A proposal to improve the UNCTAD's inward FDI potential index

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In the literature of foreign direct investment (FDI) and international business, an increasing attention is being paid to the comparative study of countries' attractiveness for FDI. The United Nations Conference on Trade and Development has developed several indices to evaluate and compare the location advantages of the countries and their relative success in attracting FDI. However, these indices suffer from several limitations. We have constructed an improved inward FDI potential index that can solve some of those limitations, making use of 70 variables for 49 countries and data reduction techniques. The correlation analysis shows that it fits better with the Inward FDI Performance Index, and thus this new index explains more precisely countries' FDI inflows. Moreover, the larger number of variables included allows us to rank the countries for different kinds of FDI and to assess countries' strengths and weaknesses for policy purposes.

Keywords: transnational corporations, location determinants, synthetic indices

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1. Introduction

In recent editions of the *World Investment Report* (*WIR*), the United Nations Conference on Trade and Development (UNCTAD), like other think tanks, have been undertaking international benchmarking in their analysis and policy recommendations.[1] The UNCTAD has constructed two indices: the Inward FDI Potential Index and the Inward FDI Performance Index to evaluate and compare the location advantages of countries and their relative success in attracting FDI.[2]

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[1] UNCTAD is not the only institution that evaluates world FDI using indices. Some examples are the "FDI Sustainability Index" elaborated by the Economist Intelligence Unit, or the "FDI Confidence Index" elaborated by A.T. Kearney (2003). In Christiansen (2004), there is information about the variety of international benchmarking indices regarding business climate in general.

[2] In *WIR 2004*, UNCTAD has included the Outward FDI Performance Index. This index tries to capture two aspects: the "ownership advantages" of the firms in the investor country and the "location advantages" of the host country (UNCTAD, 2004).

Despite the obvious relevance of these indices and its contribution to the analysis of FDI, UNCTAD recognizes the limitations of its indices. In *WIR 2002*, UNCTAD accepted that "It is not possible, with the available data, to capture the host of factors that can affect FDI" (UNCTAD, 2002, p. 23) and that "This analysis can offer many interesting insights for FDI analysis and policy. However, the indices are still at a formative stage. There is much that can be done to improve, broaden and deepen them, in particular the Inward FDI Potential Index. It does not include a number of factors that are known to affect international investment flows, and there may be more appropriate variables that could replace some of those now used; the problem is, of course, to obtain satisfactory quantitative data for a large number of countries. It is hoped that this constraint will, at least in part, be relieved over time" (UNCTAD, 2002, p. 32). However, since then, UNCTAD is using these indices, although with minor changes, making no mention of their limitations.[3]

The purpose of this paper is to make a modest progress to address the problems acknowledged by UNCTAD, by constructing what we call Improved Inward FDI Potential Index (IIFPOI), which we believe approximates more closely what is required in terms of both explaining the distribution of worldwide FDI flows and helping to design policies to attract not only overall FDI inflows but also specific kinds of FDI. The paper is structured as follows. Section 2 sets out the criteria used to choose variables for this IIFPOI. Next, we explain the construction of the proposed index (variables, sources and methodology). In section 4, a number of results using this new potential index are presented with possible ways for future improvements. Final section concludes.

2. Criteria for constructing an improved index

The choice of the variables included in IIFPOI is justified by the following criteria: the theoretical analysis of the determinants of FDI; the empirical studies testing the validity of the theoretical analysis; the availability of quantitative data on the potential determinant factors and their geographic scope; and finally, the correlation between these criteria and IIFPI.

[3] *WIR 2003* (UNCTAD, 2003) includes four new variables into the potential index: shares of world exports of natural resources, share of world imports of parts and components of electronic and automobile products, share of world exports of services, and the share of the world stock of Inward FDI. However, the *Report* does not mention their inclusion, and the justification for their inclusion only appears in the methodological section on the UNCTAD website.

Since the aim of this index is to be a useful tool for analysing the relative advantages of countries for FDI inflows, we adopt Dunning's eclectic paradigm as theoretical framework. This paradigm encompasses, as location advantages, a wide range of factors, including those related to policies regulating FDI (and policies that affect FDI indirectly), those of an economic nature, and those related to the "climate" in which foreign investors operate in host countries. Dunning (1993) provides a long list of factors that may be considered as determinats. In *WIRs* (UNCTAD, 1998a and 2001), these same factors are included, ordered according to the main objectives that transnational corporations (TNCs) seek when they invest abroad. In these works, mainly in *WIR 1998,* an extensive review of empirical studies on the determinants of FDI inflows is undertaken.[4] The synthesis of all the literature is that the most significant variables are those related to market-seeking and resources-seeking FDI (in the case of the less developed countries) such as GDP, income per capita, labour costs, etc.

These are "traditional" determinants, but the current globalization process is likely to induce important changes to location determinants (UNCTAD, 1996). The theoretical argument for explaining these changes is that technological advances, increasing openness to trade, FDI and technology inflows, and the subsequent competitive pressure on firms, would result in a reconfiguration of the strategies pursued by TNCs to achieve their objectives (resources-, markets- and efficiency-seeking FDI). The two possible consequences on the location determinants are: first, host countries would be assessed by TNCs on the basis of a wider set of variables than before; and, second, the relative importance of FDI determinants would be rebalanced.[5] Although the "traditional" economic determinants and the type of FDI associated with these would not disappear, their relevance is likely to decrease, giving a greater weight to the determinants related to efficiency-seeking and created assets-seeking FDI.

[4] Most of these studies do not include variables that represent determinants of a political-institutional nature.

[5] The globalization and liberalization of the world economy would have extended the policy framework of FDI to other policies that in the past were not considered as FDI determinants (macroeconomic, regional, technological and labour policies, and even those that can affect the human capital such as education and health policies). Nevertheless, this framework, although wider than before, will continue to work as a set of location determinants subordinated to those of an economic nature. Policies designed to generate an investment friendly environment and pro-active measures to facilitate business activity for foreign investors (promoting FDI, financial/fiscal incentives, less "hassle costs", etc.) are not new, but they are increasingly more common and will thus be taken more into account by TNCs.

With those arguments in mind, Dunning (2002) reviews the new (1990/2000) and the old (1970/1980) determinants of FDI arguing the following:

- In the case of FDI flows between developed countries, the traditional determinants are those related to market-seeking FDI. More recent emerging determinants are concerned with created assets-seeking FDI (to acquire or modernize the competitive advantages) and the factors related to "business facilitation" (mainly the business framework and the public regulation related to competition, innovations and international M&A policies). Other important economic determinants arising from the liberalization of markets and the regional integration are those related to horizontal efficiency-seeking FDI.

- In the case of FDI flows from developed countries to developing countries (and, to a lesser extent, between developing countries), there are two main kinds of FDI. One is the traditional market-seeking and resource-seeking FDI, which together account for about 70% of FDI inflows in developing economies, with Brazil, China, Hong Kong (China) and India being the main destinations. The other type of FDI is classified as "efficiency-seeking FDI". For this type of investment, the objective of the TNC is to produce intermediate or final goods in locations with the lowest costs for their subsequent export to third markets. Here, TNCs pay more attention to variables related to efficiency-seeking FDI and to the FDI policy framework. Currently, such investment is mainly concentrated in South Asia, South-East Asia and Mexico.

As a result of this theoretical development and the greater availability of data, a series of studies testing these changes emerged. These studies include old and new determinants, but they have not reached a consensus about these shifts.[6] One of the initiators of these new studies is UNCTAD, who provides an econometric annexes for the (partial) verification of its theoretical postulates (UNCTAD, 1998a). Results show, first, that the capacity of traditional determinants to explain the worldwide distribution of FDI inflows declined over the period under analysis (1990–1995) and, second, that the incorporation of the "political stability" variable into the regression model improves the capacity to explain FDI flows, mainly for developing countries. This

[6] These studies use econometric methods based on multiple regression analysis for cross-section data or discriminating analysis using corporate surveys.

is interpreted by UNCTAD as a sign that institutional characteristics of the countries have a positive influence on FDI inflows.[7]

Recent studies concur with the findings of UNCTAD. Stein and Daude (2001) find that the "quality of institutions", as defined by the Governance Indicators of the World Bank, has positive effects on FDI. Globerman and Shapiro (2002) conclude that, for the period 1995–1997, the attractiveness of a country (for both developed and developing countries) is strongly conditioned by "National Political Infrastructure"[8]. Moreover, although the Human Development Indicator is not a significant indicator, the level of education is important. Busse and Hefeker (2005) find that the 12 indicators used to proxy political risk have a significant negative impact on FDI inflows. Regarding the institutional framework, Bengoa and Sánchez-Robles (2003) find, using panel data for 18 Latin American countries over the period 1970–1999, that economic freedom (as defined by the Fraser Institute Index) in host countries is a positive determinant of FDI inflows. Addison and Heshmati (2003) conclude that the wave of democratization[9] and, mainly, the spread of technologies of information and communication[10] positively affect FDI inflows in developing countries. Asiedu and Lien (2004), in a study of 96 developing, transition and emerging economies, that almost all the indicators for capital control have a significant negative effect in a fixed panel specification.

However, Nunnenkamp (2002) questions whether a change in the relevance of determinants amongst developing countries has really taken place. Using data from a survey of companies[11] including 33 questions on a set of economic and political factors related to FDI in 28 developing countries, he concludes that between 1987 and 1999, no important changes took place regarding location determinants. The traditional determinants related to host markets (population and GDP per

[7] UNCTAD does not explain two related questions. First, the choice of variable used as a proxy for the political stability of the countries. Second, the reason to include in its potential index (UNCTAD, 2003) a risk-country variable as a proxy for the political-institutional framework, because these variables measures not so much the political risk as the economic-financial risk.

[8] This measure is proxied by the first main component of the six Governance Indicators of the World Bank.

[9] As calculated by the democratization index: average of degree of political competition (representation of minorities in the parliament) and participation of the population in elections.

[10] Proxied by total expenditure on information and communication technologies, equipment and services as percentage of GDP.

[11] This is a annual survey on companies forming part of the European Round Table of Industrialists (2000 edition).

capita) are still dominant, and the only new determinant with a higher relevance is the skill level of the labour force. Noorbakhsh et al. (2001) also conclude that human capital is a statistically significant determinant of FDI inflows, having a growing relevance, and that other traditional variables (the growth of the domestic market, a stable macroeconomic situation, liberalization policies, a sustaining business framework, etc.) are also significant. Chakrabarti (2001) also reject the hypothesis of a change in the determinants, and argues that the market size and the degree of openness of the host country are more stable than other determinants (wages, net exports, rate of growth, taxes, trade tariffs and exchange rates).

Other studies have analysed whether bilateral investment treaties (BITs) and double taxation treaties (DTTs) are a significant determinant of the attractiveness of a country for foreign investors. UNCTAD (1998b) analysed the impact of 200 BITs on bilateral FDI with cross-section data for 133 countries in 1995, concluding that they do not play a very important positive role. Hallward-Driemeier (2003), making an econometric study of bilateral flows in the OCDE countries over a 20 year period, concludes that there is no solid evidence that BITs stimulate additional FDI flows, although they would act as complement to the institutional framework of the target country by offering sufficient guarantees on property rights to foreign investors. However, Banga (2003), analysing 15 Asian countries using a panel data analysis, concludes that BITs play a significant positive role.[12] Although there are a large number of studies on the effects of taxation on FDI, this is not the case of DTTs. Blonigen and Davies (2001) conclude, by making a regression analysis of bilateral inflows of FDI between the United States and 65 countries, that these treaties do have a positive impact on FDI in the medium and long term.[13]

In table 1, we summarize other studies on the determinants of FDI. It shows that research is finding a diverse set of determinants as new developments in the global economy take place and data availability and econometric techniques evolve. In sum, the findings in the vast empirical literature regarding location determinants justify our approach to include the largest possible number of variables related to the location determinants in constructing our improved index, IIFPOI. All in all, and despite some mixed results regarding some variables, empirical studies

[12] He found a negative effect for tariffs and restrictions on foreign capital ventures.

[13] The positive effects are on inflows and outflows, sales and employment both in host and home countries.

Table 1. Some Other Cross-Country Studies about FDI Determinants

Authors	Y	Method	Control Variable	Xi	Period/Countries
Newmayer & Spess, 2005	Log FDI flows in constant terms	Panel Fixed and Random Effects	LogGDP per capita (+) Log Population (+) GDP Growth (+) Inflation (-) Income Natural Resources/GDP (+) Political Constrain Index (0) Composite Political Risk (-) Sub-indices (mainly -)	Number of BITs (+)	1970-2001 and sub-periods 120 countries
Moosa & Cardak, 2005	Unctad FDI perf. Index	Extreme Bond Analyses	13 from Unctad Potential Index	Only robust: GDPPC (+) X/GDP (+) Phones (+)	1998-2000 140 countries
Egger & Winner, 2005	Log FDI stock	Panel Fixed Effects/ Hausmann Taylor	Log GDP (+) LogSchool (0)	Corruption:3 Kauf. Subin.(+)	1995-1999 73 DC&LDCs
Alsan, Bloom & Canning, 2004	Log FDI flows	OLS	LogPop (+) LogGDPPC (+) Openess (+) Burocracy Qual. (+) Corruption (- for LDCs) Phones (0) Dsitance (0) Landlocked(0)	Health: Life Expectancy (+)	74 miscellaneous; 1980-1990 1990-2000
Hasnat, 2003	Log FDI flows	OLS	LogGDP (+) GDPGrowth (+) LogOpeness (+)	Labour Standards: N° of ratified conventions (0)	1995-1999 142 countries
Asiedu, 2002	FDI/GDP	OLS & Panel	Openess (+) Phones (+) 1/GDPPC (proxy Capital return) (+) Public Exp/GDP (0) Infla (0) M2/GDP (0)	SubSaharian Africa Dummy (-)	1988-1997 71 LDCs
Morisset, 2000	FDI inflows	OLS & Fixed Eff.	GDP (+) Nat. Resources (+) Openess (+ in panel) Illiteracy (0) Phones (0) Urban Pop (0)	Pol. Risk-ICRG (0) Financial Risk –Insti. Investors (0)	1990-1997 29 SubSaharian
Fernández-Arias & Hausmann, 2000	Log(FDI/ GDP+1)	OLS	LogGDPPC (+ alone) LogGDP (0) LogX/GDP (+)	One by one GDP volat. (0) Suboil Resou (0) Distance (+) Credit/GDP (0) 5 Kaufman Indices (+ majority)	1997 All Countries
Gastanaga, Nugent & Pashamova, 1998	FDI/GDP	OLS & Fixed Effects	GDP Growth (+) Oil Price	Mainly Sig in Panel Data Ex rate distor (Black Market Premium) (0) Openess Capital Flows in General (+) Openess to FDI (+) Corp. Tax Rates (-) Tariffs (+ in OLS, - panel) National. Risk (-) Contract Enforcement (+) Buroc. Delay (-) Corruption (-)	1970-1995 23 LDCs

Source: Authors' own compilation.
(+), (-), (0) means positive, negative or insignificant effect

confirm the need to adopt an inclusive approach to search for a synthetic FDI potential index.

At this point, however, we must stress that the number of variables included in an index of this nature is constrained by the availability of data. We must stress that the UNCTAD's decision to include only 13 variables in her potential index is not guided by this restriction, although it is proposed as such.[14] Furthermore, the difficulty in quantifying some qualitative determinants related to the political and institutional framework, which UNCTAD cites as the reasons for their omission in its index, is a problem which can be solved, as most of the above mentioned studies do, with indicators produced by a number of bodies. However, this solution involves that, with the data available at the time of writing, we cannot include all countries in the world, and, therefore, there is a trade-off between geographical scope and the depth of analysis. For this paper, we opted to improve the quality of the index, leaving aside the issue of limited geographic scope. This option allows our index to fulfil better than the current UNCTAD's potential index the objectives of being a tool, first, to evaluate the countries' competitiveness to attract certain kinds of FDI inflows, and, second, to design policies to improve, or change, the location advantages of host countries.

An additional question which we must mention is, that for the inclusion of the variables making up the index that we have constructed, we have not considered (in a way similar to UNCTAD, 2002: table II.4) the correlation between those variables and the Inward FDI Performance Index (IFPEI). However, as the previous literature review shows, the variables selected are grounded in the theory and in some cases in empirical findings.

3. Variables, sources and methodology

We have included a total of 70 variables in our index, IIFPOI, for a set of 49 countries (those included in the World Competitiveness Yearbook 2003) with different levels of economic development and belonging to different geographical zones. Sources used to obtain the data were UNCTAD (2003), the governance indicators by Kaufmann et al. (2003), the International Institute of Management Development (2003), the World Economic Forum (2002/2003) and the Fraser Institute (2003).

[14] In *WIR 2002* (UNCTAD, 2002, table II.4: 35) many other variables are taken on board (commercial policy, regulation of FDI, numbers of BITs and DTTs, etc.) for which, indeed, there does seem to be data on the 140 countries in question.

Table 2. Variables included in the Improved Inward FDI Potential Index

			Host country determinants		
			I. Policy framework for FDI		
	• economic, political and social stability				
Factor 1	2	Country Risk	Composite risk	UNCTAD	December 2001
	3	Macroeconomic environment index		GCR	2001
	4	Political Stability		Kaufman	2000
	5	Risk of Political Instability	very high very low (SURVEY)	IMD	
Factor 1	6	Exchange Rate Stability	Parity change from national currency to SDR, 2002/2000	IMD	2000
	• rules regarding entry and operations				
Factor 2	7	Access to Foreign Capital		EC FREEDOM (GCR)	2001
	8	Restrictions on Foreign Capital Transactions		EC FREEDOM (IMF)	2001
	9	Public Sector Contracts	are not sufficiently open to foreign bidders or yes (SURVEY)	IMD	
	• standards of treatment of foreign affiliates				
	10	CROSS-BORDER VENTURES	cannot be freely negotiated with foreign partners or yes (SURVEY)	IMD	
	11	FOREIGN INVESTORS	are not free to acquire control in domestic companies or yes (SURVEY)	IMD	
	12	FOREIGN FINANCIAL INSTITUTIONS	do not have access to the domestic market or yes (SURVEY)	IMD	
	13	ACCESS TO LOCAL CAPITAL MARKETS	is restricted for foreign companies or not (SURVEY)	IMD	
	14	FOREIGN COMPANIES	are discriminated against by legislation or not (SURVEY)	IMD	
Factor 2	16	Investment protection schemes (against nationalization, expropriations, etc.)	are not available for most foreign partners or yes (SURVEY)	IMD	
	• structure of markets specially competition and M&A policies				
Factor 3	15	Competition legislation in your economy	is not efficient in preventing unfair competition or yes (SURVEY)	IMD	
	52	Patent and copyright protection	is not adequately enforced is adequately enforced (SURVEY)	IMD	
	• privatization policy				
	• trade policy (tariffs and NTBs) and coherence of FDI and trade policies				
	18	Taxes as Percentage of Exports & Imports		EC FREEDOM (IMF)	2001
	19	Mean Tariff Rate		EC FREEDOM (WDI)	2001
	20	Variability of Tariff Rates		EC FREEDOM (WDI)	2001
	21	Hidden Import Barriers		EC FREEDOM (GCR)	2001
Factor 3	22	Costs of Importing		EC FREEDOM (GCR)	2001
	• tax policy/international agreements on FDI				
	17	BITs & DTTs signed		UNCTAD	2001
	23	Average Corporate Tax Rate on Profits	Percentage of profit before taxes %	IMD	2001

Table 2. Variables included in the Improved Inward FDI Potential Index (continued)

			III. Business facilitation		
	• investment promotion				
	• investment incentives				
	24	Investment Incentives	are not attractive to foreign investors or yes (SURVEY)	IMD	
	25	GOVERNMENT SUBSIDIES	To private and public companies as a percentage of GDP	IMD	
	• hassle costs (related to corruption, administrative efficiency, etc.)				
Factor 4	26	Control of Corruption		KAUFMAN	2001
	27	BRIBING AND CORRUPTION	exist in the economy do not exist (SURVEY)	IMD	
	31	Irregular Payments to Government Officials		EC FREEDOM (GCR)	2001
	28	Administrative Obstacles for New Businesses		EC FREEDOM (GCR)	2001
	29	Time Spent with Government Bureaucracy		EC FREEDOM (GCR)	2001
	30	Ease of Starting a New Business		EC FREEDOM (GCR)	2001
	33	EASE OF DOING BUSINESS	is not a competitive advantage for your economy, is it (SURVEY)	IMD	
Factor 4	32	BUREAUCRACY	hinders business activity does not hinder business activity (SURVEY)	IMD	
	• social amenities (bilingual schools, quality of life, etc.)				
	73	QUALITY OF LIFE	Quality of life in your economy/society is low/high (SURVEY)	IMD	
	• after-investment services				
			II. Economic determinants		
			Type of FDI classified by motives of TNCs (Principal economic determinants in host countries)		
A. Market-seeking					
	• market size and per capita income, market growth				
		34 GDP growth %		UNCTAD	Average 1999-2001
		35 GDP per capita		UNCTAD	
		74 % world FDI stock		UNCTAD	Average 1999-2001
	• access to regional and global markets				
	36	Integration into regional trade blocks	does not provide enough access to foreign markets, or does it (SURVEY)	IMD	
	37	Total exports	As % of GDP	UNCTAD	Average 1999-2001

Table 2. Variables included in the Improved Inward FDI Potential Index (continued)

	• country-specific consumer preferences				
	• structure of markets				
B. Resource seeking					
	• raw materials				
	38	Exports Natural resources	% world total	UNCTAD	Average 1999-2001
	• low-cost unskilled labour				
	39	Total hourly compens. for manuf. workers	(wages + supplementary benefits), US$	IMD	2002
Factor 5	40	LABOR REGULATIONS	are not flexible enough are flexible enough (SURVEY)	IMD	
	42	Flexibility in Hiring & Firing		EC.FREEDOM (GCR)	2001
Factor 5	43	Collective Bargaining		EC.FREEDOM (GCR)	2001
C. Asset-seeking					
	• skilled labour				
Factor 6.1.	44	SKILLED LABOR	is not readily available is readily available (survey)	IMD	
	45	FOREIGN HIGH-SKILLED PEOPLE	are not attracted by the business environment of your country or yes (SURVEY)	IMD	
Factor 6.1.	50	INFORMATION TECHNOLOGY SKILLS	are not readily available are readily available (SURVEY)	IMD	
	• tech. Innovatory and other crated assets (brand names), including as ...				
Factor 6.2.	47	SECONDARY SCHOOL ENROLLMENT	Percentage of relevant age group receiving full-time education	IMD	
	46	Students in tertiary level	As % of total population	UNCTAD	
	49	R&D	expenditures as % of GDP	UNCTAD	
	51	PATENTS GRANTED TO RESIDENTS	Number of patents granted to residents (average 1998-2000)	IMD	
	53	NUMBER OF PATENTS IN FORCE	Per 100,000 inhabitants	IMD	
Factor 6.2.	54	Technology index		GCR	
	•physical infrastructure				
Factor 7.2.	55	ROADS	Density of the network (km per square km)	IMD	
Factor 7.2.	56	RAILROADS 2001	Density of the network (km per square km)	IMD	
Factor 7.1.	57	QUALITY OF AIR TRANSPORTATION	Deters business development in your economy or not (SURVEY)	IMD	
	58	WATER TRANSPORTATION	does not meet business requirements or yes (SURVEY)	IMD	
	59	DISTRIBUTION INFRASTRUCTURE	The distribution infrastructure (roads, trains, planes, etc.) of goods and services is in general good or bad (SURVEY)	IMD	
	64	Telephone mainlines	Per 100,000 inhabitants	UNCTAD	Average 1999-2001

Table 2. Variables included in the Improved Inward FDI Potential Index (concluded)

Factor 7.1.		65 Mobile	Per 100,000 inhabitants	UNCTAD	Average 1999-2001
D. Efficiency-seeking					
	• cost of resources and assets listed under B, adjusted for productivity for labour resources				
	6234	Average of working hours*hourly compensation for manufacturing/GDP per person in industry (US$)			
	• other input costs, e.g. transport and communication costs to/from and within host economy and costs of other intermediate products				
Factor 8.2.	60	INTERNATIONAL FIXED TELEPHONE COSTS	US$ per 3 minutes in peak hours to USA (for USA to Europe)	IMD	
	61	ELECTRICITY COSTS FOR INDUSTRIAL CLIENTS	US$ per kwh	IMD	2002
	72	Adequacy of communications (availability, reliability, cost) is generally	low in your economy high in your economy (SURVEY)	IMD	2003
Factor 8.2.	66	Commercial	energy use per capita	UNCTAD	Average 1999-2001
Factor 8.1.	67	COST-OF-LIVING INDEX (New-York City=100)	Index of basket of goods & services in major cities, excluding housing	IMD	
	68	APARTMENT RENT	3-room apartment monthly rent in major cities, US$	IMD	
Factor 8.1.	69	OFFICE RENT	Total occupation cost (US$/Sq.M per year)	IMD	
Factor 8.3.	70	Imports of parts/accessories of electronics and automobile	% world total	UNCTAD	Average 1999-2001
Factor 8.3.	71	Exports in services	% world total	UNCTAD	Average 1999-2001
	• membership of a regional integration agreement conducive to the establishment of regional corporate headquarters				

Source: Authors.

To construct the index, we have selected from these sources (besides those of the UNCTAD index itself) those variables that might serve as best proxies for the location determinants. These variables have been ranked according to the typology shown in table 2. The 70 variables have been grouped by categories: FDI policy framework (23 variables), business facilitation (11) and economic determinants (five for market-seeking FDI, five for resource-seeking FDI, 16 for created assets-seeking FDI and ten for efficiency-seeking FDI). The variables can be divided into "hard data" and "soft data" group. The first group, published by conventional international bodies, mainly refer to quantitative economic variables, while "soft data" are qualitative data based on surveys. The use of "soft data" was reduced to a minimum because their methodology is considered less rigorous. Nevertheless, they are irreplaceable if one wishes carry out analysis of location determinants of a qualitative nature, like many of those related to political-institutional framework.

Since many of the variables showed high correlation among them, mainly those belonging to the same type of determinants, a Principal Component Analysis was applied in an iterative manner and in a different order, depending on the economic sense of the extracted factors. The purpose of this analysis was to simplify the construction of the index, reducing the number of variables as much as possible with the least loss of information.[15]

[15] The rotation method employed to extract the factors was Varimax Normalization with Kaiser and the statistical criteria used were auto-values higher than 1, rejection of factors if Meyer-Oklin test is lower then 0,6 and/or Kaiser and Bartlett test significance higher than 0,05. We substituted missing values by the mean because this is the suggested criteria when there are few missing cases. We used the Comrey criteria for factor adjustments. When a variable does not show a clear belonging to a factor we face complex variables. They do not contribute to identifying the nature (interpretation) of the factors in which they have their principal weights. The best option is to withdraw them (so the explained variance improves and is easier to interpret). Besides, when a factor is highly correlated with only one variable, it is considered that it is insufficiently defined. It is than convenient to make a new analysis with one factor less. Another criterion to construct factors has been the economic sense of the variables grouped by principal components. If the aggregation of variables does not have a meaning it has been also rejected. With the 70 variables (hard and soft) considered we tried to perform a factor analysis by principal components with all of them together. The factors extracted were rejected because of some of the above criteria were not meet. We then performed factor analysis by broad groups (I, II and III of Table 2) and it was also rejected. We then performed the analysis by subgroups (in II "economic determinants" by A,B,C and D) and we rejected the factor extraction. Finally, we obtained 12 factors and 13 variables.

The application of this technique resulted in the selection of 12 factors and 13 variables. Nine factors and variables are related to the institutional framework for FDI (five to FDI policy framework and four to business facilitation) and 16 to economic determinants (five to market-seeking, three to resource-seeking, four to efficiency-seeking and four to asset-seeking FDI). We believe this is a rather balanced structure, giving more weight to the economic determinants, consistent with the greater importance that they should have. With these 25 determinants, after normalizing the values, the new potential index was constructed as a simple average (see table A.1 in the appendix for the scores of the different factors and variables). The normalization was carried out applying the formula (Vi-Vmin)/(Vmax-Vmin), or (Vi-Vmax)/(Vmin-Vmax) in the case that the variable is a location disadvantage.[16]

This procedure is similar to that used by UNCTAD. Nevertheless, we wish to make two observations. The first is about the use of the simple average. A weighted index could be justified depending on the importance that can be attributed *a priori* to those groups. A lower weight (the same for all countries, developed or not) might be assigned to political-institutional determinants than to economic ones. Moreover, according to Dunning (2002), the determinants related to market-seeking FDI, etc., could be weighted according to the level of development of the countries assigning, for example, a higher weight to the created asset variables in developed countries than in developing countries.

The second observation is concerned with the normalization of the variables. Neither maximum nor minimum ad hoc values have been fixed for any of the variables. This procedure may have a perverse statistical effect if a country strongly deviates from the average in some variable. In this case, the values of other countries, even if they are significantly different, show a normalized value very similar to one another, as a result of which the relative advantage of country with respect to the rest becomes blurred for this variable. Another problem of a normalization without maximums or minimums is that the index cannot increase or worsen in all countries with the passage of time and, therefore, the interpretation of changes only makes sense in relative terms to the evolution of the maximum and minimum value.

[16] The variables considered as location disadvantages are: exchange rate instability, average corporate tax, total hourly compensation for manufacturing workers, unit labor costs in manufacturing, telephone costs, electricity costs, cost of living, apartment rent and office rent.

4. Results and comparison with UNCTAD's model

The following indices are used for comparison:

- Improved Inward FDI Potential Index (IIFPOI);
- Inward FDI Potential Index of UNCTAD for 140 countries (IFPOIUN140);
- Inward FDI Potential Index of UNCTAD, re-caluclated for the 49 countries in our sample (IFPOIUN49);
- Reverse ranking of the Competitiveness Index of Global Competitiveness Report (GCR);
- World Competitiveness Yearbook (WCY) Index; and
- Economic Freedom Index (ECFREE).

The rankings of the 49 countries in the different indices are quite similar (table A.2 in the appendix).[17] Our index, as shown in table 3, has a high correlation with all indices, since we have used data from all of them.[18]

Table 3. Spearman's correlation coefficients

	IIFPOI	IFPOIUN49	IFPOIUN140	GCR	WCY	ECFREE
IIFPOI	1	0,866	0,849	-0,88	0,88	0,855
IFPOIUN49	0,866	1	0,992	-0,915	0,792	0,808
IFPOIUN140	0,849	0,992	1	-0,901	0,786	0,792
GCR	-0,88	-0,915	-0,901	1	-0,88	-0,89
WCY	0,88	0,792	0,786	-0,88	1	0,828
ECFREE	0,855	0,808	0,792	-0,89	0,828	1

Source: Authors.
* All the correlations are significant at 1% level

The indices that present a ranking more similar to each other – apart from IFPOIUN49 and IFPOIUN140 – are the GCR index and IFPOIUN49 (0.915). However, our index has a lower correlation with the GCR index (0.880). This can be interpreted as validating our index, since there is not another index that produces the same ordering of potential FDI attractiveness. It could be argued that the index by

[17] This is not surprising since the GCR and the WCY are 'competitiveness' indices, a vague concept which involves the attractiveness of the socio-economic conditions of a country for business (investment) in general, both national and foreign.

[18] In both indices the countries included in the top-10 are the same ones. This coincidence is lower in the case of the bottom-10, where 4 countries do not appear in the UNCTAD index.

UNCTAD is more dispensable since it produces an ordering much more similar to that of the GCR index, which has been regularly published for some time now.

Table 4. Dependant variable: Inward FDI Performance Index, IFPEI (1999-2001)

model	1	2	3	4	5
constant	-2,547**	-0,21	-1,862	-0,288	-4,079**
IIFPOI	9,241*				
IFPOIUN49		4,816**			
GCR			0,747***		
WCY				0,033*	
ECFREE					0,823*
R^2	0,268	0,128	0,064	0,189	0,165
F	17,17	6,912	3,213	10,982	9,32
N	49	49	49	49	49

Source: Authors.
Heteroskedasticity test passed.
* significant at 1%, ** significant at 5%, *** significant at 10%

Table 5. Dependant variable: Ln FDI stock 2001

Model	Control V.	1	2	3	4	5
Constant	-6,847*	-6,227*	-3,470	-5,358*	-6,966*	-7,538*
LnGDPpc (2000-2002)	0,912*	0,485*	0,453**	0,637*	0,782*	0,680*
Lnpop	0,567*	0,592*	0,534*	0,564*	0,563*	0,571*
IIFPOI		6,299*				
IFPOIUN49			3,990**			
WCY				0,018**		
GCR					0,295	
ECFREE						0,395**
R^2	0,727	0,812	0,755	0,780	0,734	0,757
F	61,233	64,784	46,142	53,207	41,343	46,791
N	49	49	49	49	49	49

Source: Authors.
Heteroskedasticity test passed.
* significant at 0%, ** significant at 5%, *** significant at 10%

Another important property of our index is how it fits Inward FDI Performance Index data (table 6). Although an index alone cannot explain FDI distribution entirely, our potential index explains the inward FDI distribution more than any other indices considered. R^2 is almost double

that of UNCTAD and the coefficient is statistically significant.[19] And this is also true even if we use the stock of FDI as the dependent variable, like in most cross countries studies (table 5).

Control variables (GDP per capita and population) behave as expected.[20] The market-seeking hypothesis is clearly satisfied: the signs of GDP per capita and population are positive and significant. Regarding the set of indices, it is worth mentioning that our index contributes to explaining geographical FDI distribution. R^2 coefficient improves considerably and is very high for cross country regressions. The second best is the specification with the WCY index (this is not surprisingly because our index draws heavily on it). Curiously, the GCR index, although with the right sign, is not significant in contrast to the finding of Christiansen (2004). One explanation for this finding is that this index encompasses many other variables of a country's competitiveness that have only a marginal role as FDI determinants. The economic freedom index turns out to have only a modest explanatory power and – though better than the UNCTAD index – improves the model very little. In sum, our index is clearly the best one to explain FDI distribution among these 49 countries.

In table 6, we have tested the relevance of the different sub-indices. Since market-seeking sub-index includes explicitly GDP per capita, we have dropped GDP per capita from the set of explanatory variables. As column 1 shows, the political framework for FDI and market-seeking sub-indices are significant and with the correct sign (besides population). This finding is in line with many other studies

[19] The model behaves better if Benelux is omitted and if FDI flows are reduced by the effect of "passing through" FDI inflows, that is, those whose final target country is another country, generally the EU, but which pass through Benelux because they have certain tax advantages. This happens also in Spain with Foreign Securities Holding Companies or in the Netherlands (Fernández-Otheo, 2004). However, since we do not have information for all the countries about the exact extent of this head office effect, removing exclusively the Benelux case would not be justified. Moreover, the correlation of the Inward FDI Potential Index of UNCTAD and the Inward FDI Performance Index is much lower for the periods previous to that analysed here. Finally, although the aim of the paper has not been this, we have regressed the Inward FDI Performance Index by means of the successive stages method with our 70 variables and the result was that the best econometric model would be characterized by the 'Rules and Standard of Treatment' factor (variables 7 to 14 and 16), the 'number of BITs and DITs' variable (17) and the 'X/PIB' (37).

[20] All the indices include GDP per capita implicitly, but this is only a variable in many, therefore it is necessary to include explicitly as explanatory variables GDP per capita and population to capture market size.

that have stressed these institutional variables as key determinants for FDI. If we include sub-indices one by one in order to avoid co-linearity problems and use population and the market-seeking index as control variables, the efficiency of sub-indices is also significant. Therefore, in the model presented in column 4, we included all the significant sub-indices, and again the whole set of explanatory variables are significant. This turned out to be the best specification, implying that the size of the market, inputs costs corrected for productivity (and all the other variables included in this sub-index) and the political framework for FDI are the determinants of FDI.[21]

Table 6. Dependant variable: Ln FDI stock 2001

Model	1	2	3	4
constant	-2,239	-0,832	-2,088	-2,456**
Lnpop	0,520*	0,507*	0,525*	0,539*
pframework	3,157**	3,003**		2,356**
busfacilitation	-1,186			
marketseeking	5,400*	4,852*	6,993*	4,820*
resourceseeking	0,367			
assetseeking	0,099			
efficiencyseeking	2,317		3,405**	2,704**
R^2	0,794	0,771	0,772	0,790
F	22,643	50,639	50,929	41,292
N	49	49	49	49

Source: Authors.
*significant at 0%, **significant at 5%, ***significant at 10%

Replicating UNCTAD's matrix analysis, if we take the average point for the Inward FDI Potential Index and the value one for Inward FDI Performance Index (lower than the average index) as lines of demarcation in order to establish a classification, we obtain a typology of four groups of countries. Table 7 shows the relationship between the Inward FDI Performance Index and the IIFPOI and table 8 shows the relationship between the Inward FDI Performance Index and the IFPOIUN49.

The leading group, the most numerous, is made up of 18 economies and comprise mainly European countries but also Chile, Hong Kong (China), New Zealand and Singapore. This group is very similar to that

[21] Nevertheless, the result that business facilitation, resource-seeking and assets-seeking sub-indices are not significant may lead to reconsider the way we have constructed the improved FDI index, for instance, by giving different weights to the sub-indices.

of UNCTAD. Exceptions are Chile, the Czech Republic and Hungary, which in the UNCTAD model belong to the group of countries with an Inward FDI Performance Index "above its potential". In our model, the potential of these countries is higher than those of UNCTAD's index, with an Inward FDI Performance Index that corresponds, *grosso modo*, with its potential for two reason. First, these economies have a institutional framework conducive to FDI. Second, they have a relative advantage for the attraction of efficiency- and resources-seeking investment, e.g. low labour costs, a high level of education and good transport and telecommunications infrastructure (see table A.3 in the Appendix).

Table 7. Typology of countries according to the Improved Inward FDI Potential Index and the Inward FDI Performance Index

	High FDI performance	Low FDI performance
	Front-runners	**Below-potential**
High FDI Potential	Benelux, Canada, Chile, Czech Republic, Denmark, Finland, France, Germany, Hong Kong-China, Hungary, Ireland Netherlands, New Zealand, Singapore, Spain, Sweden, Switzerland, United Kingdom	Australia, Austria, Iceland, Malaysia, Norway, Taiwan, USA
	Above-potential	**Under-performers**
Low FDI Potential	Argentina, Brazil, China, Israel, Jordan, Poland, Portugal, Slovakia, Thailand,	Colombia, Greece, India, Indonesia, Italy, Japan, México, Philippines, Republic of Korea, Romania, Russian Federation, Slovenia, South Africa, Turkey, Venezuela

Source: Authors.

Table 8. Typology of countries according to the United Nations FDI Potential Index and the Inward FDI Performance Index

	High FDI performance	Low FDI performance
	Front-runners	**Below-potential**
High FDI Potential	Benelux, Canada, Denmark, Finland, France, Germany, Hong Kong-China, Ireland, Israel, Netherlands, New Zealand, Singapore, Spain, Sweden, Switzerland, United Kingdom,	Australia, Austria, Iceland, Italy, Japan, Norway, Republic of Korea, Taiwan, USA,
	Above-potential	**Under-performers**
Low FDI Potential	Argentina, Brazil, Chile, China, Czech Republic, Hungary, Jordan, Poland, Portugal, Slovakia, Thailand	Colombia, Greece, India, Indonesia, Malaysia, México, Philippines, Romania, Russian Federation, Slovenia, South Africa, Turkey, Venezuela

Source: Authors.

In the tail group, the difference between the indices is much greater. This group includes, according to IIFPOI, developed countries like Greece, Italy, Japan and some emerging economies like India, Mexico and the Republic of Korea. Italy, Japan and the Republic of Korea are three cases that deserve more attention because of their level of development and because, in the UNCTAD model, they are included in the quadrant "below their potential". The potentials of the Republic of Korea and Japan are above the average only in the determinants related to created assets-seeking FDI, while Italy only stands out in the determinants of efficiency-seeking FDI. In the rest of factors, the indices are fairly poor, e.g. those related to policy framework determinants. Some conclusions can be reached from this analysis. First, institutional characters that inhibit the entry of foreign capital should be eliminated; second, the labour costs should be more adjusted to productivity levels; and third, a higher price competitiveness of infrastructures is required.

Regarding other countries in this tail group, like India, Turkey and Venezuela (at least for the period analysed), their situation is clearly below the average in all indicators except in those related to resource- and efficiency-seeking investment and, thus their situation is not surprising.

Other countries belong to the atypical group (those whose Improved Inward FDI Performance Index does not correspond to its potential, such as Australia, Austria, Norway and the United States) which receive too low FDI flows in relation to the size of their markets and other factors. With regard to these countries, there appear to be factors that inhibit FDI inflows that are not included in the Inward FDI Potential Index.

The group of countries receiving a volume of FDI over and above their potential as implied by IIFPOI is also quite heterogeneous and includes countries like Argentina, Brazil, China, Poland and Portugal. China, for instance, receives FDI inflows in line with the size of its market, but has an attraction potential lower than the average.

5. Conclusions

We have constructed a new potential index that incorporates 70 variables, all of which belong to a long list of political, institutional and economic factors that the theoretical and empirical literature identifies as location determinants of FDI. The new Improved Inward FDI Potential Index that we have drawn up is, thus, more complete and, provides a better adjustment to the Inward FDI Performance Index than that of

UNCTAD although the number of countries analysed is smaller because of the limited availability of data.

The enhanced properties of our index enables the formulation of policy recommendations with a greater degree of confidence. Moreover, due to the possibility of splitting the overall index in several sub-indices according to the type of FDI, it is possible to better target policy responses to improve countries' attractiveness to FDI. We believe that this is one of the main contributions of our analysis. The UNCTAD's inward FDI potential index is an index that measures a country's attractiveness for FDI inflows in general, but it has the problem that it does not take into account the existence of different kinds of inward FDI. Our index thus allows making a more precise analysis of the strengths and weaknesses of an economy, and, consequently is a more useful policy tool. However, since the adjustment made in IIFPOI is still limited, policy recommendations based on this benchmarking, should be interpreted with caution.

Table A.1 Scores of the factors and variables included in the Improved FDI Potential Index

	2 a 6	7 to 14, 16	15,52, 18 to 22	17	23	24	25	26 to 33	73	34	35	74	36	37	38
Argentina	0,128	0,432	0,222	0,135	0,237	0,075	0,010	0,058	0,089	0,460	0,197	0,060	0,053	0,002	0,083
Australia	0,887	0,618	0,827	0,270	0,407	0,540	0,080	0,769	1,000	0,556	0,541	0,096	0,383	0,063	0,434
Austria	0,829	0,883	0,885	0,429	0,271	0,732	0,277	0,596	0,991	0,405	0,664	0,025	0,880	0,240	0,039
BENELUX	0,798	0,844	0,860	0,871	0,228	0,781	0,162	0,460	0,931	0,429	0,651	0,165	0,832	0,473	0,223
Brazil	0,454	0,414	0,281	0,184	0,576	0,653	0,229	0,307	0,272	0,460	0,076	0,166	0,306	0,007	0,112
Canada	0,864	0,559	0,793	0,571	0,133	0,663	0,052	0,744	0,964	0,508	0,611	0,168	0,658	0,208	0,778
Chile	0,762	0,879	0,749	0,031	0,237	0,702	0,020	0,598	0,585	0,698	0,115	0,039	0,883	0,137	0,137
China	0,660	0,000	0,455	0,429	0,305	0,589	0,156	0,398	0,264	1,000	0,011	0,301	0,504	0,086	0,205
Colombia	0,326	0,487	0,374	0,000	0,237	0,494 -		0,265	0,261	0,429	0,042	0,011	0,472	0,054	0,088
Czech Republic	0,618	0,810	0,582	0,399	0,373	0,956	1,000	0,305	0,588	0,381	0,134	0,018	0,673	0,351	0,021
Denmark	0,850	0,884	0,927	0,681	0,407	0,584	0,242	0,787	0,894	0,437	0,856	0,049	0,815	0,195	0,054
Finland	0,918	1,000	1,000	0,497	0,441	0,633	0,299	1,000	0,911	0,524	0,652	0,019	1,000	0,184	0,043
France	0,773	0,654	0,805	0,798	0,223	0,563	0,172	0,427	0,812	0,389	0,622	0,227	0,821	0,106	0,238
Germany	0,789	0,861	0,893	0,644	0,014	0,321	0,278	0,481	0,870	0,349	0,646	0,339	0,831	0,138	0,382
Greece	0,672	0,780	0,721	0,227	0,237	0,390	0,218	0,266	0,547	0,429	0,298	0,011	0,692	0,076	0,033
Hong Kong, China	0,854	0,914	0,874	0,018	0,881	0,761	0,000	0,910	0,555	0,516	0,647	0,366	0,636	0,799	0,004
Hungary	0,659	0,789	0,620	0,350	0,746	0,642	0,308	0,473	0,389	0,452	0,124	0,017	0,606	0,294	0,013
Iceland	0,793	0,590	0,754	0,117	0,542	0,604	0,218	0,969	0,965	0,500	0,806	0,000	0,589	0,162	0,001
India	0,520	0,167	0,000	0,485	0,214	0,530	0,207	0,175	0,296	0,714	0,000	0,016	0,122	0,016	0,029
Indonesia	0,196	0,225	0,304	0,294	0,407	0,142	0,659	0,102	0,101	0,484	0,006	0,052	0,161	0,179	0,300
Ireland	0,908	0,939	0,836	0,301	1,000	1,000	0,173	0,641	0,730	0,889	0,700	0,094	0,798	0,521	0,009
Israel	0,399	0,721	0,739	0,209	0,203	0,612	0,098	0,507	0,512	0,587	0,488	0,020	0,344	0,167	0,004
Italy	0,707	0,641	0,711	0,558	0,203	0,322	0,165	0,341	0,664	0,365	0,526	0,094	0,508	0,105	0,130
Japan	0,749	0,427	0,637	0,393	0,000	0,277	0,101	0,464	0,578	0,325	0,965	0,039	0,358	0,000	0,128
Jordan	0,522	0,675	0,179	0,049	0,576	0,610	0,030	0,381	0,385	0,587	0,035	0,001	0,532	0,200	0,000
Korea, Republic of	0,651	0,175	0,552	0,331	0,508	0,342	0,012	0,352	0,403	0,659	0,243	0,030	0,282	0,203	0,174
Malaysia	0,686	0,352	0,510	0,307	0,475	0,823	0,196	0,609	0,754	0,714	0,095	0,044	0,668	0,680	0,157
Mexico	0,569	0,489	0,380	0,178	0,271	0,416	0,032	0,174	0,243	0,476	0,144	0,090	0,663	0,119	0,267
Netherlands	0,826	0,859	0,867	0,736	0,254	0,660	0,173	0,653	0,857	0,468	0,661	0,207	0,719	0,332	0,328
New Zealand	0,818	0,768	0,887	0,184	0,305	0,239	0,021	0,770	0,913	0,484	0,372	0,022	0,458	0,150	0,011
Norway	0,931	0,697	0,736	0,669	0,475	0,298	0,324	0,664	0,924	0,500	1,000	0,026	0,230	0,211	0,656
Philippines	0,477	0,286	0,331	0,245	0,339	0,529	0,037	0,123	0,270	0,508	0,015	0,008	0,400	0,256	0,011
Poland	0,542	0,127	0,395	0,417	0,475	0,349	0,185	0,181	0,112	0,627	0,105	0,029	0,260	0,111	0,052
Portugal	0,750	0,718	0,745	0,282	0,305	0,607	0,172	0,385	0,498	0,460	0,295	0,024	0,776	0,125	0,011
Romania	0,457	0,409	0,233	0,417	0,576	0,164	0,157	0,101	0,097	0,246	0,033	0,005	0,235	0,131	0,017
Russian Federation	0,454	0,003	0,070	0,337	0,610	0,180	0,029	0,081	0,010	0,000	0,035	0,015	0,063	0,196	1,000
Singapore	1,000	0,703	0,934	0,288	0,593	0,944	0,000	0,971	0,804	0,802	0,593	0,095	0,674	1,000	0,216
Slovakia	0,548	0,690	0,602	0,258	0,576	0,745	0,269	0,240	0,368	0,492	0,090	0,004	0,550	0,364	0,015
Slovenia	0,663	0,292	0,612	0,080	0,576	0,115	0,199	0,424	0,498	0,524	0,253	0,002	0,424	0,288	0,002
South Africa	0,563	0,303	0,617	0,307	0,407	0,327	0,077	0,411	0,411	0,421	0,067	0,041	0,343	0,111	0,074
Spain	0,800	0,663	0,752	0,301	0,237	0,607	0,109	0,563	0,839	0,460	0,393	0,122	0,724	0,115	0,104
Sweden	0,810	0,833	0,880	0,742	0,475	0,511	0,216	0,706	0,809	0,421	0,723	0,074	0,720	0,214	0,068
Switzerland	0,968	0,751	0,861	0,718	0,593	0,566	0,142	0,774	0,955	0,317	0,950	0,072	0,464	0,199	0,068
Taiwan Province of China	0,681	0,388	0,640	0,074	0,576	0,426	0,091	0,594	0,472	0,690	0,353	0,023	0,371	0,251	0,052
Thailand	0,679	0,341	0,430	0,301	0,407	0,741	0,065	0,402	0,502	0,484	0,040	0,022	0,535	0,330	0,038
Turkey	0,000	0,596	0,404	0,245	0,407	0,450	0,054	0,181	0,280	0,484	0,061	0,015	0,465	0,102	0,015
United Kingdom	0,823	0,754	0,854	0,926	0,407	0,614	0,070	0,737	0,670	0,460	0,661	0,393	0,574	0,103	0,479
United States	0,863	0,696	0,804	1,000	0,237	0,768	0,212	0,746	0,819	0,516	0,940	1,000	0,631	0,002	0,455
Venezuela (Bolivarian Republic of)	0,137	0,285	0,267	0,117	0,271	0,000	0,000	0,000	0,000	0,317	0,121	0,023	0,000	0,085	0,402

	39	40 to 43 - 41	50,44, 45	49,54, 51,46, 53	57,58, 59,64, 65	55,56	6234	61,67, 68,69	70,71	60, 72, 66	IMPOT
Argentina	0,946	0,264	0,395	0,283	0,139	0,209	0,814	0,689	0,056	0,570	0,264
Australia	0,476	0,510	0,875	0,333	0,823	0,017	0,556	0,730	0,125	0,903	0,513
Austria	0,219	0,413	0,861	0,232	0,688	0,583	0,455	0,742	0,191	0,721	0,530
BENELUX	0,227	0,281	0,703	0,552	0,577	0,872	0,577	0,711	0,220	0,923	0,574
Brazil	0,919	0,425	0,440	0,153	0,283	0,141	0,259	0,685	0,101	0,621	0,341
Canada	0,412	0,712	0,799	0,367	0,835	0,000	0,499	0,832	0,325	0,955	0,560
Chile	0,934	0,456	0,737	0,136	0,657	0,013	0,750	0,781	0,072	0,681	0,472
China	0,991	0,570	0,099	0,143	0,297	0,119	0,383	0,676	0,379	0,103	0,365
Colombia	0,928	0,460	0,434	0,081	0,214	0,137	0,047	0,751	0,073	0,445	0,284
Czech Republic	0,902	0,670	0,747	0,201	0,412	0,706	0,756	0,716	0,112	0,734	0,527
Denmark	0,110	0,672	0,715	0,371	0,916	0,355	0,493	0,623	0,082	0,856	0,554
Finland	0,197	0,372	0,923	0,537	1,000	0,061	0,450	0,740	0,147	0,860	0,576
France	0,364	0,229	0,654	0,375	0,739	0,401	0,709	0,641	0,332	0,876	0,518
Germany	0,077	0,000	0,643	0,410	0,787	0,560	0,270	0,756	0,369	0,844	0,502
Greece	0,742	0,311	0,311	0,314	0,551	0,272	0,811	0,750	0,127	0,685	0,419
Hong Kong, China	0,811	1,000	0,827	0,054	0,825	0,737	1,000	0,161	0,197	0,703	0,602
Hungary	0,931	0,702	0,623	0,222	0,272	0,477	0,959	0,685	0,099	0,636	0,484
Iceland	0,468	0,751	0,944	0,276	0,866	0,186	0,684	0,867	0,205	1,000	0,554
India	0,997	0,203	0,748	0,000	0,000	0,329	0,235	0,659	0,061	0,504	0,289
Indonesia	1,000	0,286	0,000	0,118	0,100	0,166	0,691	0,647	0,235	0,000	0,274
Ireland	0,470	0,417	0,840	0,260	0,376	0,412	0,808	0,559	0,109	0,751	0,582
Israel	0,546	0,602	0,844	0,458	0,658	0,284	0,595	0,556	0,000	0,862	0,441
Italy	0,450	0,222	0,229	0,324	0,209	0,613	0,694	0,573	0,159	0,637	0,406
Japan	0,274	0,501	0,210	1,000	0,506	0,657	0,566	0,000	0,172	0,727	0,402
Jordan	0,960	0,581	0,432	0,232	0,357	0,309	0,781	0,633	0,125	0,450	0,385
Korea, Republic of	0,689	0,418	0,353	0,719	0,428	0,355	0,251	0,502	0,240	0,573	0,378
Malaysia	0,905	0,655	0,773	0,096	0,712	0,008	0,487	0,735	0,163	0,698	0,492
Mexico	0,925	0,368	0,348	0,139	0,170	0,210	0,873	0,674	0,283	0,202	0,348
Netherlands	0,223	0,283	0,647	0,366	0,681	0,761	0,454	0,655	0,218	0,925	0,553
New Zealand	0,683	0,574	0,480	0,361	0,695	0,208	0,607	0,868	0,140	0,808	0,473
Norway	0,000	0,344	0,707	0,373	0,872	0,109	0,601	0,704	0,154	0,856	0,522
Philippines	0,981	0,394	0,776	0,044	0,052	0,239	0,339	0,609	0,046	0,691	0,320
Poland	0,915	0,377	0,347	0,296	0,125	0,526	0,829	0,679	0,219	0,237	0,341
Portugal	0,825	0,294	0,156	0,408	0,539	0,307	0,835	0,712	0,070	0,664	0,439
Romania	0,993	0,535	0,277	0,126	0,179	0,404	0,991	0,727	0,103	0,459	0,323
Russian Federation	0,988	0,653	0,378	0,315	0,073	0,199	0,996	0,646	0,218	0,385	0,317
Singapore	0,711	0,923	1,000	0,222	0,739	1,000	0,827	0,435	0,212	0,871	0,662
Slovakia	0,938	0,495	0,509	0,180	0,198	0,506	0,811	0,857	0,087	0,643	0,441
Slovenia	0,814	0,290	0,177	0,424	0,346	0,474	0,684	0,826	0,086	0,645	0,389
South Africa	0,809	0,205	0,172	0,213	0,443	0,145	0,000	1,000	0,180	0,564	0,328
Spain	0,568	0,277	0,479	0,352	0,546	0,340	0,657	0,769	0,272	0,627	0,467
Sweden	0,254	0,210	0,678	0,619	0,873	0,178	0,456	0,745	0,168	0,913	0,532
Switzerland	0,092	0,778	0,901	0,339	0,762	0,522	0,406	0,496	0,069	0,938	0,548
Taiwan Province of China	0,775	0,743	0,567	0,639	0,679	0,316	0,715	0,558	0,189	0,638	0,460
Thailand	0,978	0,678	0,472	0,147	0,401	0,084	0,630	0,775	0,156	0,476	0,405
Turkey	0,879	0,591	0,560	0,056	0,429	0,175	0,267	0,522	0,044	0,578	0,314
United Kingdom	0,360	0,714	0,539	0,397	0,472	0,563	0,564	0,473	0,507	0,628	0,550
United States	0,223	0,858	0,765	0,838	0,847	0,146	0,644	0,719	1,000	0,818	0,662
Venezuela (Bolivarian Republic of)	0,916	0,313	0,245	0,215	0,136	0,173	0,844	0,649	0,168	0,545	0,249

Source: Authors.

Table A.2 Ranking for 49 countries according to their scores in the Improved Potential Index

	IIFPOI (1999-2001)	IFPEI (1999-2001)	IFPOIUN 140 countries (1999-2001)	IFPOIUN 49 countries (1999-2001)
Singapore	0,662	3,978	0,49	0,517
United States	0,662	0,719	0,689	0,704
Hong Kong, China	0,602	6,387	0,424	0,446
Ireland	0,582	5,861	0,436	0,459
Finland	0,576	1,246	0,445	0,482
BENELUX	0,574	10,955	0,454	0,489
Canada	0,56	1,642	0,481	0,51
Denmark	0,554	3,485	0,411	0,441
Iceland	0,554	0,417	0,41	0,471
Netherlands	0,553	3,74	0,454	0,48
United Kingdom	0,55	1,806	0,489	0,51
Switzerland	0,548	1,511	0,416	0,443
Sweden	0,532	3,857	0,455	0,492
Austria	0,53	0,855	0,377	0,396
Czech Republic	0,527	2,929	0,271	0,276
Norway	0,522	0,918	0,489	0,531
France	0,518	1,01	0,422	0,437
Australia	0,513	0,495	0,392	0,415
Germany	0,502	1,419	0,457	0,472
Malaysia	0,492	0,904	0,295	0,277
Hungary	0,484	1,168	0,257	0,255
New Zealand	0,473	1,279	0,318	0,336
Chile	0,472	2,273	0,245	0,232
Spain	0,467	1,314	0,354	0,363
Taiwan Province of China	0,46	0,385	0,405	0,44
Israel	0,441	1,001	0,376	0,392
Slovakia	0,441	1,836	0,238	0,231
Portugal	0,439	1,184	0,29	0,305
Greece	0,419	0,258	0,285	0,301
Italy	0,406	0,297	0,35	0,367
Thailand	0,405	1,04	0,214	0,181
Japan	0,402	0,058	0,428	0,442
Slovenia	0,389	0,36	0,315	0,327
Jordan	0,385	1,163	0,19	0,159
Korea, Republic of	0,378	0,483	0,408	0,427
China	0,365	1,107	0,259	0,23
México	0,348	0,9	0,233	0,204
Brazil	0,341	1,443	0,183	0,154
Poland	0,341	1,256	0,255	0,243
South Africa	0,328	0,696	0,183	0,16
Romania	0,323	0,81	0,149	0,12
Philippines	0,32	0,514	0,195	0,157
Russian Federation	0,317	0,314	0,288	0,264
Turkey	0,314	0,268	0,159	0,138
India	0,289	0,159	0,16	0,119
Colombia	0,284	0,7	0,147	0,113
Indonesia	0,274	-0,68	0,148	0,105
Argentina	0,264	1,311	0,22	0,198
Venezuela (Bolivarian Republic of)	0,249	0,902	0,208	0,185

Source: Authors' calculations.
IIFPOI: Improved Inward FDI Potential Index
IFPEI: Inward FDI Performance Index
IFPOIUN140: Inward FDI Potential Index elaborated by United Nations for 140 countries
IFPOIUN49: Inward FDI Potential Index of the United Nations re-elaborated for the 49 countries in our sample

Table A.3 Ranking of countries for groups of location determinants of FDI

Rank	Country Ranking	Policy framework for FDI	Country Ranking	Business Facilitation	Country Ranking	Market Seeking	Country Ranking	Resource Seeking	Country Ranking	Assets Seeking	Country Ranking	Efficiency seeking
1	Ireland	0,797	Czech Republic	0,712	Singapore	0,633	Russian Federation	0,88	United States	0,7	United States	0,795
2	Switzerland	0,778	Finland	0,711	United States	0,618	Canada	0,634	Singapore	0,697	Iceland	0,689
3	Finland	0,771	Iceland	0,689	Ireland	0,6	Singapore	0,617	Finland	0,664	Canada	0,653
4	United Kingdom	0,753	Singapore	0,68	Hong Kong, China	0,593	Hong Kong, China	0,605	BENELUX	0,66	France	0,64
5	Denmark	0,75	Austria	0,649	BENELUX	0,51	China	0,589	Switzerland	0,627	BENELUX	0,608
6	Sweden	0,748	United States	0,636	Netherlands	0,477	Malaysia	0,573	Sweden	0,607	New Zealand	0,606
7	BENELUX	0,72	Ireland	0,636	Finland	0,476	Thailand	0,565	Japan	0,597	Slovakia	0,599
8	United States	0,72	Denmark	0,627	Denmark	0,47	Hungary	0,549	Israel	0,591	Hungary	0,595
9	Netherlands	0,708	Switzerland	0,609	Germany	0,461	Venezuela	0,544	Iceland	0,582	Greece	0,593
10	Hong Kong, China	0,708	Canada	0,606	Austria	0,443	Czech Republic	0,531	Netherlands	0,578	Singapore	0,586
11	Singapore	0,704	Australia	0,597	Malaysia	0,44	Indonesia	0,529	Austria	0,576	Spain	0,581
12	Norway	0,702	Malaysia	0,595	United Kingdom	0,438	Taiwan	0,524	Germany	0,575	Czech Republic	0,58
13	Austria	0,66	Netherlands	0,586	France	0,433	Mexico	0,52	Denmark	0,574	Norway	0,579
14	France	0,651	BENELUX	0,583	Canada	0,431	United Kingdom	0,518	Taiwan	0,568	Australia	0,578
15	Germany	0,64	Sweden	0,561	Sweden	0,43	Romania	0,515	Hong Kong, China	0,554	Chile	0,571
16	Hungary	0,633	Hong Kong, China	0,556	Iceland	0,411	Jordan	0,514	Australia	0,543	Sweden	0,57
17	Australia	0,602	Norway	0,552	Switzerland	0,401	United States	0,512	France	0,533	Portugal	0,57
18	New Zealand	0,593	Spain	0,53	Norway	0,393	Chile	0,509	Canada	0,528	Romania	0,57
19	Canada	0,584	United Kingdom	0,523	China	0,38	Turkey	0,495	Norway	0,524	Netherlands	0,563
20	Italy	0,564	France	0,493	Chile	0,375	Colombia	0,492	Czech Republic	0,502	Russian Federation	0,561
21	Portugal	0,56	Germany	0,488	Spain	0,363	Brazil	0,485	Ireland	0,498	Slovenia	0,56
22	Iceland	0,559	New Zealand	0,486	Taiwan	0,338	Slovakia	0,483	Korea, Republic of	0,488	Germany	0,56
23	Czech Republic	0,556	Chile	0,476	Japan	0,337	Australia	0,473	United Kingdom	0,485	Ireland	0,557
24	Spain	0,551	Hungary	0,453	Portugal	0,336	Philippines	0,462	New Zealand	0,431	Venezuela	0,551
25	Slovakia	0,535	Israel	0,433	Australia	0,328	Poland	0,448	Spain	0,425	Finland	0,549
26	Chile	0,532	Thailand	0,428	Israel	0,321	Argentina	0,431	Malaysia	0,41	United Kingdom	0,543
27	Greece	0,527	Portugal	0,416	Italy	0,32	Korea, Republic of	0,427	Hungary	0,407	Argentina	0,532
28	Taiwan Province of China	0,472	Slovakia	0,405	Czech Republic	0,311	New Zealand	0,423	Chile	0,403	Austria	0,527
29	Malaysia	0,466	Taiwan	0,396	Greece	0,301	India	0,41	Slovakia	0,347	Taiwan	0,525
30	Israel	0,454	Italy	0,373	Slovakia	0,3	Iceland	0,407	Greece	0,346	Malaysia	0,521
31	Slovenia	0,444	Brazil	0,365	Hungary	0,299	Israel	0,384	Slovenia	0,337	Italy	0,516
32	Korea, Republic of	0,443	Japan	0,355	Mexico	0,299	Portugal	0,377	Jordan	0,332	Hong Kong, China	0,515
33	Japan	0,441	Greece	0,355	Slovenia	0,298	Slovenia	0,369	Portugal	0,329	Denmark	0,513

Table A.3 Ranking of countries for groups of location determinants of FDI

Rank	Country Ranking	Policy framework for FDI	Country Ranking	Business Facilitation	Country Ranking	Market Seeking	Country Ranking	Resource Seeking	Country Ranking	Assets Seeking	Country Ranking	Efficiency seeking
34	South Africa	0,439	China	0,352	New Zealand	0,297	South Africa	0,363	Poland	0,323	Thailand	0,509
35	Thailand	0,432	Jordan	0,352	Korea, Republic of	0,283	Greece	0,362	Philippines	0,322	Mexico	0,508
36	Romania	0,419	Colombia	0,34	Thailand	0,282	Norway	0,333	Italy	0,321	Israel	0,503
37	Jordan	0,4	Slovenia	0,309	Jordan	0,271	Spain	0,316	Turkey	0,306	Jordan	0,497
38	Poland	0,391	South Africa	0,306	Philippines	0,237	Switzerland	0,313	India	0,304	Poland	0,491
39	Brazil	0,382	India	0,302	Poland	0,226	Japan	0,301	Thailand	0,287	Switzerland	0,477
40	Mexico	0,378	Korea, Republic of	0,277	Turkey	0,225	Ireland	0,298	Argentina	0,284	South Africa	0,436
41	China	0,37	Indonesia	0,251	Brazil	0,203	Denmark	0,279	Russian Federation	0,277	Philippines	0,421
42	Philippines	0,336	Turkey	0,241	Colombia	0,202	Netherlands	0,278	Brazil	0,268	Brazil	0,416
43	Turkey	0,33	Philippines	0,24	South Africa	0,196	France	0,277	Romania	0,231	Indonesia	0,393
44	Russian Federation	0,295	México	0,216	Indonesia	0,176	Italy	0,267	Colombia	0,23	Korea, Republic of	0,392
45	Indonesia	0,285	Poland	0,207	India	0,174	BENELUX	0,244	South Africa	0,227	China	0,385
46	Colombia	0,285	Romania	0,13	Argentina	0,154	Austria	0,224	Mexico	0,226	Japan	0,366
47	India	0,277	Russian Federation	0,075	Romania	0,13	Finland	0,204	Venezuela	0,205	India	0,365
48	Argentina	0,231	Argentina	0,058	Venezuela	0,109	Sweden	0,178	China	0,15	Turkey	0,353
49	Venezuela (Bolivarian Republic of)	0,215	Venezuela	0	Russian Federation	0,062	Germany	0,153	Indonesia	0,084	Colombia	0,329

Source: Authors.

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