A Work Project, presented as part of the requirements for the Award of a Masters Degree in Economics from the NOVA – School of Business and Economics.

# Oil, Foreign Aid and FDI Flows:

# The Missing Link?

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A Project carried out under the supervision of: Pedro Vicente

07 De Janeiro de 2013

**Abstract**

This paper studies the possible strategic use of foreign aid to get preferential access to oil. Furthermore, it also addresses the role of oil as a determinant factor for the allocation of Foreign Direct Investment (FDI). Using a panel data set of 48 oil producing countries for a period of 30 years, ranging from 1980 to 2010, it was found that, not only is oil a key factor for the determination of foreign aid and FDI, but also that there is a clear distinction between the importance conceived by donor and/or investing countries in their current and future level of oil dependence.

**Key words:** Aid, Foreign Direct Investment, Oil reserves and Oil production.

**Introduction**

*"A century ago, petroleum – what we call oil – was just an obscure commodity; today it is almost as vital to human existence as water"* - James Buchan, a British novelist and journalist.

The above statement undoubtedly shows the importance of oil. Certainly, there is no well-functioning country which is not dependent upon it. Actually, since the widespread use of the internal combustion engine, oil became almost as vital as water. Moreover, two additional features are worth mentioning in order to fully perceive its importance. Firstly, despite its essential role in every economy, it is not available everywhere, it means that some countries produce it while others have to import it. Secondly, it is a nonrenewable resource, for which, there is not yet, a 100 per cent direct substitute.

In fact, the reasons presented in the previous paragraph ground the motivation for this paper, which is to study a particular feature of the increasing competition for oil; the use of foreign aid by donors as a strategic mechanism to get priority access to oil. Indeed, previous literature such as Dudley and Montmarquette (1976) and Alesina and Dollar (2000), among others, had unveiled that one of the key elements for the allocation of international aid is the interest of

donor countries. Consequently, being oil such an important input for every economy, one of the main questions addressed in this paper is the following: is the increased competition for getting access to oil translated into the patterns of foreign aid giving?

Additionally, this paper studies not only, the importance of oil in determining the flows of international aid, but it also evaluates if the current and future levels of oil production in the aid receiving countries might have different impacts over the determination of those flows. In other words, it also analyzes, if a donor country is more concerned with its current or with its future degree of oil dependence when it guides its foreign aid policy towards oil producing countries.

Furthermore, this paper is also interested in studying the possible link between oil and FDI. As a result, the second major question is the following: is the direction of FDI determined by the existence of oil in the investment hosting country? Specifically, if FDI flows are determined by the existence of oil what would be more important for the location of future investments: the current or the future level of oil production?

In fact, through the use of a panel data set of 48 oil producing countries for a period of 30 years, ranging from 1980 to 2010, it was found that, not only is oil in effect a key factor for the determination of foreign aid and FDI flows, but also that there is a clear distinction between the importance conceived by donor and/or investing countries to their current and future levels of oil dependence.

On the one hand, there is a clear pattern showing that direction of FDI flows is positively affected, only by the current level of oil production in the investment hosting country. On the other hand, the use of foreign aid as a strategic mechanism to get preferential access to oil does not indicate that donor countries conceive a higher importance to the current level of oil production. Actually, some donors such as the United States of America (USA) guide their foreign aid policy in order to get preferential access both to current and future oil production,

while other donors, such as Sweden, do not even take in consideration the existence of oil in the aid receiving country when deciding the direction of their aid flows. Furthermore, some donors such as the United Kingdom (UK) are only concerned with their future level of oil dependence, therefore rewarding only future oil production.

Finally, the paper is structured as follows. Chapter 2 encompasses the literature review and is divided into three sections: section 2.1 reviews the literature on the determinants of foreign aid; section 2.2 reviews the literature on the resource curse and section 2.3 reviews the literature on the determinants of FDI. Chapter 3 is dedicated to the empirical strategy conducted in this paper and it is divided into three sections: section 3.1 addresses the empirical model employed in the estimation of the possible link between oil, foreign aid and FDI; section 3.2 is devoted to the three empirical methods used and section 3.3 describes the data set built for this paper. Chapter 4 reports the results obtained through the three estimation methods. Chapter 5 concludes the paper.

## 2. Literature Review

### 2.1 The Determinants of Foreign Aid

One of the core subjects in the aid literature has been the motivation behind foreign aid giving. Indeed, researchers have been focused on whether or not international donors are really concerned with the development prospects of aid receiving countries.

In particular, Dudley and Montmarquette (1976) presented one of the first attempts to formally model aid determinants. The model is divided in two parts and considers the donor's utility function to be contingent on the impact of aid in the receiving countries. Part one measures the impact of aid giving, as a function of the population size, the amount of aid and the recipient´s per capita income. Subsequently, administrative costs are added to the basic framework. Afterwards, the model is applied to the 1970 aid commitments of 15 countries of

the Organization for Economic Co-operation and Development (OCDE) and the main finding is that, economic and political links to donor countries contribute to explain the pattern of aid giving.

Moreover, Maizels and Nissanke (1984) try to grasp the allocation of aid as the resulting equilibrium between the interests of donors and the needs of recipients. Indeed, a database of 80 developing countries for the periods between 1969-1970 and 1978-1980 is used for cross-country regressions of bilateral and multilateral aid flows, under the framework of two alternative models. The first, designated "the recipient need model", considers that aid serves to offset insufficiencies in domestic resources and empirically, it provides a sound enlightenment for the allocation of multilateral aid. The second, designated "donor interest model", presupposes that aid giving obeys to donor interests only and, empirically it is more suitable to explain the pattern of bilateral aid; implying that bilateral aid is mostly dictated by the donor country interests.

Finally, Alesina and Dollar (2000) departing from a database of the Development Assistance Committee (DAC) of the OCDE on bilateral aid flows (with a panel of 21 countries for five-year periods between 1970-1974 and 1990-1994) assess the behavior of international donors, and find that aid giving is mostly dictated by political and strategic considerations rather than effective poverty reduction. This result stems from the fact that "an inefficient, economically closed, mismanaged non-democratic former colony politically friendly to its former colonizer, receives more foreign aid than another country with similar levels of poverty, a superior policy stance, but without a past as a colony", a result also reached by Burnside and Dollar (2000) who found that bilateral aid seems to depend on strategic interests.

Alesina and Dollar (2000) also uncovered remarkable differences between donors, being the Nordic countries more prone to respond to the variables which contribute for an effective

poverty reduction. A result reinforced by Gates and Hoeffler (2004), who verified that the four Nordic countries (Denmark, Finland, Norway, Sweden) pay more attention to the level of poverty and to the strength of democracy, when deciding their aid disbursements.

**2.2 The Natural Resource Curse**

Over the last fifty years, the notion that a country with a natural resource windfall is likely to be worse off than another country in which resources are scarce has led to the development of a massive theoretical and empirical research in order to understand this counterintuitive idea.

Indeed, the roots of the literature on the natural resource curse lay on two fundamental works: the Prebisch–Singer hypothesis (1950)[1] which states that over time the terms of trade between primary and manufactured goods would deteriorate leading to poorer development prospects for the countries which have become specialized in exporting primary goods; and on Corden and Neary (1982) who first presented a theoretical analysis of the Dutch Disease[2] as "the phenomenon whereby a boom in one traded goods sector squeezes profitability in other traded goods sectors, both by bidding resources away from them and by placing upward pressure on the exchange rate"[3].

Despite the theoretical relevance of the two previous works, it was necessary to wait for Sachs and Warner (1995) to have a worldwide empirical study on this topic. In fact, for the period 1970-90, with a sample of 95 developing countries, it was found evidence of an inverse association between natural resource abundance and economic growth.

Albeit the fact that the bulk of resource rich countries had effectively witnessed deterioration in their development prospects, it is clear the existence of some success cases, like Botswana

[1] To be precise, the Prebisch–Singer hypothesis is the result of two independent works: Prebisch (1950) and Singer (1950).
[2] Term was coined by *The Economist* in an article "The Dutch Disease" in the issue of November 26. 1977. pp. 82-83.

which was investigated in Acemoglu et al (2003). Definitely, the success cases led researchers to question the rationale behind the resource curse, which in turn changed the focus of both empirical and theoretical analysis to the role played by institutions in determining whether or not a resource curse will appear. Indeed, Mehlum et al (2006) established a model, which departs from the assumption that the quality of institutions is what matters for a natural resource abundant country to be a growth winner or loser. As a result, the authors made a distinction between two types of institutions: "producer friendly institutions, where rent-seeking and production complement each other, and grabber friendly institutions, where rent-seeking and production are competing activities". Finally, the authors built on Sachs and Warner (1997a,) work and ascertain that the resource curse occurs in countries with "grabber friendly institutions" but not in countries with "producer friendly institutions", which is in accordance with their theoretical model.

Finally, more recent literature has been advocating the existence of a political curse as the main cause for the poorer development prospects in resource rich countries. In particular, Vicente (2010) evaluates the effects of an oil discovery announcement in the period between 1997-1999, in Sao Tome and Principe and finds evidence of a "clear increase on the perceived level of corruption in a number of public services and allocations". Also, Tsui (2011) has found that "discovering 100 billion barrels of oil pushes a country's democracy level almost 20 percentage points below trend after three decades".

**2.3 Determinants of Foreign Direct Investment**

According to the OCDE "A foreign direct investor is an individual, an incorporated or unincorporated public or private enterprise, a government, a group of related individuals, or a group of related incorporated and/or unincorporated enterprises which has a direct investment enterprise - that is, a subsidiary, associate or branch - operating in a country other than the

country or countries of residence of the foreign direct investor or investors". Nevertheless, this definition only specifies what a foreign investor is. It does not concern the rationale that drives an investor to opt for a particular location, instead of another, when he is deciding where to allocate his investment.

In effect, three major factors are repeatedly found in the literature as the main determinants of FDI: exchange rate, taxes and institutions. Regarding the first one, Froot and Stein (1991) developed a model and an empirical study which led to the conclusion that, in presence of imperfect information, the exchange rate is a core factor for the allocation of FDI. Moreover, Mooij and Ederveen (2003), through a revision of 25 empirical studies regarding the impact of taxes on FDI and by computing a uniform tax rate elasticity to all those papers, have found that "the mean value of the tax rate elasticity in the literature is around minus 3.3, i.e. a one percentage point reduction in the hosting country tax rate raises foreign direct investment in that country by 3.3%." In order words, it seems that an increase in taxes is associated with a lower amount of FDI inward flows. Still, it is necessary to take into consideration the role played by taxes in the home country as shown by Swenson (1994), "increased taxes may spur inward foreign investment, if the foreign investor response is critically shaped by the tax provisions faced by the foreign investor in his home country." The quality of institutions is also assumed as a determinant of FDI. Indeed, the protection of property-rights, the well-functioning of markets and the prevention of corruption, among other factors, are all affected by the quality of institutions and have an impact over the direction of FDI flows; as shown by Alesina and Dollar (2000) who have found that the rule of law and existence of sound economic policies in the investment hosting country are both key factors to determine the direction of FDI.

Finally, more recent literature has been changing the focus from studying just one determinant of FDI each time to the analysis of the aggregate determinants of FDI for a

particular country or region. As an example, Anyanwu (2011) with a panel data set ranging from 1980 to 2007 finds that the main determinants of FDI inflows to Africa are: market size, openness to trade, public expenditure and natural resource endowment and exploitation (specially for oil), among others.

## 3. Empirical Strategy

The empirical strategy is divided in three sub-sections, each addressing a particular feature. The first is dedicated to the empirical model employed in the estimation of the link between oil, foreign aid and FDI. The second to the empirical methods used. Finally, the third describes the data set built for this paper.

### 3.1 Empirical Model

The empirical model constructed to test the possible missing link between oil, foreign aid and FDI consists of the following two equations. The first, addresses the effects of oil over foreign aid giving while the second, deals with the effects of oil over the direction of FDI flows.

$$Aid_{it} = \beta_1 R_{it} + \beta_2 P_{it} + \Theta X_{it} + \varepsilon_{it}^{Aid} \quad \text{(I)}$$

$$FDI_{it} = \beta_1 R_{it} + \beta_2 P_{it} + \Theta X_{it} + \varepsilon_{it}^{FDI} \quad \text{(II)}$$

Where $i$ and $t$ index countries and time respectively. $Aid_{it}$ is the logarithm of foreign aid given in the form of grants by each donor and $FDI_{it}$ is the logarithm of FDI outward flows of each investor country, included in the data set. $R_{it}$ denotes oil reserves and $P_{it}$ oil production, of all oil producing countries contemplated in the data set. Moreover, $X_{it}$ is a vector of control variables and $\varepsilon_{it}^{Aid}$ and $\varepsilon_{it}^{FDI}$ are error terms. Finally, from now on equation (I) and (II) will be denoted by Aid equation and FDI equation, respectively.

#### Aid Equation

The first objective of this paper is to study the possible use of foreign aid by the main international donors as a strategic mechanism to get preferential access to oil. Specifically, if

donors guide their foreign aid policy in that strategic manner, what would they consider more important: their current or their future level of oil dependence. In order words, equation (I) addresses the importance of current oil production versus future oil production for a donor country who dictates its foreign aid policy towards oil producing countries.

Consequently, the variables $R_{it}$ and $P_{it}$ were included on the right hand side (RHS) of equation (I) to capture the impact on foreign aid giving of a rise in oil reserves and/or a rise in oil production. In effect, oil production $(P_{it})$ addresses the importance of the present, while oil reverses $(R_{it})$ is a proxy to measure the importance of the future.

Additionally, $X_{it}$ - the vector of control variables is defined as follows:

$X_{it} = [G_{it}\ D_{it}\ GS_{it}\ B_{it}]$

Where $G_{it}$ is the logarithm of GDP per capita; $D_{it}$ represents the level of democracy; $GS_{it}$ and $B_{it}$ are both measures of risk denominated Government Stability and Bureaucracy Quality. These controls were included in equation (I) since it is believed that they have an impact over the amount of foreign aid giving. In effect, Alesina and Dollar (2000) found that the income of the recipient and its level of democracy have an impact in the allocation of foreign aid. Finally, as mentioned in section 2.2, Mehlum et al (2006) found that the quality of institutions is what matters for a natural resource abundant country to be a growth winner or loser. As a result, the two risk measures were included in equation (I) to evaluate whether or not international donors are concerned with the possible existence of a resource curse in the oil producing countries.

**FDI Equation**

The second objective of this paper is to study if the direction of FDI would be influenced by the existence of oil production in the investment hosting country. Specifically, if the direction of FDI flows is determined by the existence of oil, what would be more important for the location of future investments: the current or the future level of oil production?

Therefore, the variables $R_{it}$ and $P_{it}$ were included on the RHS of equation (II) to capture the impact on FDI outward flows of a rise in oil reserves and/or a rise in the production of oil. In fact, oil production $(P_{it})$ concerns the importance of current oil production, while oil reverses $(R_{it})$ is a proxy to measure the importance of future oil production.

Additionally, $X_{it}$ - the vector of control variables is defined as follows:

$X_{it} = [D_{it}\ S_{it}\ L_{it}]$

Where $D_{it}$ represents the level of democracy, $S_{it}$ and $L_{it}$ are both measures of risk denominated Socioeconomic Conditions and Law and Order. These controls were included in equation (II) to assess the results obtained in Alesina and Dollar (2000), who have found that democracy does not play a determinant role in the allocation of FDI flows and that the rule of law, here captured by the Law and Order risk measure, and the existence of sound economic policies, here captured by the Socioeconomic Conditions risk measure, are the key factors for the allocation of FDI.

### 3.2 Empirical Methods

In order to study the possible link between oil, foreign aid and FDI, three estimation methods were considered: Ordinary Least Squares (OLS), Fixed Effects (FE) and Second Two Stages Least Squares (2SLS). Moreover, this investigation relies upon observable data and the data set is composed only by panel data.

#### OLS Estimator

Being the OLS estimator the one most used in empirical analysis, both equations (I) and (II) were estimated through the use of it. Besides, the OLS is assumed to be the best linear unbiased estimator if, and only if, the Gauss-Markov assumptions are met.

Nevertheless, despite the usefulness of the OLS estimator as a starting point for any empirical analysis it may fail to address certain issues, which undermine the validity of the

results obtained with it. Namely, sample selection bias, omitted variables bias and simultaneous causality bias are three major problems, in the context of this paper, that the OLS may fail to address and which would affect the study of the possible link between oil, foreign aid and FDI.

Regarding the first problem, sample selection bias, Heckman (1979) defines it "as the bias that results from using non-randomly selected samples to estimate behavioral relationships as an ordinary specification bias that arises because of a missing data problem". However, despite its relevance, the possible existence of a sample selection bias will not be addressed in the context of this paper.

Additionally, the suspicion regarding the existence of an omitted variable bias and of a simultaneous causality bias led to the usage of two additional estimation procedures, FE and 2SLS which will be explained in the following two sub-sections. Finally, it is necessary to take into account the possible presence of heteroskedastic standard-errors, which would affect the reliability of the inference process. Therefore, all results presented in section 4 were computed with heteroskedastic robust standard-errors in order to avoid this problem.

**FE Estimator**

As stated above, one of the problems that the OLS estimator may not address is an omitted variable bias, which results in estimated coefficients that are both biased and inconsistent. This occurs when the following two conditions are verified: the omitted variable is correlated with at least one of the independent variables and it is a determinant of the dependent variable. In the case of this paper, it is possible to think of an omitted bias arising from an omitted variable which may be correlated with the level of oil production and which may have an impact over the amount of foreign aid giving and over the direction of FDI outward flows.

The solution encountered to overcome this possible problem was through the utilization of the FE estimation method. The choice relied upon the FE estimator since the purpose was to

control for omitted variables that may differ between oil producing countries but which are constant over time. As a result, both equations (I) and (II) were estimated through the FE method.

**2SLS Estimator with FE**

Another problem that the OLS estimator may not address is a simultaneous causality bias, which results in estimated coefficients that are both biased and inconsistent. This follows from the inclusion of one or more endogenous explanatory variables in the estimated equation. Indeed, Wooldridge (2005) defines an endogenous explanatory variable "as one that is correlated with the error term, either because of an omitted variable, measurement error, or simultaneity". Concerning both equations (I) and (II) it seemed logical to think of a simultaneity problem arising from the independent variable oil production, since it is reasonable to think of a direct link between the amount of oil produced and the existing reserves of oil. Therefore, to overcome this possible problem, the variable oil production was instrumented through the use of the 2SLS estimator.

Additionally, it is necessary to bear in mind that for a variable *z* to be considered a valid instrument for the variable *x*, it must respect the following two conditions:

**Table I. Valid Instrument Conditions**

| $y = \beta_0 + \beta_1 x + u$ | |
|---|---|
| **1. Exogenous instrument condition** | $Cov(z,u) = 0$ |
| **2. Relevant instrument condition** | $Cov(z,x) \neq 0$ |

Source: Adapted from Wooldridge 2005

Finally, despite the fact that the use of instrumental variables also contributes to the minimization of the omitted variable bias, FE were still considered since the purpose here, as mentioned above, is to control for omitted variables that may differ between oil producing countries but which are constant over time.

### 3.3 Data description

With the aim of estimating equations (I) and (II), real world data was collected regarding each of the variables included in those equations and a panel data set composed of 48 oil producing countries, 44 international donors and 34 investing countries for a period of 30 years, ranging from 1980 to 2010, was constructed. The rest of this section is devoted to the description of each of the variables included in equations (I) and (II) and is divided in two board categories: dependent and independent variables.

#### 3.3.1 Dependent variables

**Aid**

The dependent variable in equation (I) is the total amount of bilateral Grants granted by each of the 44 donors reported by the DAC, of the OCDE, to the 48 oil producing countries included in the data set. Moreover, Grants are defined by the DAC as transfers in cash or in kind for which no legal debt is incurred by the recipient. The choice relied upon Grants instead of Official Development Assistance (ODA) as in Dudley and Montmarquette (1976) and Alesina and Dollar (2000) due to the fact that ODA disbursements according to the DAC are concessional in character and convey a grant element of at least 25 per cent. Thus, being one of the objectives to perceive whether or not foreign aid has been used as a strategically instrument to get preferential access to oil, it seemed rational to use a measure of foreign aid for which no legal debt is incurred by the recipient. Grants are expressed in constant prices (2010 USA million dollars) and the 44 donors are listed in appendix 1.

**FDI**

In equation (II) the dependent variable is the total FDI outward flows by each of the 34 OCDE member countries, to the 48 oil producing countries contemplated in the data set of this paper. Finally, FDI outward flows are expressed in millions of USA dollars and the 34 investing

countries are listed in appendix 2.

### 3.3.2 Independent variables

**Oil Production and Proven Oil Reserves**

As mentioned in section 3.1 the two oil variables were included in both equations (I) and (II). They were used to study the importance of oil in determining the flows of international aid and FDI but also to perceive if the current and future levels of oil production would have different impacts over the determination of those flows. In fact, the rationale behind the inclusion of these variables is to understand, if a donor and/or an investing country is more concerned with its current or with its future degree of oil dependence when it guides its foreign aid and FDI flows towards oil producing countries. Therefore, oil production addresses the importance of current oil production in determining the allocation of foreign aid and FDI flows, while oil reserves, which may be seen as proxy of future oil production, addresses the importance of future oil production. The variables were retrieved from the BP Statistical Review of World Energy June 2012 and are expressed in thousand million barrels. Finally, 48 countries with current oil production and with proven oil reserves were considered and they are listed in appendix 3 and 4, respectively.

**Instrumental Variable**

As mentioned in section 3.2, in order for an instrument to be considered valid it must satisfy two conditions: the exogenous and the relevant instrument condition. As a result, the construction of the instrument used in this paper was dictated by these two conditions. In particular, it results from the multiplication of two variables. The first variable is the amount of oil consumption of each of the donors and/or investing countries which satisfies the exogeneity condition, since it seems reasonable to assume that the variable oil consumption is not correlated with any other variable included in both equations (I) and (II) nor the error term. The second

variable is the exports of goods and services, as percentage of GDP of each oil producing country which satisfies the relevance condition, since it seems plausible to assume that for the majority of oil producing countries a sizeable part of their exports of goods and services consists of oil exports. The source of oil consumption is the BP Statistical Review of World Energy June 2012 and it is measured in thousand barrels daily. Finally, the source of the exports of goods and services, as percentage of GDP is the World Bank (WB).

### Controls

The control variables included in both equations (I) and (II) are described in the table II.

**Table II. Control Variables**

| Control Name | Measurement Unit | Source |
|---|---|---|
| **GDP Per Capita** | Constant Prices (2000 USD) | World Bank |
| **Democracy Level** | Index - Ranging from -10 (strongly autocratic) to 10 (strongly democratic) | Polity IV |
| **Government Stability** | Index - Ranging from 0 (very high risk) to 4 (very low risk) | ICRG-PRS |
| **Bureaucracy Quality** | Index - Ranging from 0 (very high risk) to 4 (very low risk) | ICRG-PRS |
| **Socioeconomic Conditions** | Index - Ranging from 0 (very high risk) to 4 (very low risk) | ICRG-PRS |
| **Law and Order** | Index - Ranging from 0 (very high risk) to 4 (very low risk) | ICRG-PRS |

Notes: Government Stability is composed by three components: government unity, legislative strength and popular support. Socioeconomic Conditions is composed by three components: unemployment, consumer confidence and poverty. All index variables were normalized to the 0-1 scale. ICRG - International Country Risk Guide. PRS - Political Risk Services.

## 4. Results

The empirical findings, presented in this section, result from the estimation of both equations (I) and (II) through the three estimation methods, explained above, with a panel data set of 48 oil producing countries for a period of 30 years, ranging from 1980 to 2010. Furthermore, the results are divided in two categories: aid and FDI, each encompassing six regressions; one concerning the aggregate results and the remaining devoted to the following five countries: USA, Germany, UK, France and Sweden. The first three were analyzed since they were the three biggest donors of foreign aid in 2011 accordingly to the DAC. Moreover, France and Sweden were studied to test the results of Alesina and Dollar (2000) who found that France´s disbursements of aid are more related to strategic interests while Sweden´s

disbursements of aid are more concerned with rewarding the political and economic environment of the aid receiving country.

Finally to have a better sense of the variables in analysis, descriptive statistics of the main variables included in both equations is presented in the following table.

**Table III. Descriptive Statistics**

| Dependent Variables: | Measurement Unit | Obs | Average | Std. Dev. | Min | Max |
|---|---|---|---|---|---|---|
| **Grants Total** | Constant Prices (2010 USA Million Dollars) | 1094 | 3.853.473 | 1.112.619 | 0 | 24831.81 |
| **FDI Total** | USA Million Dollars | 1248 | 524165.1 | 3082535 | 0 | 7.59E+07 |
| **Indenpendent Variables:** | | | | | | |
| **Proven Oil Reserves** | Thousand Million Barrels | 1397 | 2.488.576 | 48.813 | 0.1 | 296.5 |
| **Oil Production** | Thousand Million Barrels | 1449 | 1.479.736 | 2.140.852 | 2 | 11416 |
| **GDP Per Capita** | Constant Prices (2000 USA Dollars) | 1392 | 7.768.048 | 10451.54 | 1.442.876 | 61374.75 |
| **Democracy Level** | Index Ranging From 0 to 1 | 1395 | 0.7134767 | 0.2555645 | 0 | 1 |
| **Goverment Stability** | Index Ranging From 0 to 1 | 964 | 0.6175908 | 0.2022169 | 0 | 1 |
| **Bureaucracy Quality** | Index Ranging From 0 to 1 | 964 | 0.5482319 | 0.2659494 | 0 | 1 |
| **Socieconomic Conditions** | Index Ranging From 0 to 1 | 964 | 0.5270507 | 0.2093039 | 0 | 1 |
| **Law and Order** | Index Ranging From 0 to 1 | 964 | 0.5393549 | 0.2968405 | 0 | 1 |

Note: All variables are described in the previous section.

## Aid Results

Table IV reports the results obtained through the OLS estimation of equation (I) and it is possible to conclude that foreign aid has been used as a strategic mechanism by donor countries to get preferential access to oil. However, a closer look at this result shows a clear difference in the importance conceived by donor countries to the present, versus the importance given to the future. In other words, foreign aid has been used as a strategic mechanism to get preferential access to oil, nonetheless, donor countries seem to be only concerned with their current level of oil dependence. In fact, table IV shows that a rise in future oil production, which is given as proxy by the independent variable oil reverses, would imply a reduction in the amount of foreign aid giving.

Besides the fact that the bulk of the six geographical entities under analysis guide their foreign aid policy in a strategic manner to get preferential access to oil, there is an outlier in this picture, Sweden, since both oil variables have no significance in determining its pattern of aid

giving. Sweden is also an outlier in what respects the rewarding of the democratization process. Furthermore, table IV also shows that the richer a country is, the lower is the amount of foreign aid it receives. Indeed, it seems that the process of foreign aid giving takes into consideration the level of poverty in the receiving country. Finally, the existence of a lower level of bureaucracy quality in the oil producing countries does not undermine the amount of foreign aid received, while the same is not true regarding the level of government stability.

**Table IV. OLS Regressions - Dependent Variable: Log of total Aid given in the form of Grants**

| | | Total | USA | Germany | UK | France | Sweden |
|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) |
| **Oil Reserves** | Coef. | -0.016*** | -0.037*** | -0.014*** | 0.020 | -0.012*** | -0.005 |
| | St. err. | (0.001) | (0.005) | (0.002) | (0.186) | (0.002) | (0.005) |
| **Oil Production** | Coef. | 0.000*** | 0.001*** | 0.000*** | 0.018* | 0.000*** | -0.000 |
| | St. err. | (0.0) | (0.0) | (0.0) | (0.011) | (0.0) | (0.0) |
| **LN GDP Per Capita** | Coef. | -0.744*** | -0.774*** | -0.929*** | -48.719*** | -0.295*** | -1.105*** |
| | St. err. | (0.038) | (0.086) | (0.055) | (8.473) | (0.048) | (0.092) |
| **Democracy Level** | Coef. | -0.602*** | -0.044 | -0.715*** | 25.879 | -1.238*** | 0.977*** |
| | St. err. | (0.144) | (0.362) | (0.199) | (17.794) | (0.225) | (0.360) |
| **Government Stability** | Coef. | 0.132 | -1.694*** | -0.562** | -11.267 | -0.048 | 0.246 |
| | St. err. | (0.191) | (0.50) | (0.271) | (12.981) | (0.281) | (0.403) |
| **Bureaucracy Quality** | Coef. | 1.241*** | 0.579 | 1.327*** | 94.441*** | 0.343 | 1.469*** |
| | St. err. | (0.192) | (0.442) | (0.244) | (33.384) | (0.264) | (0.501) |
| **Constant** | Coef. | 10.319*** | 9.051*** | 9.726*** | 316.952*** | 5.466*** | 7.471*** |
| | St. err. | (0.345) | (0.674) | (0.488) | (77.835) | (0.433) | (0.796) |
| **Controls** | | Yes | Yes | Yes | Yes | Yes | Yes |
| **Observations** | | 637 | 475 | 637 | 538 | 637 | 497 |
| **Adjusted R2** | | 0.520 | 0.204 | 0.422 | 0.064 | 0.165 | 0.267 |

Notes: Independent variables are described in detail in the previous section. Standard errors are robust standard errors. *significant at 10%, **significant at 5%, ***significant at 1%.

Overall, despite the usefulness of the OLS estimator it may not be able to address several problems, which would undermine the validity of the results. Thus, it was necessary to resort to other estimation methods, the FE and 2SLS estimators. In particular, to overcome the possible existence of an omitted variables bias, equation (I) was also estimated through the FE estimator and the results are reported in the table V.

The FE results show that after controlling for omitted variables that may differ between oil producing countries, but which are constant over time, the strategic use of foreign aid as a mechanism to get preferential access to oil becomes the exception rather than the rule. In fact, only for the aggregate and the USA regressions, oil has an impact over the amount of foreign

aid giving and once again only the current level of oil production seems to be considered. Furthermore, contrarily to what was found with the OLS estimator, it seems that the process of foreign aid giving does not take in consideration the level of poverty in the receiving country.

Finally, the conclusion regarding the reaming variables do not change as much from the one achieved with the OLS estimator, being the variables government stability and bureaucracy quality, the exception since none of them has any impact over the disbursements of foreign aid.

**Table V. FE Regressions - Dependent Variable: Log of total Aid given in the form of Grants**

| | | Total | USA | Germany | UK | France | Sweden |
|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) |
| **Oil Reserves** | Coef. | -0.001 | 0.032 | -0.005 | 3.968 | -0.003 | -0.009 |
| | St. err. | (0.003) | (0.028) | (0.003) | (4.183) | (0.004) | (0.019) |
| **Oil Production** | Coef. | 0.000* | 0.002*** | 0.000 | 0.083 | 0.000 | 0.000 |
| | St. err. | (0.0) | (0.001) | (0.0) | (0.079) | (0.0) | (0.0) |
| **LN GDP Per Capita** | Coef. | 0.414 | 0.007 | 0.513* | 31.390 | 1.062*** | -0.050 |
| | St. err. | (0.277) | (1.010) | (0.312) | (37.722) | (0.213) | (0.60) |
| **Democracy Level** | Coef. | -0.507** | -0.288 | -0.402* | -16.081 | -0.321 | 0.632 |
| | St. err. | (0.204) | (0.642) | (0.216) | (25.020) | (0.196) | (0.455) |
| **Government Stability** | Coef. | -0.206 | -0.955 | -0.268 | -29.233 | -0.052 | 0.057 |
| | St. err. | (0.152) | (0.649) | (0.211) | (36.585) | (0.205) | (0.634) |
| **Bureaucracy Quality** | Coef. | 0.039 | 0.003 | 0.234 | 15.479 | -0.164 | -1.267 |
| | St. err. | (0.268) | (1.087) | (0.289) | (33.049) | (0.240) | (1.160) |
| **Constant** | Coef. | 2.292 | 1.339 | -0.590 | -313.525 | -4.956*** | 1.343 |
| | St. err. | (2.001) | (6.673) | (2.203) | (324.208) | (1.542) | (4.254) |
| **Controls** | | Yes | Yes | Yes | Yes | Yes | Yes |
| **Observations** | | 637 | 475 | 637 | 538 | 637 | 497 |
| **Adjusted R2** | | 0.054 | 0.106 | 0.038 | 0.032 | 0.142 | 0.012 |

Notes: Independent variables are described in detail in the previous section. Standard errors are robust standard errors. *significant at 10%, **significant at 5%, ***significant at 1%.

Despite the improvement achieved with FE estimator, there is an additional problem that may undermine the OLS results, the simultaneous causality bias arising from the independent variable oil production, as explained in section 3.2. Thus, oil production was instrumented by the variable oil consumption times the variable exports of goods and services, as percentage of GDP through the 2SLS estimator. The instrument is considered valid due to the following two reasons: first, it seems reasonable to assume that oil consumption is not correlated with any other regressors included in equations (I) and (II) nor the error term, yet, it is only possible to argue in favor of this argument and not test it empirically due to immeasurable quantity of factors that may affect the error. Second, it seems rational to assume that oil production is

correlated to the exports of goods and services, as percentage of GDP, a reasoning which can be tested empirically by a result above 10, the threshold in the F-statistic test. Moreover, FE were still considered to control for omitted variables that may differ between oil producing countries but which are constant over time. Table VI reports the 2SLS results.

**Table VI. 2SLS Regressions - Dependent Variable: Log of total Aid given in the form of Grants**

| | | Total | USA | Germany | UK | France | Sweden |
|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) |
| **Oil Reserves** | Coef. | -0.011 | 0.038** | -0.007 | 0.050*** | -0.036** | -0.004 |
| | St. err. | (0.012) | (0.018) | (0.012) | (0.017) | (0.015) | (0.017) |
| **Oil Production** | Coef. | 0.000 | 0.005*** | 0.000 | -0.003 | 0.001** | -0.000 |
| | St. err. | (0.0) | (0.001) | (0.0) | (0.002) | (0.0) | (0.001) |
| **LN GDP Per Capita** | Coef. | 0.362*** | -1.090* | 0.508*** | 0.642 | 0.857*** | 0.174 |
| | St. err. | (0.140) | (0.583) | (0.167) | (0.930) | (0.190) | (0.556) |
| **Democracy level** | Coef. | -0.587*** | -0.168 | -0.411*** | -0.603* | -0.598*** | 0.651* |
| | St. err. | (0.159) | (0.376) | (0.146) | (0.360) | (0.185) | (0.347) |
| **Government Stability** | Coef. | -0.362* | -1.662*** | -0.251 | 0.267 | -0.517** | 0.202 |
| | St. err. | (0.191) | (0.438) | (0.184) | (0.548) | (0.234) | (0.486) |
| **Bureaucracy Quality** | Coef. | 0.021 | 0.712 | 0.228 | -0.377 | -0.170 | -1.204* |
| | St. err. | (0.154) | (0.597) | (0.166) | (0.608) | (0.196) | (0.663) |
| **Weak Identification Test (F-Statistic)** | | 14.820 | 41.695 | 21.442 | 21.357 | 17.817 | 27.649 |
| **Observations** | | 616 | 471 | 616 | 527 | 616 | 490 |
| **Adjusted R2** | | 0.024 | 0.136 | -0.012 | 0.300 | 0.015 | 0.056 |

Notes: Independent variables are described in detail in the previous section. All regressions use as an instrument for the variable oil production, the world (for the total) or the country oil consumption times the exports of goods and services, as percentage of GDP, of all oil producing countries. Standard errors are robust standard errors. *significant at 10%, **significant at 5%, ***significant at 1%.

The 2SLS results are between the ones found through the OLS and the FE estimators, in the sense that half of the six geographical entities under analysis – the 44 donors as a whole, Germany and Sweden – do not guide their foreign aid policy as a strategic mechanism to get preferential access to oil; while the remaining three – USA, UK and France – guide their foreign aid policy in that strategic manner. Concerning only the three donors which do in fact drive their foreign aid disbursements in order to get preferential access to oil, three additional features should be highlighted. First, the USA case which directs its foreign aid policy to guarantee immediate and future access to foreign oil. Second the case of the UK which is only concerned with its future level of oil dependence. Third the particular case of France, a country which aid disbursements respond positively to a rise in current oil production and negatively to a rise in

future oil production. Finally, the conclusions regarding the reaming variables do not change as much from the one achieved with the FE estimator.

**FDI Results**

Table VII reports the results obtained through the OLS estimation of equation (II) and it is possible to conclude that FDI flows are attracted by the existence of oil in the investment hosting country. Though, a closer look at this result shows that the current level of oil production is much more important in determining the location of future investments then the level of future oil production, which is given as proxy by the independent variable oil reverses. In fact, a rise in the level of future oil production is associated with a reduction in the amount of FDI flows.

Additionally, the OLS results allow the conclusion that the more democratic a country is, the higher will be the amount of FDI that it will receive. Nevertheless, the same is not true regarding the existence of solid socioeconomic conditions and a well-functioning judicial system in the investment hosting country.

**Table VII. OLS Regressions - Dependent Variable: Log of total FDI outward flows**

| | | Total (1) | USA (2) | Germany (3) | UK (4) | France (5) | Sweden (6) |
|---|---|---|---|---|---|---|---|
| **Oil Reserves** | Coef. | -0.023*** | -4.637 | -0.020*** | -0.014*** | -0.021*** | -0.017*** |
| | St. err. | (0.004) | (12.427) | (0.002) | (0.003) | (0.003) | (0.003) |
| **Oil Production** | Coef. | 0.001*** | 0.395 | 0.001*** | 0.000*** | 0.001*** | 0.000*** |
| | St. err. | (0.0) | (0.268) | (0.0) | (0.0) | (0.0) | (0.0) |
| **Democracy Level** | Coef. | 0.322 | 2.324.922*** | 1.095*** | 1.958*** | 0.777*** | 3.444*** |
| | St. err. | (0.532) | (442.263) | (0.285) | (0.395) | (0.298) | (0.548) |
| **Socioeconomic Conditions** | Coef. | 2.109*** | 5.364.748*** | 0.364 | 1.079** | -0.281 | 2.380*** |
| | St. err. | (0.758) | (1476.213) | (0.411) | (0.473) | (0.467) | (0.692) |
| **Law and Order** | Coef. | 2.399*** | 1.570.416** | 2.143*** | 0.532 | 2.030*** | 1.347** |
| | St. err. | (0.552) | (664.281) | (0.269) | (0.352) | (0.354) | (0.537) |
| **Constant** | Coef. | 5.232*** | -4.206.650*** | 1.025*** | 2.465*** | 1.884*** | -2.032*** |
| | St. err. | (0.425) | (963.471) | (0.236) | (0.355) | (0.271) | (0.380) |
| **Controls** | | Yes | Yes | Yes | Yes | Yes | Yes |
| **Observations** | | 858 | 508 | 796 | 424 | 718 | 388 |
| **Adjusted R2** | | 0.176 | 0.136 | 0.330 | 0.270 | 0.261 | 0.437 |

Notes: Independent variables are described in detail in the previous section. Standard errors are robust standard errors. *significant at 10%, **significant at 5%, ***significant at 1%.

Once again, the OLS estimator may not be able to address an omitted variable bias which would undermine the validity of the results. Consequently equation (II) was also estimated through the FE estimator and the results are presented in table VIII.

**Table VIII. FE Regressions - Dependent Variable: Log of total FDI outward flows**

| | | Total | USA | Germany | UK | France | Sweden |
|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) |
| **Oil Reserves** | Coef. | 0.006 | 60.538*** | 0.003 | 0.012*** | 0.009 | 0.006 |
| | St. err. | (0.008) | (22.216) | (0.004) | (0.004) | (0.008) | (0.005) |
| **Oil Production** | Coef. | 0.001* | -0.114 | 0.000** | 0.000 | 0.001** | 0.000 |
| | St. err. | (0.001) | (0.416) | (0.0) | (0.0) | (0.0) | (0.0) |
| **Democracy Level** | Coef. | 0.113 | 3.654.427 | 0.635 | 2.020*** | 0.529 | 3.290*** |
| | St. err. | (1.520) | (2756.971) | (0.659) | (0.556) | (0.911) | (0.844) |
| **Socioeconomic Conditions** | Coef. | 1.845 | 4.557.846 | -0.427 | -0.281 | -0.147 | 2.178* |
| | St. err. | (1.238) | (2788.216) | (0.623) | (0.644) | (0.919) | (1.148) |
| **Law and Order** | Coef. | 1.889* | 2.009.431 | 1.585** | 0.469 | 1.787** | 0.946 |
| | St. err. | (1.054) | (2390.167) | (0.669) | (0.596) | (0.867) | (1.928) |
| **Constant** | Coef. | 4.517*** | -5.753.843* | 1.757** | 2.800*** | 1.306 | -1.923 |
| | St. err. | (1.657) | (3290.719) | (0.801) | (0.561) | (1.054) | (1.406) |
| **Controls** | | Yes | Yes | Yes | Yes | Yes | Yes |
| **Observations** | | 858 | 508 | 796 | 424 | 718 | 388 |
| **Adjusted R2** | | 0.062 | 0.125 | 0.069 | 0.082 | 0.081 | 0.101 |

Notes: Independent variables are described in detail in the previous section. Standard errors are robust standard errors. *significant at 10%, **significant at 5%, ***significant at 1%.

Table VIII shows that after controlling for omitted variables that may differ between oil producing countries but which are constant over time, oil still matters as a determinant of FDI. However, now both the current and the future level of oil production, given as proxy by the independent variable oil reverses, are important for the attractiveness of FDI. In addition, it is noteworthy to highlight that for the six geographical entities there is no single case in which both the current and future levels of oil production matter at the same time for the determination of future investment projects. Indeed, for some of them as the UK, only the current level of oil production influences the allocation of FDI, while for others as the USA only the future level of oil production is relevant. The conclusions regarding the reaming variables do not change as much from the ones achieved with the OLS estimator.

Despite the improvement achieved with the FE estimator, it was necessary to address the possible existence of a simultaneous causality bias. As explained above, the solution was to resort to the 2SLS estimator with FE and the results are reported in table IX.

The major difference between the 2SLS results and the previous ones is the fact that democracy does not matter for the allocation of FDI flows. Also, the interpretation of the oil variables matches the one conducted for the OLS results. Finally, sound socioeconomic

conditions and a well-functioning judicial system seem to be important in attracting FDI, though only for the case of France and for the aggregate.

**Table IX. 2SLS Regressions - Dependent Variable: Log of total FDI outward flows**

| | | Total | USA | UK | Germany | France | Sweden |
|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) |
| **Oil Reserves** | Coef. | -0.132*** | -0.034** | -0.020* | -0.048** | -0.047*** | -0.045** |
| | St. err. | (0.041) | (0.013) | (0.011) | (0.020) | (0.016) | (0.019) |
| **Oil Production** | Coef. | 0.010*** | 0.003*** | 0.003*** | 0.005*** | 0.004*** | 0.004*** |
| | St. err. | (0.001) | (0.001) | (0.001) | (0.002) | (0.001) | (0.001) |
| **Democracy level** | Coef. | -0.738 | 0.318 | 0.271 | -0.873 | 0.170 | -0.217 |
| | St. err. | (1.166) | (0.776) | (0.782) | (1.820) | (0.527) | (0.591) |
| **Socioeconomic Conditions** | Coef. | -0.203 | -0.532 | -0.960 | 0.149 | -1.161* | -1.014 |
| | St. err. | (1.364) | (0.813) | (0.706) | (1.639) | (0.613) | (0.721) |
| **Law & Order** | Coef. | -4.015*** | 0.714 | -0.596 | -1.307 | -0.621 | -0.394 |
| | St. err. | (1.104) | (0.535) | (0.570) | (1.014) | (0.509) | (0.583) |
| **Weak Indentification Test (F-Statistic)** | | 64.481 | 24.161 | 17.399 | 17.619 | 49.293 | 44.406 |
| **Observations** | | 809 | 497 | 422 | 386 | 750 | 697 |
| **Adjusted R2** | | -2.093 | -1.362 | -1.23 | -2.511 | -1.276 | -1.163 |

Notes: Independent variables are described in detail in the previous section. All regressions use as an instrument for the variable oil production, the world (for the total) or the country oil consumption times the exports of goods and services, as percentage of GDP, of all oil producing countries. Standard errors are robust standard errors. *significant at 10%, **significant at 5%, ***significant at 1%.

## 5. Conclusion

In light of the previous literature, which has uncovered that one of the key factors behind foreign aid giving is the strategic interest of donors; this paper addressed a particular feature of this strategic behavior: the usage of foreign aid to get preferential access to one of the most important raw materials in the world, crude oil. Hence, one of the main questions posed by this paper was the following: is the increased competition for getting access to oil translated into the patterns of foreign aid giving?

Indeed, being oil a fundamental input for the well-functioning of any economy, a priori it was suspected that a rise in the amount of oil reserves and/or a rise in oil production would lead to an increase in the amount of foreign aid given by the donors analyzed in this paper. Nevertheless, the results achieved through the estimation of equation (I) do not show a clear pattern to support this conclusion. In reality, of the six geographical entities considered, only the USA´s disbursements of aid react positively both to oil reserves and production. Actually, as the

former USA president George W. Bush said: "It is clear our nation is reliant upon big foreign oil. More and more of our imports come from overseas." Thus, it seems that the USA is doing everything in its power to get access to the needed and desired foreign oil, including driving its foreign aid policy to oil producing countries. At the other end is Sweden, which guides its foreign aid policy disregarding the existence of oil in the aid receiving countries. Another noteworthy result was that France´s aid disbursements respond positively to a rise in the amount of current oil production, but negatively to a rise in the future level of oil production, which was given as proxy by the variable oil reserves, a result that may constitute the basis of a future research regarding its causes and consequences. Also, contrarily to Alesina and Dollar (2000) the pattern of France´s aid disbursements does not seem to be much different from the other 5 geographical entities considered and only Sweden rewards the democratization process. Additionally, the majority of donors are favoring oil production instead of the quality of institutions, such as the existence of a well-functioning bureaucratic system, thus it seems that international donors are not concerned with the possible existence of a resource curse in the aid receiving countries.

Furthermore, this paper was also devoted to study the link between FDI and oil. Indeed, it was supposed that a rise in oil reverses and/or production would be translated into a rise in the amount of FDI outward flows. Though the results obtained through the estimation of equation (II) were striking: an increase in the current level of oil production leads to a rise in FDI flows while the same does not apply to a rise in the future level of oil production, which was given as proxy by the variable oil reserves. Actually, a rise in the amount of oil reserves leads to a reduction in the amount of FDI outward flows; a counterintuitive result for which future research is needed in order to understand the rationale behind it. Moreover, Alesina and Dollar (2000) found that the level of democracy does not have a role in determining the direction of

FDI and that what matters is the rule of law and the socioeconomic conditions in place, yet, the results obtained in this paper only substantiate the result regarding the democratic level.

Finally, future research is needed to complement this paper. In particular, a study to analyze if the use of foreign aid as a strategic mechanism to get priority access to oil was translated into more favorable agreements for oil prospection and exploitation for the donors which have increased their aid disbursements to oil producing countries.

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A Work Project, presented as part of the requirements for the Award of a Masters Degree in Economics from the NOVA – School of Business and Economics.

# Oil, Foreign Aid and FDI Flows:

# The Missing Link?

# Appendices

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A Project carried out under the supervision of: Pedro Vicente

07 De Janeiro de 2013

## Appendix 1.

The list of the 44 donor countries included in the data set build for this paper is presented in the following table.

**Table X. List of the 44 donor countries**

| Variable | Code | Definition |
|---|---|---|
| Australia Grants | AUSGrants | Australia´s Grants (mill. constant 2010 $) |
| Austria Grants | AUTGrants | Austria´s Grants (mill. constant 2010 $) |
| Belgium Grants | BELGrants | Belgium´s Grants (mill. constant 2010 $) |
| Canada Grants | CANGrants | Canada´s Grants (mill. constant 2010 $) |
| Chinese Taipei Grants | TWNGrants | Chinese Taipei´s Grants (mill. constant 2010 $) |
| Cyprus Grants Grants | CYPGrants | Cyprus´s Grants (mill. constant 2010 $) |
| Czech Republic Grants | CZEGrants | Czech Republic ´s Grants (mill. constant 2010 $) |
| Denmark Grants | DNKGrants | Denmark´s Grants (mill. constant 2010 $) |
| Estonia Grants | ESTGrants | Estonia´s Grants (mill. constant 2010 $) |
| Finland Grants | FINGrants | Finland´s Grants (mill. constant 2010 $) |
| France Grants | FRAGrants | France´s Grants (mill. constant 2010 $) |
| Germany Grants | DEUGrants | Germany´s Grants (mill. constant 2010 $) |
| Greece Grants | GRCGrants | Greece´s Grants (mill. constant 2010 $) |
| Hungary Grants | HUNGrants | Hungary´s Grants (mill. constant 2010 $) |
| Iceland Grants | ISLGrants | Iceland´s Grants (mill. constant 2010 $) |
| Ireland Grants | IRLGrants | Ireland´s Grants (mill. constant 2010 $) |
| Israel Grants | ISRGrants | Israel´s Grants (mill. constant 2010 $) |
| Italy Grants | ITAGrants | Italy´s Grants (mill. constant 2010 $) |
| Japan Grants | JPNGrants | Japan´s Grants (mill. constant 2010 $) |
| South Korea Grants | KOREA-NSGrants | South Korea´s Grants (mill. constant 2010 $) |
| Kuwait Grants | KWTGrants | Kuwait´s Grants (mill. constant 2010 $) |
| Latvia Grants | LVAGrants | Latvia´s Grants (mill. constant 2010 $) |
| Liechtenstein Grants | LIEGrants | Liechtenstein´s Grants (mill. constant 2010 $) |
| Lithuania Grants | LTUGrants | Lithuania´s Grants (mill. constant 2010 $) |
| Luxembourg Grants | LUXGrants | Luxembourg´s Grants (mill. constant 2010 $) |
| Malta Grants | MLTGrants | Malta´s Grants (mill. constant 2010 $) |
| Netherlands Grants | NLDGrants | Netherlands´s Grants (mill. constant 2010 $) |
| New Zeland Grants | NZLGrants | New Zeland´s Grants (mill. constant 2010 $) |
| Norway Grants | NORGrants | Norway´s Grants (mill. constant 2010 $) |
| Poland Grants | POLGrants | Poland´s Grants (mill. constant 2010 $) |
| Portugal Grants | PRTGrants | Portugal´s Grants (mill. constant 2010 $) |
| Romania Grants | ROUGrants | Romania´s Grants (mill. constant 2010 $) |
| Russia Grants | RUSGrants | Russia´s Grants (mill. constant 2010 $) |
| Saudi Arabia Grants | SAUGrants | Saudi Arabia´s Grants (mill. constant 2010 $) |
| Slovak Republic Grants | SVKGrants | Slovak Republic´s Grants (mill. constant 2010 $) |
| Slovenia Grants | SVNGrants | Slovenia´s Grants (mill. constant 2010 $) |

| | | |
|---|---|---|
| Spain Grants | ESPGrants | Spain´s Grants (mill. constant 2010 $) |
| Sweden Grants | SWEGrants | Sweden´s Grants (mill. constant 2010 $) |
| Switzerland Grants | CHEGrants | Switzerland´s Grants (mill. constant 2010 $) |
| Thailand Grants | THAGrants | Thailand´s Grants (mill. constant 2010 $) |
| Turkey Grants | TURGrants | Turkey´s Grants (mill. constant 2010 $) |
| United Arab Emirates Grants | AREGrants | United Arab Emirates´s Grants (mill. constant 2010 $) |
| United Kingdom Grants | GBRGrants | United Kingdom´s Grants (mill. constant 2010 $) |
| United States of America Grants | USAGrants | United States of America´s Grants (mill. constant 2010 $) |

Note: The source of all these variables is the Development Assistance Committee of the Organisation for Cooperation and Development Economy (2012).

## Appendix 2.

The list of the 34 investing countries included in the data set build for this paper is presented in the following table.

**Table XI. List of the 34 investing countries**

| Variable | Code | Definition |
|---|---|---|
| Australia FDI | AUSFDI | Australia´s FDI outward flows (millions $) |
| Austria FDI | AUTFDI | Austria´s FDI outward flows (millions $) |
| Belgium FDI | BELFDI | Belgium´s FDI outward flows (millions $) |
| Canada FDI | CANFDI | Canada´s FDI outward flows (millions $) |
| Chile FDI | CHLFDI | Chile´s FDI outward flows (millions $) |
| Czech Republic FDI | CZEFDI | Czech Republic´s FDI outward flows (millions $) |
| Denmark FDI | DNKFDI | Denmark´s FDI outward flows (millions $) |
| Estonia FDI | ESTFDI | Estonia´s FDI outward flows (millions $) |
| Finland FDI | FINFDI | Finland´s FDI outward flows (millions $) |
| France FDI | FRAFDI | France´s FDI outward flows (millions $) |
| Germany FDI | DEUFDI | Germany´s FDI outward flows (millions $) |
| Greece FDI | GRCFDI | Greece´s FDI outward flows (millions $) |
| Hungary FDI | HUNFDI | Hungary´s FDI outward flows (millions $) |
| Iceland FDI | ISLFDI | Iceland´s FDI outward flows (millions $) |
| Ireland FDI | IRLFDI | Ireland´s FDI outward flows (millions $) |
| Israel FDI | ISRFDI | Israel´s FDI outward flows (millions $) |
| Italy FDI | ITAFDI | Italy´s FDI outward flows (millions $) |
| Japan FDI | JPNFDI | Japan´s FDI outward flows (millions $) |
| South Korea FDI | KOREA-NSFDI | South Korea´s FDI outward flows (millions $) |
| Luxembourg FDI | LUXFDI | Luxembourg´s FDI outward flows (millions $) |
| Mexico FDI | MEXFDI | Mexico´s FDI outward flows (millions $) |
| Netherlands FDI | NLDFDI | Netherlands´s FDI outward flows (millions $) |
| New Zeland FDI | NZLFDI | New Zeland´s FDI outward flows (millions $) |
| Norway FDI | NORFDI | Norway´s FDI outward flows (millions $) |
| Poland FDI | POLFDI | Poland´s FDI outward flows (millions $) |
| Portugal FDI | PRTFDI | Portugal´s FDI outward flows (millions $) |

| | | |
|---|---|---|
| Slovak Republic FDI | SVKFDI | Slovak Republic´s FDI outward flows (millions $) |
| Slovenia FDI | SVNFDI | Slovenia´s FDI outward flows (millions $) |
| Spain FDI | ESPFDI | Spain´s FDI outward flows (millions $) |
| Sweden FDI | SWEFDI | Sweden´s FDI outward flows (millions $) |
| Switzerland FDI | CHEFDI | Switzerland´s FDI outward flows (millions $) |
| Turkey FDI | TURFDI | Turkey´s FDI outward flows (millions $) |
| United Kingdom FDI | GBRFDI | United Kingdom´s FDI outward flows (millions $) |
| United States of America | USAFDI | United States of America ´s FDI outward flows (millions $) |

Note: The source of all these variables is the Organisation for Cooperation and Development Economy (2012).

## Appendix 3.

The list of the 48 oil producing countries included in the data set build for this paper is presented in the following table.

### Table XII. List of the 48 oil producing countries

| Variable | Code | Definition |
|---|---|---|
| Algeria | DZAOilP. | Algeria´s oil production (thousand million barrels) |
| Angola | AGOOilP. | Angola´s oil production (thousand million barrels) |
| Argentina | ARGOilP. | Argentina´s oil production (thousand million barrels) |
| Australia | AUSOilP. | Australia´s oil production (thousand million barrels) |
| Azerbaijan | AZEOilP. | Azerbaijan´s oil production (thousand million barrels) |
| Brazil | BRAOilP. | Brazil´s oil production (thousand million barrels) |
| Brunei Darussalam | BRNOilP. | Brunei Darussalam´s oil production (thousand million barrels) |
| Canada | CANOilP. | Canada´s oil production (thousand million barrels) |
| Chad | TCDOilP. | Chad´s oil production (thousand million barrels) |
| China | CHNOilP. | China´s oil production (thousand million barrels) |
| Colombia | COLOilP. | Colombia´s oil production (thousand million barrels) |
| Denmark | DNKOilP. | Denmark´s oil production (thousand million barrels) |
| Ecuador | ECUOilP. | Ecuador´s oil production (thousand million barrels) |
| Egypt | EGYOilP. | Egypt´s oil production (thousand million barrels) |
| Equatorial Guinea | GNQOilP. | Equatorial Guinea´s oil production (thousand million barrels) |
| Gabon | GABOilP. | Gabon´s oil production (thousand million barrels) |
| India | INDOilP. | India´s oil production (thousand million barrels) |
| Indonesia | IDNOilP. | Indonesia´s oil production (thousand million barrels) |
| Iran | IRNOilP. | Iran´s oil production (thousand million barrels) |
| Iraq | IRQOilP. | Iraq´s oil production (thousand million barrels) |
| Italy | ITAOilP. | Italy´s oil production (thousand million barrels) |
| Kazakhstan | KAZOilP. | Kazakhstan´s oil production (thousand million barrels) |
| Kuwait | KWTOilP. | Kuwait´s oil production (thousand million barrels) |
| Libya | LBYOilP. | Libya´s oil production (thousand million barrels) |
| Malaysia | MYSOilP. | Malasyia´s oil production (thousand million barrels) |
| Mexico | MEXOilP. | Mexico´s oil production (thousand million barrels) |
| Nigeria | NGAOilP. | Nigeria´s oil production (thousand million barrels) |

| | | |
|---|---|---|
| Norway | NOROilP. | Norway´s oil production (thousand million barrels) |
| Oman | OMNOilP. | Oman´s oil production (thousand million barrels) |
| Peru | PEROilP. | Peru´s oil production (thousand million barrels) |
| Qatar | QATOilP. | Qatar´s oil production (thousand million barrels) |
| Republic of Congo | COGOilP. | Republic of Congo´s oil production (thousand million barrels) |
| Romania | ROUOilP. | Romania´s oil production (thousand million barrels) |
| Russia | RUSOilP. | Russia´s oil production (thousand million barrels) |
| Saudi Arabia | SAUOilP. | Saudi Arabia´s oil production (thousand million barrels) |
| Sudan | SDNOilP. | Sudan´s oil production (thousand million barrels) |
| Syria | SYROilP. | Syria´s oil production (thousand million barrels) |
| Thailand | THAOilP. | Thailand´s oil production (thousand million barrels) |
| Trinidad & Tobago | TTOOilP. | Trinidad & Tobago´s oil production (thousand million barrels) |
| Tunisia | TUNOilP. | Tunisia´s oil production (thousand million barrels) |
| Turkmenistan | TKMOilP. | Turkmenistan´s oil production (thousand million barrels) |
| United Arab Emirates | AREOilP. | United Arab Emirates´s oil production (thousand million barrels) |
| United Kingdom | GBROilP. | United Kingdom´s oil production (thousand million barrels) |
| United States of America | USAOilP. | United States of America´s oil production (thousand million barrels) |
| Uzbekistan | UZBOilP. | Uzbekistan´s oil production (thousand million barrels) |
| Venezuela | VENOilP. | Venezuela´s oil production (thousand million barrels) |
| Vietnam | VNMOilP. | Vietnam´s oil production (thousand million barrels) |
| Yemen | YEMOilP. | Yemen´s oil production (thousand million barrels) |

Note: The source of all these variables is the BP Statistical Review of World Energy June 2012.

## Appendix 4.

The list of the 48 countries with proven oil reserves included in the data set build for this paper is presented in the following table.

**Table XIII. List of the 48 countries with proven oil reserves**

| Variable | Code | Definition |
|---|---|---|
| Algeria | DZAOilR. | Algeria´s proven reserves of oil (thousand million barrels) |
| Angola | AGOOilR. | Angola´s proven reserves of oil (thousand million barrels) |
| Argentina | ARGOilR. | Argentina´s proven reserves of oil (thousand million barrels) |
| Australia | AUSOilR. | Australia´s proven reserves of oil (thousand million barrels) |
| Azerbaijan | AZEOilR. | Azerbaijan´s proven reserves of oil (thousand million barrels) |
| Brazil | BRAOilR. | Brazil´s proven reserves of oil (thousand million barrels) |
| Brunei Darussalam | BRNOilR. | Brunei Darussalam´s proven reserves of oil (thousand million barrels) |
| Canada | CANOilR. | Canada´s proven reserves of oil (thousand million barrels) |
| Chad | TCDOilR. | Chad´s proven reserves of oil (thousand million barrels) |
| China | CHNOilR. | China´s proven reserves of oil (thousand million barrels) |
| Colombia | COLOilR. | Colombia´s proven reserves of oil (thousand million barrels) |
| Denmark | DNKOilR. | Denmark´s proven reserves of oil (thousand million barrels) |
| Ecuador | ECUOilR. | Ecuador´s proven reserves of oil (thousand million barrels) |
| Egypt | EGYOilR. | Egypt´s proven reserves of oil (thousand million barrels) |

| | | |
|---|---|---|
| Equatorial Guinea | GNQOilR. | Equatorial Guinea´s proven reserves of oil (thousand million barrels) |
| Gabon | GABOilR. | Gabon´s proven reserves of oil (thousand million barrels) |
| India | INDOilR. | India´s proven reserves of oil (thousand million barrels) |
| Indonesia | IDNOilR. | Indonesia´s proven reserves of oil (thousand million barrels) |
| Iran | IRNOilR. | Iran´s proven reserves of oil (thousand million barrels) |
| Iraq | IRQOilR. | Iraq´s proven reserves of oil (thousand million barrels) |
| Italy | ITAOilR. | Italy´s proven reserves of oil (thousand million barrels) |
| Kazakhstan | KAZOilR. | Kazakhstan´s proven reserves of oil (thousand million barrels) |
| Kuwait | KWTOilR. | Kuwait´s proven reserves of oil (thousand million barrels) |
| Libya | LBYOilR. | Libya´s proven reserves of oil (thousand million barrels) |
| Malaysia | MYSOilR. | Malasyia´s proven reserves of oil (thousand million barrels) |
| Mexico | MEXOilR. | Mexico´s proven reserves of oil (thousand million barrels) |
| Nigeria | NGAOilR. | Nigeria´s proven reserves of oil (thousand million barrels) |
| Norway | NOROilR. | Norway´s proven reserves of oil (thousand million barrels) |
| Oman | OMNOilR. | Oman´s proven reserves of oil (thousand million barrels) |
| Peru | PEROilR. | Peru´s proven reserves of oil (thousand million barrels) |
| Qatar | QATOilR. | Qatar´s proven reserves of oil (thousand million barrels) |
| Republic of Congo | COGOilR. | Republic of Congo´s proven reserves of oil (thousand million barrels) |
| Romania | ROUOilR. | Romania´s proven reserves of oil (thousand million barrels) |
| Russia | RUSOilR. | Russia´s proven reserves of oil (thousand million barrels) |
| Saudi Arabia | SAUOilR. | Saudi Arabia´s proven reserves of oil (thousand million barrels) |
| Sudan | SDNOilR. | Sudan´s proven reserves of oil (thousand million barrels) |
| Syria | SYROilR. | Syria´s proven reserves of oil (thousand million barrels) |
| Thailand | THAOilR. | Thailand´s proven reserves of oil (thousand million barrels) |
| Trinidad & Tobago | TTOOilR. | Trinidad & Tobago´s proven reserves of oil (thousand million barrels) |
| Tunisia | TUNOilR. | Tunisia´s proven reserves of oil (thousand million barrels) |
| Turkmenistan | TKMOilR. | Turkmenistan´s proven reserves of oil (thousand million barrels) |
| United Arab Emirates | AREOilR. | United Arab Emirates´s proven reserves of oil (thousand million barrels) |
| United Kingdom | GBROilR. | United Kingdom´s proven reserves of oil (thousand million barrels) |
| United States of America | USAOilR. | United States of America´s proven reserves of oil (thousand million barrels) |
| Uzbekistan | UZBOilR. | Uzbekistan´s proven reserves of oil (thousand million barrels) |
| Venezuela | VENOilR. | Venezuela´s proven reserves of oil (thousand million barrels) |
| Vietnam | VNMOilR. | Vietnam´s proven reserves of oil (thousand million barrels) |
| Yemen | YEMOilR. | Yemen´s proven reserves of oil (thousand million barrels) |

Note: The source of all these variables is the BP Statistical Review of World Energy June 2012. Proven oil reserves are defined generally as those quantities of oil that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions.

**Appendix 5.**

This appendix is devoted to the detail description of the control variables included in both equation (I) and (II).

**GDP Per Capita**

The variable GDP per capita included in equation (I) was retrieved the World Bank (WB) data-base. Moreover the WB defines it as: the GDP divided by midyear population and the data is expressed in constant prices (2000 USA dollars).

**Democracy Level**

Democracy level included in both equations is an index of the Polity IV Project, ranging from -10 to 10; -10 implying a strongly autocratic regime and 10 a strongly democratic regime. Though, in this paper this variable was normalized to the 0-1 scale.

**Government Stability**

Government stability included in equation (I) is a risk measured composed by three components: government unity, legislative strength and popular support each ranging from 0 to 4 points implying high and low risk, yet; it was normalized to the 0-1 scale. The source of this variable is the International Country Risk Guide (ICRG) of Political Risk Group Services (PRS).

**c) Bureaucracy Quality**

Bureaucracy quality included in equation (I) is a risk measured which ranges from 0 to 4 points implying high and low risk, though; it was normalized to the 0-1 scale. Moreover the source of this variable is the ICRG of PRS group.

**d) Socioeconomic Conditions**

Socioeconomic conditions used in equation (II), is a risk measured composed by three components: unemployment, consumer confidence and poverty each ranging from

0 to 4 points implying high and low risk, nevertheless, it was normalized to the 0-1 scale. Moreover the source of this variable is the ICRG of PRS group.

**e) Law and Order**

Law and order, used in equation (II), are from the ICRG of the PRS group and are assessed separately with each sub-component comprising 0 to 3 points implying very low risk and very high risk, still; it was normalized to the 0-1 scale. Moreover the sub-component law, assess the strength and impartiality of the legal system, while the sub-component Order assesses the popular observance to the law.

## Appendix 6.

Descriptive statistics of all the variables included in the data set built for this paper is presented in the following table.

**Table XIV. Descriptive Statistics**

| Variable | Measurement Unit | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|---|
| **Dependent Variables:** | | | | | | |
| Grants Total | Constant prices (2010 USA million dollars) | 1094 | 3.853.473 | 1.112.619 | 0 | 24831.81 |
| Australia Grants | Constant prices (2010 USA million dollars) | 547 | 2.497.578 | 5.550.789 | 0 | 404.05 |
| Austria Grants | Constant prices (2010 USA million dollars) | 909 | 5.465.985 | 4.369.762 | 0.01 | 938.63 |
| Belgium Grants | Constant prices (2010 USA million dollars) | 832 | 4.794.291 | 1.534.999 | 0.01 | 291.07 |
| Canada Grants | Constant prices (2010 USA million dollars) | 885 | 1.386.174 | 2.740.581 | 0.01 | 504.98 |
| Chinese Taipei Grants | Constant prices (2010 USA million dollars) | 85 | 0.563294 1 | 0.7428491 | 0.01 | 3.95 |
| Cyprus Grants Grants | Constant prices (2010 USA million dollars) | 57 | 0.099649 1 | 0.120534 | 0.01 | 0.46 |
| Czech Republic Grants | Constant prices (2010 USA million dollars) | 272 | 0.855 | 4.260.173 | 0.01 | 64.78 |
| Denmark Grants | Constant prices (2010 USA million dollars) | 525 | 1.159.097 | 2.109.294 | 0.01 | 129.5 |
| Estonia Grants | Constant prices (2010 USA million dollars) | 32 | 0.064062 5 | 0.098238 | 0 | 0.52 |
| Finland Grants | Constant prices (2010 USA million dollars) | 740 | 3.097.446 | 8.729.075 | 0.01 | 176.56 |
| France Grants | Constant prices (2010 USA million dollars) | 1084 | 3.924.282 | 1.171.346 | 0.01 | 2298.91 |
| Germany Grants | Constant prices (2010 USA million dollars) | 1080 | 4.526.364 | 1.402.292 | 0.01 | 2250.39 |
| Greece Grants | Constant prices (2010 USA million dollars) | 357 | 0.657871 1 | 1.575.914 | 0.01 | 13.83 |
| Hungary Grants | Constant prices (2010 USA million dollars) | 97 | 1.119.381 | 8.245.565 | 0 | 80.59 |
| Iceland Grants | Constant prices (2010 USA million dollars) | 12 | 0.425 | 0.4509082 | 0.07 | 1.35 |
| Ireland Grants | Constant prices (2010 USA million | 486 | 1.243.333 | 3.081.532 | 0 | 26.5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | dollars) | | | | | | | |
| Israel Grants | Constant prices (2010 USA million dollars) | 326 | 1.639.877 | 3.726.796 | 0 | 45.83 | | |
| Italy Grants | Constant prices (2010 USA million dollars) | 909 | 1.391.909 | 6.415.806 | 0.01 | 1111.82 | | |
| Japan Grants | Constant prices (2010 USA million dollars) | 1076 | 4.837.947 | 1.852.088 | 0.01 | 4200.82 | | |
| South Korea Grants | Constant prices (2010 USA million dollars) | 679 | 1.843.432 | 7.812.348 | 0 | 149.18 | | |
| Kuwait Grants | Constant prices (2010 USA million dollars) | 250 | 221.968 | 8.556.688 | 0.01 | 706.8 | | |
| Latvia Grants | Constant prices (2010 USA million dollars) | 15 | 0.020666 7 | 0.0535146 | 0 | 0.21 | | |
| Liechtenstein Grants | Constant prices (2010 USA million dollars) | 8 | 0.26 | 0.5242682 | 0.01 | 1.55 | | |
| Lithuania Grants | Constant prices (2010 USA million dollars) | 55 | 0.030545 5 | 0.0404794 | 0 | 0.24 | | |
| Luxembourg Grants | Constant prices (2010 USA million dollars) | 377 | 1.427.692 | 2.530.479 | 0.02 | 17.31 | | |
| Malta Grants | Constant prices (2010 USA million dollars) | 0 | | | | | | |
| Netherlands Grants | Constant prices (2010 USA million dollars) | 882 | 2.246.076 | 414.915 | 0 | 342.94 | | |
| New Zeland Grants | Constant prices (2010 USA million dollars) | 445 | 1.241.416 | 24.023 | 0.01 | 15.31 | | |
| Norway Grants | Constant prices (2010 USA million dollars) | 759 | 8.657.352 | 1.854.316 | 0.01 | 242.97 | | |
| Poland Grants | Constant prices (2010 USA million dollars) | 340 | 0.574941 2 | 5.837.389 | 0 | 107.28 | | |
| Portugal Grants | Constant prices (2010 USA million dollars) | 219 | 323.516 | 873.508 | 0.01 | 49.99 | | |
| Romania Grants | Constant prices (2010 USA million dollars) | 25 | 0.0852 | 0.1607306 | 0.01 | 0.81 | | |
| Russia Grants | Constant prices (2010 USA million dollars) | 0 | | | | | | |
| Saudi Arabia Grants | Constant prices (2010 USA million dollars) | 0 | | | | | | |
| Slovak Republic Grants | Constant prices (2010 USA million dollars) | 85 | 0.957764 7 | 4.020.368 | 0 | 25.07 | | |
| Slovenia Grants | Constant prices (2010 USA million dollars) | 33 | 0.069393 9 | 0.0932047 | 0.01 | 0.41 | | |
| Spain Grants | Constant prices (2010 USA million dollars) | 621 | 110.052 | 2.328.262 | 0.01 | 223.76 | | |
| Sweden Grants | Constant prices (2010 USA million dollars) | 759 | 1.122.165 | 2.746.418 | 0.01 | 311.98 | | |
| Switzerland Grants | Constant prices (2010 USA million dollars) | 856 | 6.251.308 | 1.216.417 | 0.01 | 209.87 | | |
| Thailand Grants | Constant prices (2010 USA million dollars) | 91 | 0.122527 5 | 0.2569288 | 0.01 | 1.47 | | |
| Turkey Grants | Constant prices (2010 USA million dollars) | 313 | 5.658.722 | 1.189.274 | 0 | 68.55 | | |
| United Arab Emirates Grants | Constant prices (2010 USA million dollars) | 423 | 3.653.019 | 1.453.419 | 0 | 1619.41 | | |
| United Kingdom Grants | Constant prices (2010 USA million dollars) | 873 | 344.999 | 1.489.333 | 0.01 | 2940.99 | | |
| United States of America Grants | Constant prices (2010 USA million dollars) | 794 | 147.455 | 6.071.486 | 0.01 | 12461.9 | | |
| FDI total | Millions of USA Dollars | 1248 | 524165.1 | 3082535 | 0 | 7.59E+0 7 | | |
| Australia FDI | Millions of USA Dollars | 414 | 3.986.774 | 1512.44 | 0 | 14255.53 | | |
| Austria FDI | Millions of USA Dollars | 429 | 1.258.256 | 4.434.214 | 0 | 6.513.11 7 | | |
| Belgium FDI | Millions of USA Dollars | 332 | 6.212.091 | 2.306.428 | 0 | 30593.38 | | |
| Canada FDI | Millions of USA Dollars | 59 | 6.132.146 | 9.171.599 | 0 | 47097.23 | | |
| Chile FDI | Millions of USA Dollars | 240 | 1.039.042 | 3.318.475 | 0 | 2070 | | |
| Czech Republic FDI | Millions of USA Dollars | 419 | 7.146.251 | 4.174.125 | 0 | 673.531 | | |
| Denmark FDI | Millions of USA Dollars | 527 | 1.538.757 | 528.001 | 0 | 8.052.23 4 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Estonia FDI | Millions of USA Dollars | 360 | 2.864.339 | 1.590.529 | 0 | 186.307 |
| Finland FDI | Millions of USA Dollars | 532 | 1.250.982 | 461.086 | 0 | 6.679.825 |
| France FDI | Millions of USA Dollars | 1068 | 6.837.563 | 3.181.986 | 0 | 57932.91 |
| Germany FDI | Millions of USA Dollars | 1189 | 5.899.395 | 3.008.287 | 0 | 44648.36 |
| Greece FDI | Millions of USA Dollars | 406 | 1.379.882 | 7.312.778 | 0 | 875.307 |
| Hungary FDI | Millions of USA Dollars | 473 | 1.162.678 | 1.381.936 | 0 | 27441.81 |
| Iceland FDI | Millions of USA Dollars | 427 | 4.757.271 | 2.251.703 | 0 | 2.121.736 |
| Ireland FDI | Millions of USA Dollars | 327 | 2.182.622 | 1.034.108 | 0 | 8160.6 |
| Israel FDI | Millions of USA Dollars | 143 | 2.403.995 | 1.200.289 | 0 | 911.022 |
| Italy FDI | Millions of USA Dollars | 635 | 1.481.925 | 5.170.832 | 0 | 6.090.122 |
| Japan FDI | Millions of USA Dollars | 569 | 1.448.535 | 4.020.426 | 0 | 43154.08 |
| South Korea FDI | Millions of USA Dollars | 661 | 1.425.931 | 5.129.464 | 0 | 5.312.787 |
| Luxembourg FDI | Millions of USA Dollars | 426 | 1.063.987 | 4.622.459 | 0 | 37742.29 |
| Mexico FDI | Millions of USA Dollars | 7 | 0 | 0 | 0 | 0 |
| Netherlands FDI | Millions of USA Dollars | 653 | 8.475.744 | 4.694.549 | 0 | 106849.4 |
| New Zeland FDI | Millions of USA Dollars | 511 | 5.666.581 | 2.444.191 | 0 | 3.687.397 |
| Norway FDI | Millions of USA Dollars | 348 | 2.708.952 | 9.236.842 | 0 | 12269.38 |
| Poland FDI | Millions of USA Dollars | 313 | 2.139.699 | 7.630.733 | 0 | 727.8 |
| Portugal FDI | Millions of USA Dollars | 365 | 8.610.787 | 3.649.233 | 0 | 4.542.544 |
| Slovak Republic FDI | Millions of USA Dollars | 413 | 0.826779 | 3.583.788 | 0 | 39.642 |
| Slovenia FDI | Millions of USA Dollars | 240 | 4.321.754 | 2.369.565 | 0 | 297.643 |
| Spain FDI | Millions of USA Dollars | 458 | 8.909.494 | 3.181.168 | 0 | 44624.07 |
| Sweden FDI | Millions of USA Dollars | 629 | 3.097.481 | 1074.73 | 0 | 18099.35 |
| Switzerland FDI | Millions of USA Dollars | 432 | 7.653.102 | 2.489.373 | 0 | 26803.62 |
| Turkey FDI | Millions of USA Dollars | 540 | 1.138.333 | 5.082.188 | 0 | 535 |
| United Kingdom FDI | Millions of USA Dollars | 563 | 1.682.932 | 7.705.092 | 0 | 114258.2 |
| United States of America | Millions of USA Dollars | 691 | 2.053.871 | 5.198.886 | 0 | 49989 |
| **Indenpendent Variables:** | | | | | | |
| Proven Oil Reserves | Thousand Million Barrels | 1397 | 2.488.576 | 48.813 | 0.1 | 296.5 |
| Oil Production | Thousand Million Barrels | 1449 | 1.479.736 | 2.140.852 | 2 | 11416 |
| Bureaucracy Quality | Index Ranging From 0 to 1 | 964 | 0.548231 | 0.2659494 | 0 | 1 |
| Democracy Level | Index Ranging From 0 to 1 | 1395 | 0.713476 | 0.2555645 | 0 | 1 |
| GDP Per Capita | Constant Prices (2000 USD) | 1392 | 7.768.048 | 10451.54 | 1.442.876 | 61374.75 |
| Goverment Stability | Index Ranging From 0 to 1 | 964 | 0.617590 | 0.2022169 | 0 | 1 |
| Law and Order | Index Ranging From 0 to 1 | 964 | 0.539354 | 0.2968405 | 0 | 1 |
| Socieconomic Conditions | Index Ranging From 0 to 1 | 964 | 0.527050 | 0.2093039 | 0 | 1 |

Note: All variables are described in the previous appendices.