the theory. The dataset is available online and offers already calculated cross country and yearly values for the quality of legal, political and economic institutions, which we use to control for the source country and destination country quality of formal institutional environment. We use these values to also calculate legal, political and economic institutional distance between each country pair for every year, as the absolute difference between the country pair. Capturing informal institutions is much trickier, as it is extremely difficult to arrive at a few common informal institutional dimensions,

as with formal institutions.⁶ We concentrate on one dimension of informal institutions, which is the attitude of the public towards liberalization. Liberal and non liberal attitudes in a society are captured with the data from European values study (EVS) (European Values Study Group, 2012) and World values study (WVS) (World Values Survey Association, 2012), which have been done in nine waves from the start of the eighties. We integrate both surveys and use three questions which can be used to measure the public attitude towards liberalization, namely the attitude towards private versus government business ownership, responsibility for oneself versus tasking the government with that, and competition being good versus being bad.⁷ As Jakobsen and Jakobsen (2011) or Jaklič et al. (2011) the measure of non(liberal) public attitude comes from using the aggregated values of answers to all three questions. The total number of points from all three question is 30, so we calculate the share of respondents for every country and year available with a total score of 10 and less, and call this the share of non liberal people, and those with a total score of 20 or more, and call this the share of liberal people. All the institutional variables with sources and remarks are listed in the Appendix.

The gravity specification of FDI flows has a range of possible endogeneities, stemming from possible heterogeneity of country pairs in time as well as country specific heterogeneity. Matyas (1997) argues that in a gravity specification, time fixed effects as well as country specific fixed effects should be included. This however, does not control for possible biases arising from time varying factors, which also include the salient multilateral resistance (Anderson and van Wincoop, 2003), although these effects can be varying slowly, so bilateral and country specific effects do in fact still capture a large share of the cross sectional heterogeneity (Bergstrand and Egger, 2007). Benassy-Quere et al. (2007) use only time fixed effects to control for the problematic endogeneity. The endogeneity of institutions requires a more sophisticated solution, as institutions are notorious for being correlated to other measures of development. The use of panel data with country fixed effects prevents the usage of time invariant instruments such as settler mortality (Acemoglu et al., 2001) or latitude and longitude of a country as instruments for institutions. We follow Benassy-Quere et al. (2007) in cleansing our institutional variables of their endogenous part. GDP per capita of both origin and destination country is separately regressed on each institutional measure. This makes the collected institutional residuals and calculated institutional distance orthogonal to the capture-all development variable GDP per capita, and so cleansed of the most problematic endogenous parts correlated with development.

The choice of the estimation procedure of the gravity specification is crucially affected by the fact that 60% of our FDI stocks observations are zero or negative, which would turn into missing values if we transform them with natural logs. The literature initially solved this problem with a Tobit estimation (Jonathan and Akiko, 1994), which was shown later to produce biased results in the presence of heteroskedastic errors, so Poisson Pseudo Maximum Likelihood (Poisson PML) was suggested as an alternative procedure, which accounts for the zeros and is not biased (see Silva and Tenreyro (2006) for an application to trade in goods or Head and Ries (2008) for an appli-

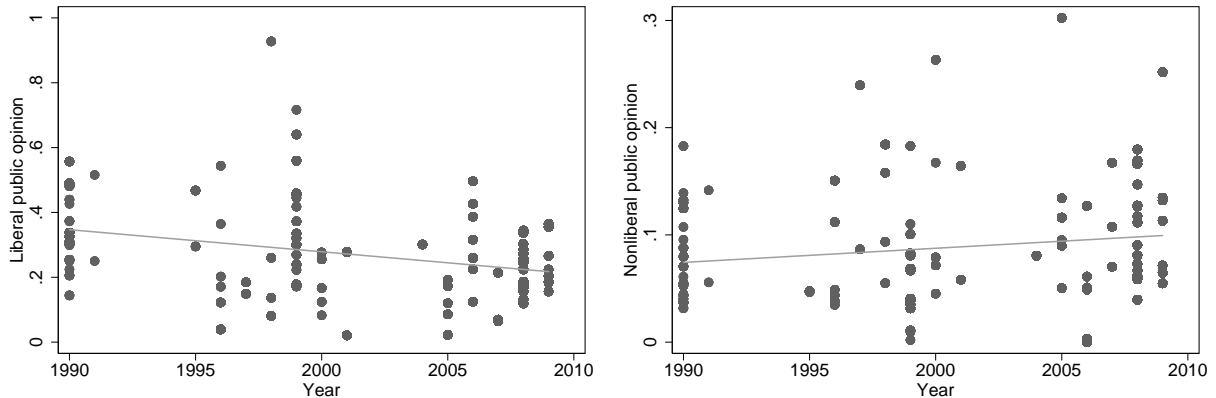
⁶The most known attempt at this is Hofstede's Cultural Dimensions index (Hofstede, 2001), which concentrates on five specific cultural dimensions.

⁷E036: Private ownership of business should be increased / Government ownership of business should be increased. E037: People should take more responsibility to provide for themselves / The government should take more responsibility to ensure that everyone is provided for. E039: Competition is good. It stimulates people to work hard and develop new ideas / Competition is harmful. It brings the worst in people. All variables are recoded (scale reversed) so that a higher score means a more liberal attitude.

cation to bilateral FDI). However, the latter method is primarily intended to be used for count dependent variables, and has the requirement of conditional means and conditional variances of variables to be roughly the same; both of which is hardly the case with FDI data. Another option is to firstly cap all negative observations to zero, then add a constant to the FDI stocks and only then taking the natural logarithm of it, which is what we do, by firstly capping the negative observations to zero and then adding a constant of 0.3, following Benassy-Quere et al. (2007), which in our sample of FDI stocks corresponds to the value of the fifth percentile of strictly positive values.

The summary statistics of all variables used (without logs) are presented in Table 1. Some variables are not as available as our main gravity variables, variables such as R&D expenses, tax rate, ICT infrastructure, and especially the institutional variables, so some variables are thus not included in the final regression analysis. Figure 2 shows a scatter plot of public opinion in the destination countries for FDI stocks from OECD. We can see there is a lot of variation, and that the share of liberal people is much higher on average than the share of nonliberal people. Out of OECD countries, the most liberal crowd can be found in Israel in 2001, when according to our measure, everyone was liberal, followed by United Kingdom in 1998 at 93% and Sweden in 1997 at 72%. Low values of liberal public opinion are can be found in Korea in 2001, 2005 and 1996 at 2%, 2% and 4%, respectively. A look at nonliberal public opinion shows the the most nonliberal public opinion can be found in Poland in 2005 at 30%, followed by Turkey in 1990 by just under 30% and Chile in 2008 at 28%. On the other end, the lowest values of nonliberal public opinion as we measure it, are in France in 2000 with no nonliberal people, Sweden in 1999 with 0.2%, and the Netherlands in 2006 at 0.3%. The dynamics of public opinion are more worrisome, as they imply that the share of liberals is declining, while the share of nonliberals is increasing in the total sample.

Figure 2: Public opinion



Source: WVS and EVS

Table 1: Summary statistics

variable	N	mean	min	max	sd
FDIstock	55864	1772.19	0.00	447529.00	12473.47
gdp_d (bill. current USD)	70518	1058.02	5.68	14419.40	2258.30
gdpcap_d	70518	30160.55	1693.74	112028.50	18368.96
gdp_o (bill. current USD)	66458	296.14	0.01	14419.40	1115.88
gdpcap_o	66447	11265.84	64.36	138774.70	16839.89
distance	141372	7359.08	20.25	19563.95	4409.22
common_border	141372	0.02	0.00	1.00	0.13
common_language	141372	0.10	0.00	1.00	0.30
colony	141372	0.03	0.00	1.00	0.18
common_legal	141372	0.24	0.00	1.00	0.43
common_currency	140658	0.01	0.00	1.00	0.12
rta	141372	0.13	0.00	1.00	0.34
wto	146374	0.63	0.00	1.00	0.48
gdp_growth_d	70512	2.50	-14.07	10.49	3.35
inflation_d	69596	3.69	-4.48	555.38	7.67
rd_d	55202	1.81	0.31	4.84	0.93
resource_rents_d	70518	1.92	0.00	22.05	4.01
tax_rate_d	35587	44.41	20.80	77.50	12.21
trade_d	70518	87.94	15.92	333.53	52.00
ict_d	58638	1529.26	136.87	2303.50	384.73
patents_d	63094	19880.58	1.00	222693.00	50984.56
FDIstockavg_d	70518	2438.57	41.32	17006.06	3717.47
legal_inst_o	136422	1.09	-0.83	1.93	0.60
political_inst_o	128106	1.25	-0.74	2.04	0.51
economic_inst_o	135630	0.92	-0.91	1.91	0.56
legal_inst_d	82552	-0.01	-2.15	1.93	0.95
political_inst_d	86870	0.00	-2.22	2.04	0.98
economic_inst_d	76364	0.00	-2.93	1.96	0.95
abs(legal_diff)	79490	1.32	0.00	3.98	0.86
abs(political_diff)	78886	1.40	0.00	4.07	0.90
abs(economic_diff)	73352	1.17	0.00	4.71	0.83
liberal_d	26035	0.27	0.02	1.00	0.16
not_liberal_d	26035	0.10	0.00	0.30	0.07
liberal_o	8874	0.23	0.02	1.00	0.15
not_liberal_o	8874	0.13	0.00	0.39	0.08

Source: OECD, World Bank WDI; Head et al. (2010); Mayer and Zignago (2011); de Sousa (2012); Kuncic (2013); EVS; WVS; own calculation.

4 Empirical estimation and discussion of results

What we start is the replication of gravity FDI results from the literature, essentially estimating Equation 2 without the institutional part. Even here, we proceed in several steps, essentially to show how the estimates can evolve, when controlling for endogeneity sources in different ways and when using different methods. Table 2 shows the OLS gravity model estimations with and without the FDI specific variables and with including an increasing number of fixed effects.

Regressions from 1 to 3 show the results with only including the full gravity variables, while regressions from 4 to 6 add also the FDI specific variables suggested by the literature. Fixed effects (FE) included are time FE in regressions 1 and 4, time and country FE in regressions 2 and 5, and finally the entire set of FE, time, country and dyadic FE in regressions 3 and 6. Generally, we get the expected results in practically all regressions, namely that the GDP's as well as GDP's per capita of both origin and destination country have a positive marginal effect on bilateral inwards FDI⁸, as do variables denoting closeness of countries such as sharing a border, language, currency, legal origins or colonial ties. Distance has a highly significant and negative marginal effect. Also, being in the same regional trade agreement has a positive effect, while both countries being members of WTO has an interesting negative marginal effect. In terms of the FDI specific variables, the most consistent effect is the negative marginal effect of inflation in the destination OECD country, and there seems to be a negative marginal effect of openness to trade. Also the already amassed FDI stock has a positive and strong marginal effect, implying big agglomeration effects.

It has to be noted, that depending on the fixed effects included, the partial coefficients can be very different from one another. This volatility of estimates points to the fact that including only year FE can be misleading, not only in the magnitudes, but also in significance and signs. Comparing regressions 1 and 4 to the ones with more fixed effects, some variables stand out. Namely, the positive effect of GDP of both the origin as well as destination country is severely overestimated without country FE. There are also some changes in the FDI specific variables, highlighting the need for the inclusion of additional FE.

The baseline model results imply that inwards FDI stock in the OECD countries is primarily driven by the market seeking motive and agglomeration effects. It is much less motivated by efficiency seeking FDI (which is to be expected as labour is expensive in OECD countries), not motivated by resource seeking FDI (also expected, as OECD countries are not among the most resource rich countries) but also surprisingly not motivated by asset seeking. We also believe that the best specification is the one which includes the most fixed effects, as this allows us to control for time heterogeneity, origin and destination country heterogeneity and heterogeneity in country pairs.

We proceed with cleansing of our formal institutional variables of their endogeneity. We regress GDP per capita of origin (destination) country on origin (destination) country's quality of the legal, political and economic institutions, and collect the residuals, which are not correlated with GDP

⁸The negative coefficient on `lngdp.o` and `lngdp.d` can not be interpreted as a negative marginal effect of GDP on FDI, as the entire influence of GDP is captured by adding the coefficient on GDP and the coefficient on GDP p.c., which then turns positive and remains significant (with dyadic FE it turns slightly negative, but is not significant). Worth noting is also that this implies also a negative effect of origin and destination country population on bilateral FDI, which has been documented by the literature before (see for instance Razin et al. (2008)) and is thus not discussed further.

Table 2: Gravity estimations

dep. var. ln(FDIstock)	1	2	3	4	5	6
ln(gdp_o)	0.521*** (0.0158)	-1.254*** (0.270)	-1.083*** (0.293)	0.498*** (0.0169)	-1.291*** (0.274)	-1.164*** (0.296)
ln(gdp_d)	0.536*** (0.0212)	-2.015*** (0.673)	-3.995*** (0.630)	0.243*** (0.0487)	-2.116*** (0.710)	-3.853*** (0.698)
ln(gdpcap_o)	0.658*** (0.0236)	1.408*** (0.280)	1.268*** (0.305)	0.662*** (0.0252)	1.434*** (0.285)	1.333*** (0.308)
ln(gdpcap_d)	0.124*** (0.0443)	2.704*** (0.682)	4.373*** (0.642)	-0.0883 (0.0546)	2.750*** (0.711)	3.994*** (0.707)
ln(distance)	-0.357*** (0.0485)	-0.706*** (0.0515)		-0.379*** (0.0537)	-0.679*** (0.0545)	
common_border	1.325*** (0.222)	0.806*** (0.163)		1.460*** (0.245)	0.857*** (0.181)	
common_language	1.160*** (0.119)	0.164 (0.106)		0.950*** (0.128)	0.0774 (0.109)	
common_legal	0.0257 (0.0751)	0.364*** (0.0591)		0.00905 (0.0899)	0.430*** (0.0671)	
colony	1.126*** (0.202)	1.106*** (0.170)		1.346*** (0.212)	1.160*** (0.185)	
rta	0.568*** (0.101)	0.233*** (0.0833)	0.240*** (0.0651)	0.464*** (0.108)	0.217** (0.0890)	0.235*** (0.0713)
wto	0.0408 (0.0625)	-0.234*** (0.0760)	-0.349*** (0.0711)	0.0565 (0.0681)	-0.226*** (0.0806)	-0.364*** (0.0766)
common_currency	1.904*** (0.191)	0.656*** (0.140)	0.932*** (0.109)	1.921*** (0.212)	0.635*** (0.155)	0.948*** (0.131)
gdp-growth_d				0.00402 (0.00316)	-0.00732*** (0.00229)	-0.00369 (0.00233)
inflation_d				-0.0252*** (0.00502)	-0.00227 (0.00509)	-0.0163*** (0.00479)
resource_rents_d				-0.0104 (0.00942)	-0.0451*** (0.0123)	0.0119 (0.00934)
trade_d				5.20e-05 (0.000774)	-0.00191* (0.000990)	-0.00288*** (0.00100)
patents_d				0.175** (0.0787)	-0.00457 (0.0503)	0.0209 (0.0353)
ln(FDIstockavg_d)				0.381*** (0.0467)		
Constant	-8.117*** (0.659)	-2.431	-26.16*** (3.138)	-6.393*** (0.766)	-38.25*** (7.556)	-23.59*** (3.504)
Observations	51,721	51,721	51,721	44,402	44,402	44,402
R-squared	0.608	0.787	0.924	0.614	0.791	0.927
Time FE	YES	YES	YES	YES	YES	YES
Origin FE	NO	YES	YES	NO	YES	YES
Destination FE	NO	YES	YES	NO	YES	YES
Dyadic FE	NO	NO	YES	NO	NO	YES

Country pair robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Source: own calculation

per capita any more, and as such can be seen as cleansed of their most problematic part. We use these orthogonal institutional values to further create the absolute institutional distance between country pairs. The results with controlling for all the possible fixed effects, that is time, country and dyadic fixed effects, are presented in Table 3 using the same control variables as in Table 2 in regressions 1 to 3, and excluding the FDI non gravity variables in regressions 4 to 6 in order to increase the sample. In both instances we include firstly just the relative institutional levels in regressions 1 and 4, then both the institutional levels and institutional distances in regressions 2 and 5, and finally only institutional distances in regressions 3 and 6. In comparison to the baseline estimates in Table 2, the partial coefficient on resource rents is now positive and significant. However, since the FDI specific variables do not effect the institutional variables much, we concentrate on getting a larger sample and on regressions 4 to 6.

There are some empirical regularities with the institutional estimates. We have institutional push and pull factors in the form of the quality of legal institutions in the origin country and political institutions in the destination OECD country, which both have a significant and positive marginal effect on inwards FDI stock, and the quality of political institutions in the origin country and legal institutions in the destination country, which both have a negative and significant effect on FDI. The political institutions imply that a better political environment at home is possibly more conducive to home investment, and serves as an attractor of investments at home, instead of abroad, whereas a good quality of political institutional environment in the destination country attracts FDI. Vice versa goes for legal institutions, where legal institutions in the origin country promote FDI, and interestingly, depress it in the destination country. A surprising finding is, that the quality of economic institutions plays no role in FDI, either in levels or in differences, implying that when it comes to investment, the quality of economic environment or the difference in economic rules at home and in the destination country does not significantly contribute to the costs of investment. This does not hold for legal and political institutional distance, since they both depress inwards FDI stock in the OECD countries, implying that the differences in legal and political rules of the game contribute to the costs of investing somewhere significantly. This can be seen as being in line with the new institutional economics theory, which according to Williamson (2000) differentiates institutions based on their embeddedness or frequency of change. Economic institutions are most prone to changes, whereas political and legal institutions change more slowly, thus, they it may be more difficult for FDI to adjust to their changes, in comparison to economic institutions, which change more frequently, so investors can firstly expect that and secondly, for FDI stocks, it is more difficult to react to more frequent changes in institutions than to less frequent ones (as opposed to possibly flows). Lastly, we also find that it does not seem to matter for the effect of either levels or differences, whether we include only levels, only distances or both.

Table 3: Gravity estimations with formal institutions

dep. var. ln(FDIstock)	1	2	3	4	5	6
ln(gdp_o)	-0.878* (0.497)	-0.860* (0.494)	-0.978* (0.502)	-0.850* (0.488)	-0.826* (0.486)	-0.981** (0.490)
ln(gdp_d)	-5.157*** (1.141)	-5.127*** (1.137)	-4.134*** (1.146)	-4.347*** (1.023)	-4.388*** (1.026)	-3.942*** (1.024)
ln(gdpcap_o)	1.105** (0.506)	1.074** (0.504)	1.189** (0.513)	1.133** (0.496)	1.095** (0.495)	1.261** (0.500)
ln(gdpcap_d)	5.267*** (1.127)	5.239*** (1.124)	4.271*** (1.126)	4.750*** (1.031)	4.755*** (1.033)	4.312*** (1.026)
rta	0.0588 (0.100)	0.0701 (0.100)	0.0477 (0.0994)	0.0301 (0.0886)	0.0411 (0.0890)	0.0209 (0.0882)
wto	-0.166 (0.148)	-0.169 (0.148)	-0.305** (0.149)	-0.170 (0.133)	-0.173 (0.133)	-0.315** (0.135)
common_currency	0.555*** (0.131)	0.531*** (0.131)	0.566*** (0.133)	0.551*** (0.114)	0.534*** (0.114)	0.576*** (0.114)
gdp-growth_d	0.00747 (0.00527)	0.00694 (0.00526)	0.00598 (0.00508)			
inflation_d	-0.0128** (0.00647)	-0.0118* (0.00647)	-0.0118* (0.00646)			
resource_rents_d	0.0234* (0.0135)	0.0229* (0.0135)	0.0237* (0.0134)			
trade_d	-0.000985 (0.00269)	-0.000999 (0.00268)	0.00147 (0.00267)			
patents_d	0.0288 (0.0843)	0.0433 (0.0838)	0.0867 (0.0843)			
legal_inst_o	0.387*** (0.108)	0.363*** (0.108)		0.331*** (0.0983)	0.309*** (0.0983)	
political_inst_o	-0.562*** (0.0954)	-0.582*** (0.0957)		-0.559*** (0.0874)	-0.577*** (0.0877)	
economic_inst_o	-0.0345 (0.0871)	-0.0497 (0.0859)		-0.000522 (0.0793)	-0.0162 (0.0783)	
legal_inst_d	-0.263** (0.128)	-0.284** (0.128)		-0.203* (0.112)	-0.255** (0.113)	
political_inst_d	0.508*** (0.164)	0.467*** (0.163)		0.466*** (0.154)	0.416*** (0.152)	
economic_inst_d	-0.118 (0.0977)	-0.122 (0.0996)		-0.0745 (0.0850)	-0.0869 (0.0869)	
abs(legal_diff)		-0.139* (0.0791)	-0.101 (0.0802)		-0.178** (0.0711)	-0.126* (0.0725)
abs(political_diff)		-0.145* (0.0791)	-0.165** (0.0809)		-0.136* (0.0743)	-0.171** (0.0764)
abs(economic_diff)		-0.00828 (0.0663)	0.0238 (0.0662)		-0.0266 (0.0606)	-0.00293 (0.0596)
Constant	-24.18*** (4.955)	-23.56*** (4.927)	-20.43*** (4.946)	-24.06*** (4.621)	-23.48*** (4.626)	-22.05*** (4.593)
Observations	24,486	24,486	24,486	28,734	28,734	28,734
R-squared	0.929	0.929	0.928	0.927	0.927	0.926
Time FE	YES	YES	YES	YES	YES	YES
Origin FE	YES	YES	YES	YES	YES	YES
Destination FE	YES	YES	YES	YES	YES	YES
Dyadic FE	YES	YES	YES	YES	YES	YES
Orthog. Inst.	YES	YES	YES	YES	YES	YES

Country pair robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Source: own calculation

We move in our estimation to the effect of informal institutions and try to capture how either liberal or non liberal public opinion affects inwards bilateral FDI stocks in OECD countries. Firstly, since the EVS and WVS have values predominantly for the developed world, we only include the destination country (OECD) liberal and non liberal public opinion, as we're left with less than 1500 observations when both origin and destination country's public opinion is used. Further more, not to further reduce the size of our sample, which is with the inclusion of destination country's public opinion decimated as it is, we exclude the FDI specific variables and include only the widely available gravity controls.

Table 4 below presents only the coefficients on liberal and nonliberal public opinion, controlling, as before, for all possible fixed effects (year, country and dyadic fixed effects) and gravity explanatory variables. The complete regression coefficients are reported in the Appendix, although the same variables as in Table 2 are included. The first three regressions include besides the standard gravity variables only liberal and nonliberal public opinion in the first regression, their first lags in the second regression, and their second lag in the third.

Without controlling for formal institutions, we see that we get a positive and significant marginal effect of liberal public opinion with one lag, and a significant and negative marginal effect of nonliberal public opinion at two lags. However, not including formal institutions can bias results, as public opinion as an informal institution can also be channeled through the formal institutional environment. However, once we control for formal institutions, we can see that the result from regressions two disappears, as well as that it becomes evident that only nonliberal public opinion has a statically significant and negative direct marginal effect on FDI, at two lags. The positive marginal effect of liberal public opinion disappears, implying that the liberal public sentiment about economic issues is channeled through the formal institutional environment, which then has a direct effect on FDI. We have to note, that also the marginal effect of nonliberal public opinion is much smaller once we control for formal institutions, implying that formal institutions overtake some of this negative marginal effect, but apparently not all of it, since nonliberal public opinion is strong enough to keep a direct (but smaller) effect on FDI.

The negative marginal effect of nonliberal public opinion on FDI with a lagged impact implies that negative public sentiment does indeed serve as a direct detrimental force for foreign investors, with which we also confirm the findings of Jaklič et al. (2011), who also find that nonliberal public attitudes reduce FDI with a lag. Liberal public opinion, however, does not have a direct effect on FDI.

Table 4: Gravity estimations with public opinion

dep. var. ln(FDIstock)	1	2	3	4	5	6
liberal	0.418 (0.373)			0.0123 (0.414)		
nonliberal	0.708 (1.070)			0.168 (1.238)		
L.liberal		0.692* (0.372)			0.572 (0.417)	
L.nonliberal		0.834 (1.112)			0.535 (1.276)	
L2.liberal			-0.527 (0.492)			-0.721 (0.507)
L2.nonliberal			-4.564*** (1.243)			-2.599* (1.401)
Constant	-24.77*** (7.733)	-36.61*** (7.878)	-12.87 (10.88)	8.178 (10.00)	2.922 (10.24)	-5.465 (11.72)
Observations	9,147	9,385	7,853	5,154	5,481	4,908
R-squared	0.942	0.939	0.956	0.950	0.942	0.953
Time FE	YES	YES	YES	YES	YES	YES
Origin FE	YES	YES	YES	YES	YES	YES
Destination FE	YES	YES	YES	YES	YES	YES
Dyadic FE	YES	YES	YES	YES	YES	YES
Formal inst.	NO	NO	NO	YES	YES	YES

Country pair robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Source: own calculation

5 Conclusions

Institutions, may be formal (economic, political, and legal) or informal, and their quality affects FDI and poses significant challenges for MNEs and corporate strategies. Changes in political risks after the economic crisis, rising protectionism and restrictions influence institutional uncertainty and investment decisions. MNEs are responding to the regulatory and other institutional changes. Public opinion is one of informal institutions where changes can be seen quickly. Being increasingly monitored and discussed, public opinion may (due to latent costs) influence MNC's behavior, investment location decisions and performance. As a part of business environment and business climate, public opinion may also cause change in and work through formal institutions (and potentially affect political risks or wider country risk).

This paper explores whether and how FDI (MNEs investment location decisions) react to firstly the quality of formal institutional environment and institutional distances in formal institutional environment between FDI partners, and secondly how FDI reacts to public opinion as a belief based informal institution. We examine these institutional effects on bilateral inward FDI stocks in OECD countries using a gravity specification. We utilize a new dataset on formal institutions for the quality of legal, political and economic institutions, and World Values Survey and European Values Study for constructing liberal and nonliberal public opinion.

We confirm our hypotheses and find that most formal institutions influence FDI decisions, with the interesting exception of economic institutions, which do not have a statistically significant marginal effect. We find there is a twin set of promoting institutional factors for FDI in the form of origin's quality of legal institutions and destination's quality of political institutions, and a twin set of detrimental institutional factors for FDI in the form of origin's quality of political institutions and destination's quality of legal institutions. It follows that an improvement in the legal framework in the origin country increases inwards FDI to OECD countries, while an improvement of the relative quality of political institutions of the origin country has a consistent and negative effect on bilat-

eral FDI stock, which implies that home investments are seen as relatively more attractive than international investments when the quality of home political environment is good. The quality of the legal environment of the receiving OECD country has a surprising depressing marginal effect, while more in line of our expectations is the positive marginal effect of the political environment in the destination country.

More interesting than the mere effects of institutional levels, are the effects of institutional distances, that is the differences between the quality of institutions in each set of partner countries in each year. We find that legal institutional distance as well as political institutional distance both have a significant and negative effect on inwards FDI stocks. Interestingly though, economic institutional difference does not seem to matter. We explain this with the fact that we are studying FDI stocks, which take the different economic rules into account already (that is to say, differences and changes in economic rules are expected), since they are not expected to be the same everywhere and they change frequently, as opposed to political and legal rules, which can have more far-reaching effects. Additionally, the non responsiveness of FDI stocks to economic institutions can also be seen in the light of stocks reacting much slower (if at all) to quick changes in the economic environment.

We also find that informal institutions matter. Informal institutions such as the beliefs of the public about FDI can have an effect on FDI. We find that a liberal public opinion has a positive marginal effect on FDI, with one lag, while a non-liberal public opinion has a negative marginal effect on FDI, with two lags. However, one effect disappears once we control for the formal institutional environment, which eliminates the effect of liberal public opinion working through government actions. The remaining effect of nonliberal public opinion is reduced due to partial catalysation through the formal institutional environment, but it is still present a direct detrimental force for inward FDI stocks.

Non-favorable attitudes toward economic liberalism seem to be a trend in developed economies, with significant impact on inward FDI. Data from European Value Study and World Value Survey namely confirm raising protectionism after the crisis; since 1990, OECD countries face continuously rising shares of non-liberal population. Testing the impact of public opinion in gravity specification has proven our hypothesis: Liberal public opinion attracts FDI (although it works through formal institutions), while nonliberal attitude reduces inward FDI. Non liberal public opinion has a statically significant and negative effect at a two year lag. These results warn what broad range of formal and informal institutions and actors should be considered in FDI decision making process. Efforts of variety of actors and institutions to influence public opinion matter for FDI.

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A Data

Table 5: Gravity and FDI specific variables used

Variable	Definition	Variation dimension	Source
Gravity variables			
FDIstock	Inwards FDI stock in mill USD	ijt	Organisation for Economic Cooperation and Development (OECD) (2012)
gdp	Nominal GDP in mill USD	it and jt	The World Bank (2013)
gdpcap	Nominal GDP per capita in USD	it and jt	The World Bank (2013)
distance	Average distance between two countries based on bilateral distances between the largest cities of those two countries, weighted by the share of the city in the overall country's population.	ij	Head et al. (2010)
common_border	Dummy for sharing a border	ij	Head et al. (2010)
common_language	Dummy for sharing a language	ij	Head et al. (2010)
common_legal	Dummy for common legal origins	ij	Head et al. (2010)
colonial_history	Dummy for country pair ever being in a colonial relationship	ij	Head et al. (2010)
rta	Dummy for sharing a regional trade agreement	ijt	de Sousa (2012)
wto	Dummy for both countries being members of WTO	ijt	Head et al. (2010),
common_currency	Dummy for sharing a currency	ijt	Head et al. (2010),
FDI specific variables			
inflation	Host country's inflation rate	jt	The World Bank (2013)
tax_rate	Host country's total tax rate (% of commercial profits)	jt	The World Bank (2013)
rd	Host country's research and development expenditure (% of GDP)	jt	The World Bank (2013)
gdp_growth	Host country's real GDP growth	jt	The World Bank (2013)
trade	Host country's openness to trade, sum of imports and exports as a share of GDP	jt	The World Bank (2013)
ict	Host country's infrastructure, sum of telephone mainlines, mobile phone subscribers and internet connections per 1,000 inhabitants	jt	citetwdi
resource_rents	Host country's total resource rents as a share of GDP	jt	The World Bank (2013)
patents	Host country's patent applications by residents and nonresidents, divided by total population in thousands	jt	WIPO (2012)
FDIstockavg	Host country's average total FDI stock	j	Organisation for Economic Cooperation and Development (OECD) (2012)

Table 6: Institutional variables used

Variable	Definition	Variation dimension	Source
legal_inst	Relative quality of legal institutions	it and jt	Kunčič (2013)
political_inst	Relative quality of political institutions	it and jt	Kunčič (2013)
economic_inst	Relative quality of economic institutions	it and jt	Kunčič (2013)
abs(legal_diff)	Absolute difference between the two institutional measures	ijt	Kunčič (2013) and own calculations
abs(political_diff)	Absolute difference between the two institutional measures	ijt	Kunčič (2013) and own calculations
abs(economic_diff)	Absolute difference between the two institutional measures	ijt	Kunčič (2013) and own calculations
liberal	Share of people with liberal economic attitudes	it and jt	EVS and WVS
not_liberal	Share of people with nonliberal economic attitudes	it and jt	EVS and WVS

B Full results

Table 7: Full results with public opinion

dep. var. ln(FDIstock)	1	2	3	4	5	6
ln(gdp_o)	-2.161*** (0.688)	-1.884*** (0.673)	-0.810 (0.730)	-0.675 (1.135)	-0.384 (1.041)	-0.212 (0.856)
ln(gdp_d)	-2.416 (1.480)	-5.639*** (1.518)	-1.700 (2.289)	4.249* (2.376)	1.122 (2.271)	-0.477 (2.624)
ln(gdpcap_o)	2.331*** (0.703)	2.007*** (0.678)	1.061 (0.742)	1.150 (1.152)	0.739 (1.060)	0.711 (0.893)
ln(gdpcap_d)	2.735* (1.525)	6.117*** (1.578)	1.790 (2.408)	-3.881* (2.352)	-1.140 (2.319)	0.604 (2.712)
rta	0.141 (0.192)	0.111 (0.161)	0.124 (0.209)	0.0262 (0.244)	0.0840 (0.230)	-0.0775 (0.232)
wto	-0.631*** (0.160)	-0.498*** (0.178)	-0.463** (0.189)	-0.417 (0.261)	0.000867 (0.314)	-0.179 (0.285)
common_currency	0.909*** (0.297)	0.970*** (0.245)	0.919*** (0.277)	0.919*** (0.314)	0.809*** (0.253)	0.636*** (0.245)
legal_inst_o				0.441** (0.221)	0.316 (0.240)	0.583** (0.240)
political_inst_o				-0.662*** (0.203)	-0.690*** (0.227)	-0.688*** (0.210)
economic_inst_o				-0.107 (0.173)	0.108 (0.183)	0.0160 (0.186)
legal_inst_d				0.189 (0.327)	-0.385 (0.320)	-0.586 (0.387)
political_inst_d				-0.415 (0.428)	0.552 (0.516)	0.613 (0.428)
economic_inst_d				-0.388 (0.277)	0.249 (0.273)	0.339 (0.344)
abs(legal_diff)				-0.136 (0.195)	-0.239 (0.189)	-0.271 (0.193)
abs(political_diff)				-0.0644 (0.195)	-0.0398 (0.204)	-0.00891 (0.190)
abs(economic_diff)				-0.175 (0.161)	-0.194 (0.152)	-0.0306 (0.149)
liberal	0.418 (0.373)			0.0123 (0.414)		
nonliberal	0.708 (1.070)			0.168 (1.238)		
L.liberal		0.692* (0.372)			0.572 (0.417)	
L.nonliberal		0.834 (1.112)			0.535 (1.276)	
L2.liberal			-0.527 (0.492)			-0.721 (0.507)
L2.nonliberal			-4.564*** (1.243)			-2.599* (1.401)
Constant	-24.77*** (7.733)	-36.61*** (7.878)	-12.87 (10.88)	8.178 (10.00)	2.922 (10.24)	-5.465 (11.72)
Observations	9,147	9,385	7,853	5,154	5,481	4,908
R-squared	0.942	0.939	0.956	0.950	0.942	0.953
Time FE	YES	YES	YES	YES	YES	YES
Origin FE	YES	YES	YES	YES	YES	YES
Destination FE	YES	YES	YES	YES	YES	YES
Dyadic FE	YES	YES	YES	YES	YES	YES
Formal inst.	NO	NO	NO	YES	YES	YES

Country pair robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1