

The new determinant creation theory: a way to attract new foreign direct investment flows

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Abstract

According to the literature related to the movement of foreign direct investment (FDI) worldwide, there are two main causes for these flows. The first one is related to the decision taken by companies to invest in certain markets according to their own international strategy and, the second corresponds to the government's policy designed to attract capital through the use of various factors such as infrastructure, skilled labour, cheap labour, industrial policy, natural resources, gross domestic product, the legal system, geographic location, cancellation fees, among others. Thus, governments attract capitals to certain types of industries using the attractiveness of their determinants.

Considering the above approach, if a government wants to attract capital to an industrial sector different than to which traditionally it tries to attract, should it create new determinants to attract new investment flows? This paper proposes a new theory to attract new investment flows based on the creation of new determinants. To develop this new determinant creation theory, the case of Mexico is analyzed.

1. Introduction

In recent years, FDI has grown faster than trade flows and global production for various reasons such as political and economic changes in many developing countries, which are characterized by the change to democratic political systems as well as changes toward economic and legal systems oriented in the direction of trade liberalization in which Mexico played an important role since 1986 when signed as a GATT member. Many developing countries have made economic and structural arrangements in order to obtain some benefits and attract FDI. Because of such liberalization and changes, the FDI increased in developing countries in the 1990's (Erdal and Tatoglu, 2002).

Since 1993, the FDI became an important source of private capitals outflows and inflows for Mexico as well as for many countries around the world. From that year, Mexico's public policy oriented to FDI flows uptake changed since a new foreign investment law was created. The new law expressed the need to encourage domestic and foreign productive investment within the country. Later on, in 2007 the PROMEXICO federal office was open for the purpose of attracting investment flows through different strategies like working together with the 32 states to make them attractive to foreign capitals.

The attractiveness of a state or a city depends on the number and kind of determinants they possess. Based on the state development plans for the 32 Mexico's states, the most relevant determinants used to obtain FDI are infrastructure, skilled labour, low labour cost, security, tax-break, natural resources, gross domestic product, legal system, geographical location and industrial policy. Related to industrial policy, Deichmann *et al.* (2003) found that some factors determining the spatial decisions of multinational firms in a Middle East country depend on policy implications. Considering the above, the government agenda should focus on making the country more attractive for FDI, especially in times of crisis when traditional determinants are

put to the test and inspire proposals for new opportunities. Popovici (2012) notes that the idea of entering a new era of determinants of FDI is not new as there are several studies that highlight the key factors for attracting FDI. This emphasizes that the classical theories of FDI probably should be changed and others should be based on the emergence of new local capacities.

This research is divided as follows. In second part, a literature review is offered. Several papers were analyzed to describe the key factors for attracting FDI based on classical theories in order to compare them with the determinants used by Mexican government during 2000 to 2012. Section three includes the data and variables used to demonstrate the model proposed in section five. Descriptive statistics are presented in section four and finally, conclusions are discussed in section six.

2. Literature review

Most of the literature related to the attraction of FDI by countries is based on different theories such as localization economies and their determinants or related to trade and resource endowments. In that sense, the eclectic paradigm of Dunning (1988) argues that the path FDI takes is partly due to the specific advantages which one country has, based upon its regional geographic location and / or location in the world. These advantages arise from using resource endowments and / or assets held abroad by some countries in the world which are attractive to a company by combining them with its own resources.

That combination suggests that if a foreign company wants to use the resources of a country, it should establish a subsidiary by initiating a flow of FDI and then establish a start-up of an operating facility (Hill, 2008).

Likewise, the theory of international production suggests that the decision of a company to start manufacturing operations in other countries depends on certain attractions that the country of origin of the company has compared to the resources and benefits that it will obtain in locating a manufacturing subsidiary abroad (Morgan and Katsikeas, 1997). The theory of trade and resource endowment explains that FDI is directed toward countries with low wages and abundant natural resources that provide inherent differences of opportunity and initial favorable conditions for businesses.

There is a consensus as to the characteristics required for a host country to attract FDI which is that it depends on the motivations that foreign investors have in relation to their investment projects. According to Dunning (1983), the first reason is related to the market, whose main purpose is to serve local and regional markets from the FDI host country if the market grows and generate some return for the investor, the second relates to the investment made by a company in acquiring resources that are not available in the country of origin such as natural resources and low-cost inputs including labor. The latter corresponds to the level of efficiency achieved through the dispersion of value chain activities considering that the geographical proximity to the country of origin will minimize transportation costs. All this suggests that the direction, in which FDI is aimed, is highly related to the comparative advantages (Kinoshita, 2003) of a given country. Then, one country that has, among other determinants, access to markets as well as cheap labour and abundant natural resources will attract large inflows of FDI.

Berkoz (2009) argues that countries have traditional factors and environmental variables that are attractive to foreign companies. The traditional factors are market potential, labour costs, economic growth and government policies. The environmental variables correspond to political, economic, legal and infrastructural factors.

Kinoshita (2003) in turn, maintains that the most important determinants a country has to attract FDI are government institutions, natural resources and economies of agglomeration. Government institutions are one factor contributing to decisions by investors as to whether to invest or not in a particular country because these institutions directly affect the operating conditions of enterprises. The investment cost for companies is not only economic, but they also have to fight against entrenched practices in countries such as bribery and time lost in engaging in diverse and various negotiations resulting from the arrival of the company to a new market. Therefore, for the operating conditions of a company to appear reliable to the investor, there are two institutional variables to be considered: The legal system and the quality of the bureaucracy. As for the legal system, both its impartiality as well as popular perception of it are reliable determinants of the reliability of legal institutions in the country. Likewise, the variable related to the quality of the bureaucracy describes a non-political and professional bureaucracy which in turn facilitates the procedures for staff to be hired. With respect to agglomeration economies, investors seek those markets where there are benefits derived from the concentration of economic units which results in positive externalities (benefits and technological spill, use of skilled labour and concentrated in specific locations and links forward and backward with related industries) but also by investments made by other investors which can be seen as a positive sign of favorable investment conditions reducing uncertainty. As for the natural resources, Rasiah (2000) argues that developing economies with a resource-rich endowment obtains FDI.

Other studies describing the FDI determinants indicate that the infrastructure, good governance, taxes (Rasiah, 2000) and the labor market are conditions that governments must maintain (Bellak, et. al., 2010) but Lim (1983) found a negative relationship between investment incentives and FDI in 27 developing countries.

Groh and Wich (2009) describe the attractions to attract FDI in a country as labour costs, quality and the provision of quality infrastructure and legal systems. On the other hand, some authors consider that the provision of infrastructure should be a precondition for companies to establish subsidiaries in foreign markets as are a major emphasis on the provision of transport infrastructure as well as information and communication technologies (Botric and Skuflic, 2006, Goodspeed, et. al., 2009).

Studies by Wei *et al.* (1999), Mariotti and Piscitello (1995), Broadman and Sun (1997) and He (2002) conclude that there is a positive relationship between infrastructure and FDI because the better the infrastructure is in a location the higher its desirability. Rasiah (2000), states out that FDI in developing countries is concentrated in economies endowed with good infrastructure. In recent research conducted by Botello and Davila (2013), they concluded that public policy used in some states of Mexico to attract FDI, is based on the attractiveness of some determinants such as skilled labour, cheap labour and infrastructure.

As opposed to what Botello and Davila (2013) concluded, Ondrich and Wasylenko (1993) and Rasiah (2000) found that there is no evidence that wages affect the location of new foreign plants, especially cheap labour but that it's not the case for skilled labour. Flexible production forms have given rise to greater dispersal of organizational power as well as process innovation; local accumulation at peripheral sites has stimulated economic progress, albeit only in locations generating the requisite skills (Rasiah, 2000), suggesting that specialized FDI requires skilled labor. In the same way, Mendoza (2011) found that manufacturing companies established with foreign economic resources in Mexico demands skilled labor.

According to the research studies mentioned above, there are similarities in the description of the traditional determinants, which explain the attractiveness of a country with respect to foreign capital which suggests that the design of public policy in some countries and Mexico in particular, in relation to attracting financial resources from abroad, is very similar. In the case of Mexico, the statistics of attracting FDI for the period covering 2000 to 2012 show that relationship. In fact, the 32 Mexico's states development plans for 2000 to 2012 showed that the most common used determinants for attracting FDI are infrastructure, skilled labour, cheap labour, industrial policy, natural resources, gross domestic product, the legal system, geographic location, tax break and security. Berkosz (2009) found almost the same determinants for the case of Turkey and suggests that a location analysis needs to be done in order to develop specific growth strategies to be applied by policy-makers in their plans to attract FDI to certain locations.

Figueroa (2012) assumes that tax facilities, proximity to markets, and cheap labour are insufficient factors to guarantee the cycle of capital, since what stands out is the outgoing transfer of the innovation activity itself, which suggests that the attraction of new FDI flows requires the creation of new determinants or the renewal of the most used. The advance of global knowledge has become itself as an attractive determinant to catch the attention of investors. In recent years, many countries around the world are worried about how they are going to attract capitals. Should they create new determinants or renewal the ones that are always used? As for the case of Mexico, an FDI behavior from 2000 to 2012 is described in section 5.

3. Objectives, Variables, Hypotheses and Data

3.1. Objectives

The objective of this research is to demonstrate that the improvement of the determinants used by the 32 states of Mexico from 2000 to 2012 to attract foreign direct investment (FDI) contributed to increase inflows.

3.2 Variables

The dependent variable that we use in this research is:

3.2.1. fdi (amount of foreign direct investment). Foreign Direct Investment (FDI) has been selected as a dependent variable relative to the amount of Mexico's foreign direct investment inflows from 2000 to 2012.

The independent variables in their different modalities that will be considered for the theoretical models are:

3.2.2 ifra (infrastructure). This variable explains if infrastructure was used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.

3.2.3 qualab (qualified labor). This variable explains if skilled labor was used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.

3.2.4 wage (minimum wage). This variable explains if low cost labour was used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.

3.2.5 sec (security). This variable explains if security was used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.

3.2.6 Taxes (exemption from tax payment). This variable explains if exemption from tax payment was used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.

- 3.2.7 natures (natural resources). This variable explains if natural resources were used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.
- 3.2.8 gnp (gross national product). This variable explains if gross national product was used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.
- 3.2.9 legal (legal framework). This variable explains if a legal framework was used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.
- 3.2.10 geoloc (geographical location). This variable explains if geographical location was used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.
- 3.2.11 indpol (industrial policy). This variable explains if a foreign direct investment industrial policy was used as a determinant to attract foreign direct investment from 2000 to 2012 by the 32 states of Mexico.
- 3.2.12 impde (improvement of determinants). This variable was selected as a dependent variable to use it in the *probit* model in order to explain the probability of improvement of the determinants used to attract foreign direct investment contributed to increase inflows from 2000 to 2012 by the 32 states of Mexico.

3.3. Hypotheses

- H₁: The attraction of foreign direct investment depends on infrastructure development within Mexico from 2000 to 2012
- H₂: The attraction of foreign direct investment depends on skilled labour within Mexico from 2000 to 2012
- H₃: The attraction of foreign direct investment depends on cheap labour within Mexico from 2000 to 2012
- H₄: The attraction of foreign direct investment depends on security within Mexico from 2000 to 2012
- H₅: The attraction of foreign direct investment depends on tax exemption within Mexico from 2000 to 2012
- H₆: The attraction of foreign direct investment depends on natural resources endowment within Mexico from 2000 to 2012
- H₇: The attraction of foreign direct investment depends on gross national product in Mexico from 2000 to 2012
- H₈: The attraction of foreign direct investment depends on the legal framework within Mexico from 2000 to 2012
- H₉: The attraction of foreign direct investment depends on geographical location of Mexico from 2000 to 2012
- H₁₀: The attraction of foreign direct investment depend on industrial policy within Mexico from 2000 to 2012
- H₁₁: The attraction of foreign direct investment depend on the improvement of the determinants within Mexico from 2000 to 2012.
- H₁₂: The probability of determinants improvement will attract more foreign direct investment flows.

3.4. Data

Ninety six state development plans were reviewed by the authors to build a database for this research. These plans were accumulated by the government of each state of Mexico. The determinants used to attract foreign direct investment by the 32 states during 2000 and 2012 were skilled labour, cheap labour, tax exemption, legal framework, security, natural resources, infrastructure, gross national product, industrial policy and geographical location which according to different authors, are the most common used around the world despite that it is not clear if the determinants are new or renewal for countries.

4. Descriptive Statistics

The period studied (2000-2012) showed that the maximum intake of foreign resources by Mexico was \$ 22062.50 billion USD in 2001 while there was also a divested FDI by \$ 531.50 in 2005. In 2009 and 2010 there was a fallen in the attraction of FDI because of the financial crisis worldwide but in 2012 the fallen was worst that might be caused by the end of President Felipe's Calderon government. In 2013, Mexico began to recover the attraction of FDI (Table 1).

Table 1

fdi	Obs.	Mean	Std. Dev.	Min	Max
2000	32	569.52	1629.01	-5.60	9044.10
2001	32	937.00	3877.44	-20.90	22062.50
2002	32	749.60	2925.67	-17.20	16607.20
2003	32	590.51	2017.56	-11.50	11441.10
2004	32	782.42	2593.37	-1.50	14499.10
2005	32	770.90	2395.41	-531.50	12822.20
2006	32	646.84	1827.94	-110.00	10284.60
2007	32	1005.75	3134.92	-51.30	17802.00
2008	32	885.52	2421.98	-17.10	13753.20
2009	32	532.98	1605.22	-59.90	9039.00
2010	32	719.60	1673.63	-26.90	7987.00
2011	32	719.03	2581.73	-147.40	14748.00
2012	32	538.24	1153.70	-62.60	6540.50
2013	32	1099.64	3820.40	-136.10	21882.50
Total	448	753.40	2501.16	-531.50	22062.50

Table 2 shows the maximum and minimum values of foreign direct investment by the 32 states of Mexico. The states that capture the greater foreign direct investment were Distrito Federal, Nuevo Leon, Estado de Mexico, Chihuahua and Jalisco and the states that captured the less were Hidalgo, Guerrero, Chiapas, Colima and Oaxaca.

The states that attracted the largest amount of investment created or renewed some determinants that allowed them to attract greater investment flows while states that captured lower flows neither create nor renewed determinants. For example, Distrito Federal is the capital of the country and many international headquarters are established there. As for the case of Nuevo Leon, the decision of create or renew determinants has become an important role in public policy because of the attraction of capital flows to aeronautical and aerospace industries.

Table 2

fdi	Obs.	Mean	Std. Dev.	Min	Max
Aguascalientes	14	233.94	194.47	8.00	665.90
Baja California	14	904.88	250.83	542.20	1555.00
Baja California Sur	14	341.33	186.84	81.30	630.10
Campeche	14	2.61	62.71	-136.10	110.40
Chiapas	14	13.03	16.39	-11.20	41.80
Chihuahua	14	1203.76	452.45	584.60	1920.60
Coahuila	14	333.29	353.79	121.60	1221.80
Colima	14	17.87	19.91	-4.70	64.60
Distrito Federal	14	13465.21	4867.22	6540.50	22062.50
Durango	14	180.39	189.55	-21.00	574.50
Estado de México	14	1244.10	762.91	545.20	3576.80
Guanajuato	14	256.66	224.61	-70.20	734.00
Guerrero	14	31.01	45.17	-48.00	110.30
Hidalgo	14	5.60	30.26	-62.60	77.50
Jalisco	14	781.85	429.22	289.40	1866.00
Michoacan	14	132.19	422.74	-110.00	1590.30
Morelia	14	101.27	143.75	-56.30	453.30
Nayarit	14	88.39	46.18	19.90	180.30
Nuevo León	14	2260.60	1422.74	524.80	5379.70
Oaxaca	14	20.56	25.72	-1.60	78.50
Puebla	14	472.50	408.57	-531.50	1261.30
Quintana Roo	14	260.29	223.84	14.30	885.70
Querétaro	14	325.19	191.66	56.20	661.80
San Luis Potosí	14	163.57	137.30	-13.90	509.40
Sinaloa	14	79.00	94.34	13.20	349.20
Sonora	14	305.34	308.25	37.80	1286.40
Tabasco	14	54.61	50.70	0.90	150.90
Tamaulipas	14	401.66	143.08	208.00	723.80
Tlaxcala	14	35.34	39.04	-17.20	136.50
Veracruz	14	87.87	103.78	-147.40	272.10
Yucatán	14	39.05	33.26	5.50	132.90
Zacatecas	14	265.73	447.60	0.10	1517.00
Total	448	753.40	2501.16	-531.50	22062.50

5. Methodology, Models and Results

5.1. Methodology

To test the hypotheses proposed in this research were carried out several models of time series data, the results for these models indicate the nature of each of the variables used, and the relationship they have with the dependent variable and its statistical significance.

Once we have variables that will be employed in a probit model originally used by Bliss (1934) as well as applied to stochastic models by Steinbrecher and Shaw (2008) it was necessary

to check and simulate the dependent variable (*impde*), which was developed as the probability that there is an improvement in the determinants that each one of the Mexican states raised in their public policies and in their development plans, related to foreign direct investment flows. The probit model tested the hypotheses and the main objective of this research.

It is important to note that the probit model was used to propose a new theory of attraction of foreign direct investment based on the creation of new determinants or renewal thereof as part of the public policy of the countries. The database developed for this study contains data on the determinants used by each of the states of Mexico for a period of twelve years. During those years, there are states that do not use the ten determinants commonly used to attract foreign direct investment or there are states that decide to improve the determinants and previously used by the states. In any of these circumstances apply to the proposal of the new theory.

5.2 Models

The following equations are the proposal models to prove the hypotheses postulated earlier, the

Main model is:

$$fdi_t = \beta_0 + \beta_1 ifra_t + \beta_2 qualab_t + \beta_3 wage_t + \beta_4 sec_t + \beta_5 taxex_t + \beta_6 natures_t + \beta_7 gnp_t + \beta_8 legal_t + \beta_9 geoloc_t + \beta_{10} indpol_t + \beta_{11} impde_t + u_t$$

Model for H₁

$$fdi_t = \beta_0 + \beta_1 ifra_t + u_t$$

Model for H₂

$$fdi_t = \beta_0 + \beta_1 qualab_t + u_t$$

Model for H₃

$$fdi_t = \beta_0 + \beta_1 wage_t + u_t$$

Model for H₄

$$fdi_t = \beta_0 + \beta_1 sec_t + u_t$$

Model for H₅

$$fdi_t = \beta_0 + \beta_1 taxex_t + u_t$$

Model for H₆

$$fdi_t = \beta_0 + \beta_1 natures_t + u_t$$

Model for H₇

$$fdi_t = \beta_0 + \beta_1 gnp_t + u_t$$

Model for H₈

$$fdi_t = \beta_0 + \beta_1 legal_t + u_t$$

Model for H₉

$$fdi_t = \beta_0 + \beta_1 geoloc_t + u_t$$

Model for H₁₀

$$fdi_t = \beta_0 + \beta_1 indpol_t + u_t$$

Model for H₁₁

$$fdi_t = \beta_0 + \beta_1 impde_t + u_t$$

Model for H₁₂

$$P(\text{impde}_t) = \beta_0 + \beta_1 fdi_t + u_t$$

5.3 Results

Because the models that we have presented were handled through time series, we had to verify first if variables have a stationary stochastic process in the models proposed. Also by whether in the case of the variables present a nonstationary process, the models are not useful for finding reliable results by the method of ordinary least squares (OLS), but in accordance with Engle and Granger (1987) that conducted a cointegration process, we decided to make a linear combination of two series, each of which is integrated of any kind of order. In addition we checked and corrected the errors through the Granger causality (Granger, 1969 and Granger and Newbold, 1974) to verify that indeed the time series used are stationary, the following model show this test and in the Table A1 are the results of them:

$$fdi_t = \delta_0 + \alpha_1 fdi_{t-1} + \alpha_2 fdi_{t-2} + \alpha_3 fdi_{t-3} + \alpha_4 fdi_{t-4} + \gamma_1 ifra_{t-1} + \gamma_2 ifra_{t-2} + u_t$$

In addition, was revised collinearity of the variables through a model of vector autoregressive (VAR), where it was found that indeed the variables presented a high collinearity and that has to be corrected for the variables are stationary, besides we use the Wald test (Wald, 1940) to prove if the model has an asymptotic chi-square distribution, the model was as follows and in the Table A2 are presented the results of them:

$$fdi_t = \delta_0 + \alpha_1 fdi_{t-1} + u_t$$

Once we had corrected the errors that could be present in the time series, and we were sure that the variables shown a Stationary Stochastic Process we proceeded to find the corresponding relations with each of the proposed variables as determinants for foreign direct investment flows that have been submitted in Mexico in the period proposal from 2000 to 2012.

The interaction of all independent variables in the Main model is shown with respect to the dependent variable in Table A3. It was expected that all the variables were significant but, the independent variables *ifra*, *sec*, *legal* and *geoloc* (corresponding to Infraestructure, Security, Legal system and Geografic Localization) were not. Subsequently, the interaction of the dependent variable with each of the independent variables was done to confirm its significance (Models for H₁ to H₁₁). The results (see tables A4 to A15) demonstrate that all the variables have a high significance.

Once interactions were tested using linear regressions, a simulation using the *probit* model (Model for H₁₂) was done. The results showed that the probability of an improvement in the determinants increased flows of foreign direct investment.

6. Conclusions

The theories proposed by several authors to explain how countries attract FDI are diverse. Some are based on the use of different determinants as part of its public policy. In this sense, during the period 2000-2012, Mexico used ten determinants in common for each of the 32 states to attract foreign direct investment, however, the safety-related determinant not found to be significant as part of its public policy because it is now known that Mexico is facing serious security problems and cannot use that determinant in attracting foreign direct investment. There are positive relations between the rest of the determinants and the dependent variable which is coherent with the literature review.

Since the period studied is twelve years, it was observed that some states of Mexico during that period decided to create or renew their determinants in order to attract more and new flows of foreign direct investment, so this article is based on the proposal of a new theory

that studies the creation of new or renewal of the determinants used by governments as part of their public policy. The probit model demonstrates that relationship.

If any government in the world is interested in attracting new or more foreign direct investment it must create or renovate determinants used to attract investment flows. There are probably cities or provinces who want to attract resources for certain types of industry, but they must create or renew the related determinants, such that the different types of industry prevailing in a country use different determinants and some of them they shall not be used to attract new resources and should focus on the development of new determinants.

Such is the case of the State of Nuevo Leon in Mexico that sought to attract investment flows for a new industry in the state such as aerospace and aeronautical. The state government of Nuevo Leon had to create and renew the determinants traditionally used to attract investment flows to other industries and create or renovate suitable ones for aerospace and aeronautics.

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Appendix

Table A1. Econometric results for the Vector Autorregresive (VAR) models, to prove collineality.

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
fdi						
L1	0.4306679	0.0461224	9.34	0.000	0.3402697	0.5210661
L2	0.3804776	0.0461891	8.24	0.000	0.2899486	0.4710067
ifra						
L1	-975.7836	577.5145	-1.69	0.091	-2107.691	156.1241
L2	1123.365	574.9412	1.95	0.051	-3.499405	2250.229
qualab						
L1	1366.324	498.5146	2.74	0.006	389.2537	2343.395
L2	-1268.267	495.873	-2.56	0.011	-2240.16	-296.3732
wage						
L1	1407.241	480.625	2.93	0.003	465.2329	2349.248
L2	-1220.12	481.8106	-2.53	0.011	-2164.452	-275.7891
sec						
L1	-385.2097	388.8907	-0.99	0.322	-1147.421	377.0021
L2	137.0567	390.072	0.35	0.725	-627.4703	901.5837
taxex						
L1	-167.8146	372.4278	-0.45	0.652	-897.7597	562.1306
L2	179.5967	375.0052	0.48	0.632	-555.4	914.5934
natures						
L1	-1259.199	375.3069	-3.36	0.001	-1994.787	-523.6109
L2	977.642	376.3549	2.6	0.009	240	1715.284
gnp						
L1	53.92237	477.2691	0.11	0.910	-881.5079	989.3526
L2	-21.31266	477.5679	-0.04	0.964	-957.3586	914.7032
legal						
L1	640.9021	416.9201	1.54	0.124	-176.2463	1458.05
L2	-717.5595	411.4749	-1.74	0.081	-1524.036	88.91654
geoloc						
L1	-472.3277	533.0303	-0.89	0.376	-1517.048	572.3926
L2	518.8095	532.957	0.97	0.330	-525.7671	1563.386
indpol						
L1	-1115.89	515.1683	-2.17	0.030	-2125.601	-106.1786
L2	1198.99	513.3238	2.34	0.020	192.8936	2205.086
impde						
L1	1433.092	599.1245	2.39	0.017	258.8298	2607.355
L2	-1407.566	600.8904	-2.34	0.019	-2585.289	-229.8425
_cons	62.0544	258.102	0.24	0.810	-443.8162	567.9251

Table A2. Econometric results for find the Granger causality Wald tests.

Equation	Excluded	chi2	df	Prob > chi2
fdi	ifra	3.845	2	0.146
fdi	qualab	7.5706	2	0.023
fdi	wage	8.8491	2	0.012
fdi	sec	2.4035	2	0.301
fdi	taxex	0.23293	2	0.890
fdi	natures	11.594	2	0.003
fdi	gnp	0.03053	2	0.985
fdi	legal	3.0496	2	0.218
fdi	geoloc	0.94766	2	0.623
fdi	indpol	5.5766	2	0.062
fdi	impde	6.1225	2	0.047
fdi	ALL	43.089	22	0.005

Table A3. Econometric results to prove the Main model

fdi	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
ifra	-547.8538	361.1838	-1.52	0.130	-1257.732	162.0241
qualab	1266.74	320.7606	3.95	0.000	636.3107	1897.169
wage	1138.888	251.3386	4.53	0.000	644.9022	1632.874
sec	-128.5826	255.4228	-0.5	0.615	-630.5956	373.4304
taxex	683.1313	254.2622	2.69	0.007	183.3994	1182.863
natures	-1912.049	261.5689	-7.31	0.000	-2426.141	-1397.956
gnp	546.2715	298.5431	1.83	0.068	-40.49106	1133.034
legal	418.4257	312.1928	1.34	0.181	-195.1642	1032.016
geoloc	-76.04623	316.8791	-0.24	0.810	-698.8468	546.7543
indpol	-948.275	391.3048	-2.42	0.016	-1717.353	-179.1967
impde	993.2183	483.0923	2.06	0.040	43.73906	1942.698
_cons	562.8327	363.7085	1.55	0.122	-152.0073	1277.673

Table A4. Econometric results to prove H₁

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
ifra	757.964	275.1266	2.75	0.006	217.2584	1298.67
_cons	176.4636	240.0329	0.74	0.463	-295.2725	648.1996

Table A5. Econometric results to prove H₂

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
qualab	1225.851	229.4586	5.34	0.000	774.8967	1676.806
_cons	124.0528	164.4104	0.75	0.451	-199.0626	447.1681

Table A6. Econometric results to prove H₃

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
wage	872.0624	236.5037	3.69	0.000	407.2623	1336.863
_cons	391.3344	152.3897	2.57	0.011	91.84338	690.8253

Table A7. Econometric results to prove H₄

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
sec	403.4132	242.4956	1.66	0.097	-73.16277	879.9892
_cons	598.5141	150.2551	3.98	0.000	303.2183	893.81

Table A8. Econometric results to prove H₅

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
taxex	1197.795	232.3908	5.15	0.000	741.0784	1654.512
_cons	242.7288	151.7388	1.6	0.110	-55.48297	540.9406

Table A9. Econometric results to prove H₆

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
natures	-981.9573	233.3849	-4.21	0.000	-1440.628	-523.2866
_cons	1296.979	173.6439	7.47	0.000	955.7176	1638.241

Table A10. Econometric results to prove H₇

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gnp	1420.298	237.5572	5.98	0.000	953.4279	1887.169
_cons	246.1465	141.9676	1.73	0.084	-32.86201	525.1551

Table A11. Econometric results to prove H₈

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
legal	761.7603	248.067	3.07	0.002	274.235	1249.286
_cons	246.6893	202.3196	1.22	0.223	-150.9289	644.3076

Table A12. Econometric results to prove H₉

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
geoloc	540.6997	319.2987	1.69	0.091	-86.81721	1168.217
_cons	300.8014	292.1284	1.03	0.304	-273.3178	874.9205

Table A13. Econometric results to prove H₁₀

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
indpol	715.055	316.7725	2.26	0.024	92.50291	1337.607
_cons	156.4527	289.4305	0.54	0.589	-412.3642	725.2696

Table A14. Econometric results to prove H₁₁

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
impde	878.5583	251.8138	3.49	0.001	383.6694	1373.447
_cons	149.3871	208.7929	0.72	0.475	-260.953	559.7273

Table A15. Econometric results to prove H₁₂

impde	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
fdi	0.0010048	0.0002014	4.99	0.000	0.0006101	0.0013996
_cons	0.1999643	0.0775323	2.58	0.010	0.0680037	0.3519249