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## Critique of Government Protection Policies of Foreign Investors: Heckman`s Two-Step Method

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### Abstract

The purpose of this paper is to criticize the Iranian governments' policies supporting the Foreign Direct Investors. In this regard, 243 questionnaires have been distributed among actual investors (active in the country) and 107 questionnaires among potential ones; by collecting and applying Heckman two-step model, we analyzed them. Using Heckman two-step model was necessary because factors influencing potential investors' behaviors to come or not to Iran were not necessarily the same as the factors influencing the amount of investment inflows by actual investors. Accordingly, in this paper, the soft dimension of business environment (encompassing uncertainty due to Political Instability, Xenophobia, ...) is differentiated from its hard dimension (encompassing Bureaucratic Environment, Government Executive Inability, ...) which can influence on the way that these dimensions impact on investor's behavior. The results indicate that while in deciding to come to Iran, the investors only consider the soft dimension and its decisive importance, policy making in the field of Foreign Direct Investment (FDI) are concentrated only on hard dimensions of the matter. For investors, deciding to enter Iran, the soft dimension is important to them, not the hard dimension, but after entering the country, hard dimensions also becomes important, so that if the country's status is suitable in terms of hard dimensions, actual investors will be more motivated to develop their business and bring more capital in to the country. Improperly prioritizes issues that the investors face, can be one of the failure factors of current policy making to attract real investors.

### Highlights

- In this paper, we have investigated the behaviors of two types of investors: actual ones and potential ones.
- We have differentiated soft and hard dimensions of business environment, and these dimensions way affect on the decision-making process of investors have been analyzed.
- While deciding to invest in Iran, the investors only consider the soft dimension of the business environment, policy making concentrate on its hard dimensions.
- The uncertainty reining Iran has disrupted the decision-making process of investors.

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## 1. Introduction

Country's level of development depends on various factors such as the improvement of the business environment and success in attracting foreign investors. For this purpose, it is crucial to try appropriate policy-making and preparing necessary beds –the business environment, for example. Business environment modification and improving can attract investment by reducing costs (Dawson, 2006). In fact, the appropriate policy-making of the government is a determinant factor in attracting foreign investment. As per the importance of FDI in Iran, it has been explicitly discussed in the text of the Fifth Development Plan Act (legal Articles No. 62, 70, 75, 80 and 82), in some of the principles of the Constitution of the Islamic Republic of Iran (principles No. 44, 46, 77 and 139), The Trade Law of 1932 and the Law on Encouragement and Protection of Foreign Investment approved in 2002. To attract more foreign investors to Iran, the Law on Encouragement and Protection of Foreign Investment was approved in 2002, which had more positive and encouraging points for attracting foreign investors compared to the previous Law (the Law of 1955); still, based on UNCTAD reports, Iran is among the countries that despite its high potential for attracting foreign investment, had been acting quite unsuccessful in the matter so that the amount of foreign investment inflow to Iran is less than many other countries and Iran's share of attracting foreign investment in 2018 has been about 0.3% of the world's foreign investment inflow (UNCTAD, 2019). Therefore, this paper seeks to answer the following question: Why do the Iranian governments' policies supporting the Foreign Direct Investors have not succeeded? In fact, it is impossible to make policies without being aware of the behavior and decision-making process of foreign investors.

To answer this question in this paper, we have differentiated the soft and the hard dimensions of the business environment and have analyzed the influence of these dimensions on investors' behaviors using Heckman two-step model.

This paper is innovative from many aspects; first of all, no research in Iran has ever studied the behavior and decision-making process of potential investors (investors who have not chosen Iran as their investment target) and has only analyzed the actual ones (active in Iran), which leads to errors in policy-making. Secondly, in this paper the soft and hard dimensions of the business environment are distinguished and the effect of these dimensions on investor behavior is analyzed using the Hackman two-stage model.

The article framework is as follows: in the second part we will present the literature review; the third part, represents the research model and data. In the fourth part, the result of the estimation of the model analysis, and at last, in the fifth part, the Concluding Remarks are presented.

## 2. Literature Review

In the current era, we cannot claim that countries with efficient rules can succeed in the process of attracting FDI, but appropriate bed and environment

for the investors to start their business and to invest is inevitable. In fact, besides having suitable rules and policies, the environment for starting a business should be prepared. The better the business environment the stronger the motivation of investors to invest (Karimi Takanlu et al., 2014).

Business environment has both soft and hard dimensions. What we mean by the hard dimension (physical dimension) is the physical and technical characteristics that indicate the ease or unease of doing business. For instance, the beginning of a business time-consuming, the length of licensing process and resolving insolvency fall into the hard dimension. On the contrary, there is a soft dimension (psychological dimension), which consists of factors influencing the mindset of investors while deciding to investigate (Renani, 2014). Political instability, government effectiveness in the country, cultural factors and the like factors of soft dimension category. It seems that in the process of policy-making, they should consider both dimensions in the business environment. Business environment dimensions lead to transaction costs that affect the planning horizon of investors (Holden, 2008).

Based on economics, institutions play a major role in formation of motivational structure of society. In fact, inefficient institutions can increase the costs of FDI (Buchanan et al., 2012). It should be noted that from the birth of a business until the resolving insolvency, the necessary factor to encourage foreign investors is ease of doing business (Casero, 2004). Before choosing a country to invest, investors check the status of the business environment in that country because they do not want to face government executive inability or bureaucratic environment (Haliti et al., 2019).

Most countries of southeastern Asia have exerted change with varying intensity in their governance to improve the soft dimension of the business environment (Yerrabati & Hawkes, 2016). The World Bank has defined good governance based on 6 indicators: (1) Voice & Accountability, (2) Political Stability (No Violence), (3) Government Effectiveness, (4) Regulatory Quality, (5) Rule of Law, and (6) Control of Corruption. According to Richard and Smith (2002), the concept of good governance lies in the fact that in the policy-making process all the stakeholders and actors involved in the matter must be considered in (Kennet, 2008).

Kurul et al. (2017) indicate that the institutional qualities like corruption control; effectiveness; government accountability; and political instability improvement have positive effect on the FDI inflow and investors decision-making. Besides the governance status, the ability of the governments to improve the governance quality and executing prescriptive policies are important factors for showing the level of development of countries. To be more precise, the level of development of countries depends on the executive capacity of states (Andrews et al., 2017).

Governance qualities along with the kind of power enforcement by the government are decisive factors indicating the level of political stability in the society. Mann (1984) declares that government effectiveness depends on the

kind of power enforcement. Michael Mann concentrated on two kinds of power: despotic power and infrastructural power. To be more precise, if the kind of power the government exercises over the society is of despotic kind, it can lead to political instability, which increases uncertainty.

[Noteboom \(1993\)](#) declares that uncertainty is due to expansion of political instability and things like that. [Asiedu \(2013\)](#) indicates that factors such as corruption and political instabilities prevent the inflows of FDI to the country. Besides, we shouldn't ignore the importance of cultural factors in attracting foreign investment. [Seyoum \(2011\)](#) says that cultural factors have a significant impact on FDI. [Kapas \(2020\)](#) emphasis on the influence of culture and cultural gap on the inflow of FDI. Cultural differences between countries have negative impact on foreign investment and the greater this cultural gap, the lower the willingness of foreign investors to invest in the target country ([Tayyebi et al., 2012](#)).

[Adegboye et al. \(2020\)](#) have established the impact of institutional barriers on foreign investment flows in South African countries, which employed pooled data for the period 2000-2018, showed the institutional quality affects the level of foreign direct inflows.

[Hanh et al. \(2017\)](#) Using linear regression equation and statistical data analysis in the period 1998-2016, have shown that protectional policies have been the most important factor in attracting foreign investment in Vietnam.

[Erdogan \(2015\)](#) applied an unbalanced panel data set for 49 countries from 2001 to 2012 to explore the relationship between uncertainty avoidance and foreign investment. Findings show that alienation from destination countries increases uncertainty. Evidence from the above study also show that avoiding uncertainty has a negative effect on the willingness to invest.

[Abdioglu et al. \(2013\)](#) examine the effect of the origin country (USA) governance quality on the decision-making of foreign investors. Researchers through random-effect Tobit panel regressions analysis at firm and country-level, have shown that the governance quality is an important factor influencing the decision-making of foreign investors.

[Teli \(2014\)](#) criticizes the protection policies of India government during 1991-2001 period. This study was based on secondary data from 1991 to 2012, The least square method has been used. The results indicated that the government should move towards economic liberalization and refrain from actions that lead to uncertainty.

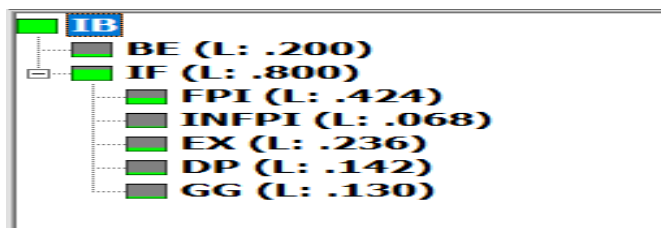
According to the above mentioned, it appears that there is still a gap in the correct definition of the problem while analyzing investors' behaviors, the soft and the hard dimensions of the business environment are not differentiated from one another; moreover, the impact of these dimensions on decision-making process of investors is not studied. On the other hand, actual investors' behaviors have been studied while no attention has been paid to potential investors' behaviors, which leads to the emergence of political errors in policy-making.

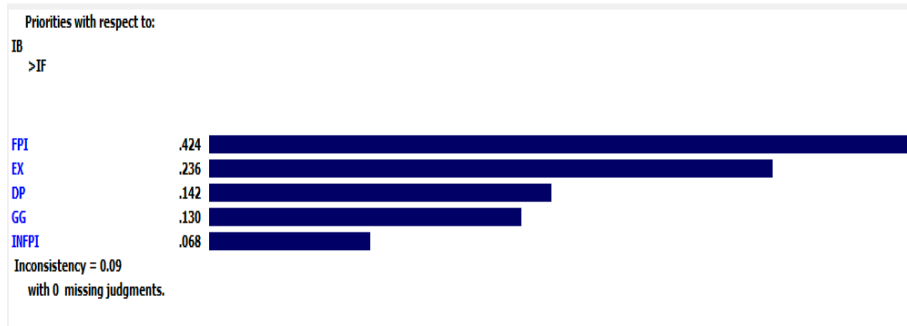
Therefore, this paper contributes to try filling the mentioned gap. To fulfill this goal, two types of investors should be differentiated: actual ones and potential ones. As influential factors on potential investors' behaviors and their decision-making are not necessarily the same as influential factors on actual investors' behaviors and their decision-making, we opt for Heckman model to differentiate these factors. While deciding to investigate in Iran or not, potential investors face two sorts or factors: soft and hard. After estimating the target country's situation in terms of these dimensions, decision making occurs in two stages: the first stage is deciding whether enter the country or not. In the second stage, if they decide to come to the target country, investors face soft and hard factors and based on their evaluation of these factors, they decide whether to develop their business or not. That's why differentiating hard and soft dimensions and evaluating their impact on investors' behaviors is done using Heckman Model.

### 3. Methodology

#### 3.1 Model Specification

The purpose of this paper is to criticize the Iranian governments' policies supporting the Foreign Direct Investors. In line with this purpose, we have analyzed behaviors of two groups of investors: actual ones and potential ones. After collecting the data, we used SPSS software for analyzing them. In terms of soft and hard dimensions, potential investors preferred the soft dimension of the business environment over the hard one in the first step and finally found out that among soft factors, Formal Political Instability (FPI), Informal Political Instability (INFPI), Despotism (DP), Xenophobia (EX) of the Iranian people, and Good Governance (GG) are more influential. In Figure (1), IF indicates the soft dimension and BE, the hard dimension of the business environment. The Soft dimension is preferable to the hard dimension. As Figure (1) shows, the incompatibility rate between the sub-criteria is 0.9, which indicates the high accuracy of this pairwise comparison.

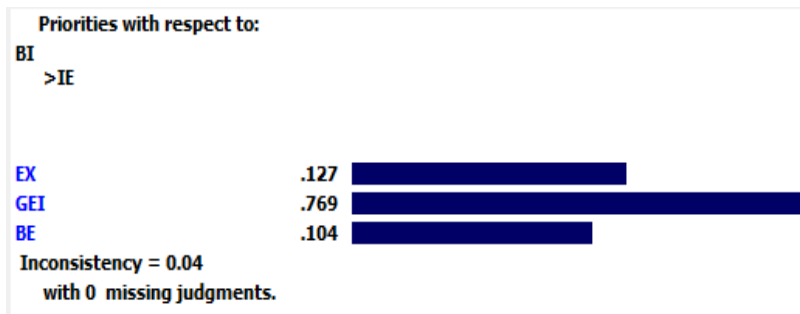
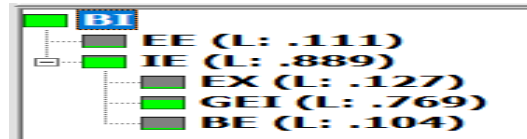




**Figure 1. Important factors influencing potential investors' behaviors.**

*Source: Research findings*

Moreover, the pair-wise comparisons questionnaire containing a combination of soft and hard factors was distributed to actual investors. After analyzing the questionnaires, we found that while prioritizing soft and hard factors, actual investors prefer institutional environment (IE) over economic environment (EE) in the first place and finally, Government Executive Inability (GEI), EX of the Iranian people and Bureaucratic Environment (BE) that have the highest importance were chosen among institutional factors. The rate of incompatibility between the sub-criteria is 0.04, which indicates the high accuracy of this pairwise comparison (Figure 2).



**Figure 2. Important factors influencing actual investors' behaviors.**

*Source: Research findings*

As factors influencing the entry or non-entry of potential investors into Iran are not necessarily the same as factors influencing the actual investors' activities, it is essential to use econometric models such as Heckman's in order to consider these differences. Estimation parameters will be biased if regression models based on ordinary least squares are used.

In fact, investor's decision-making happens in two stages: first stage is decision whether or not to enter the country. In the second stage, if they decide to come to the target country, the investor, now, decides to develop his/her business (increase the investment inflow to the country) or she/he quits the job. Considering these two steps, we can correctly analyze investors' behaviors. Using Single Equation Methods cause two kinds of errors:

The first error is about non-random sample, which means that statistical sample only includes active investors in Iran and potential investors are excluded from the sample. The second type of error is related to the assumption that two different types of factors are the same: factors influencing potential investors' decision to enter or not to enter the country and factors influencing the amount of investment inflow to Iran by actual investors. For not committing these errors, we present Tobit and Heckman two-step models. Tobit model prevents the first type of error.

In other words, instead of considering only the people who performed an action, the individuals and groups who did not perform the relevant action are also considered, and in this way, the error of non-randomness of the model is eliminated. We must, however, consider the fact that Tobit model does not fix the second type of error. Due to this shortcoming of the Tobit model in the inability to distinguish the factors affecting the initial decision to participate or not to participate in an action and the factors affecting the extent of that activity, Heckman has presented a two-step model.

In Heckman's model, the Tobit model is broken into two models: Probit and linear regression. Factors that influence the investor's decision to enter or not to enter are included in the Probit model as independent variables, and factors that affect the investor's ability to operate and expand his/her business is considered as independent variables in the linear regression model. The dependent variable in the Probit model is a binomial variable with values of zero and one. To be more precise, the dependent variable is the vector of zero and one in which the "one" means the decision to enter and the "zero" means the decision not to enter. The linear regression model is related to the independent variables of the Probit model by adding the Inverse of Mills Ratio, which is estimated based on the met parameters of the first stage (Probit model). Therefore, the Tobit model is divided into two models: Probit and linear regression as equations (1) and (2):

$$\begin{aligned}
 Z_i &= B'X_i + V_i & i &= 1,2,3, \dots N & (1) \\
 Y_i^* &> 0 & \text{if} & & Z_i = 1 \\
 Y_i^* &= 0 & \text{if} & & Z_i = 0
 \end{aligned}$$

$$Y_i = B'X_i + \sigma\lambda_i + e_i \quad i = 1, 2, 3, \dots, N \quad (2)$$

In the equation (1),  $Z_i$  indicates the decision to enter or not to enter the investor,  $Y_i^*$  indicates the hidden variable of the model,  $Y_i$  indicates the degree of willingness of the actual investor to enter,  $B$  and  $\sigma$  coefficients of the model,  $X_i$  indicates the descriptive variables of the model and  $\lambda_i$  is the Inverse of Mills Ratio.  $V_i$  and  $e_i$  also represent model error terms that are independent of explanatory variables and are based on the assumption of a normal distribution with a mean of zero and a constant variance of  $\delta^2$ .  $N$  is the total number of observations, which includes  $N_0$  zero observations and  $N_1$  non-zero observations of the dependent variable.

In fact, the number of  $N_1$  observations is related to actual investors for whom the value of  $Y_i^*$  is greater than zero. The number of  $N_0$  observations is related to potential investors who have not entered Iran and the value of  $Y_i^*$  is zero for them. The variable  $\lambda_i$  is the inverse of the Mills ratio obtained from Equation (3) (Heckman, 1976).

$$\lambda_i = \frac{\phi\left(\frac{\beta'X_i}{\sigma}\right)}{\Phi\left(\frac{\beta'X_i}{\sigma}\right)} \quad (3)$$

In Equation (3) parameters  $\phi$  and  $\Phi$  represent the density function and the standard normal variable distribution function, respectively. When examining the behavior of a binominal dependent variable, Cumulative Distribution Function (CDF) can be used, and the resulting model represents the Probit model. The Probit model based on the normal probability distribution estimates the predicted probability values of the variable between zero and one. The standard normal distribution function is in the form of equation (4) (Green, 1993).

$$F(t) = \int_{-\alpha}^t (2\pi)^{-\frac{1}{2}} \exp\left\{-\frac{x^2}{2}\right\} dx \quad (4)$$

In the standard normal distribution, the variance of the variable is equal to one and its distribution is symmetric, so  $F(-t) = 1 - F(t)$ . So, we have:

$$p_i = \text{pr}(Y_i = 1) = 1 - F(-\beta'x) = F(\beta'x) \quad (5)$$

The Probit model is based on the standard normal cumulative distribution function as Equation (6). That is, the probability that a person will choose one of the choices is in accordance with Equation (6) (Ibid.)

$$p(Y_t = 1) = \int_{-\alpha}^{\beta'X} \varphi(t) dt = \varphi(\beta'X) \quad (6)$$

The first step of the Heckman model (Probit model) is estimated based on the maximum likelihood method. Suppose  $\text{pr}(y = 1|X) = F(X\beta)$  and  $\text{pr}(y = 0|X) = 1 - F(X\beta)$ . So, we have a probability function,

$$L(y|x, \beta) = \prod_{y_i=0} (1 - F(x_i\beta)) \prod_{y_i=1} F(x_i\beta) \quad (7)$$

$$L(y|x, \beta) = \prod_{i=1}^n F(x_i\beta)^{y_i} (1 - F(x_i\beta))^{1-y_i} \quad (8)$$

$$LL(y|x, \beta) = \sum_{i=1}^n y_i \ln F(x_i\beta) + (1 - y_i) \ln(1 - F(x_i\beta)) \quad (9)$$



Given that in the Probit model the standard normal distribution function is  $\Phi$ , so ultimately the likelihood function is in the form of equation (10);

$$LL(y|x, \beta) = \sum_{i=1}^n y_i \ln \Phi(x_i \beta) + (1 - y_i) \ln(1 - \Phi(x_i \beta)) \quad (10)$$

The second stage of the Heckman model is estimated using the ordinary least squares method. [Greene \(1993\)](#) states that the presence of the inverse of the Mills ratio in the linear regression model, in addition to eliminating the heterogeneity of variance, causes the non-bias and consistency of the estimators ([Heckman, 1979](#)). The significance of the inverse of the Mills ratio variable means that removing potential investors from the sample causes the estimated parameters to be biased. This variable also shows that the factors influencing the decision of potential investors to enter or not to enter Iran with the factors affecting the decision of actual investors about the amount of capital inflow into the country are not necessarily the same.

It is necessary that the estimated coefficients in the Probit model are not very reliable and interpretable, so Marginal Effects must be calculated. The final effect shows how much the probability of success changes if the independent variable of a unit changes, which is calculated as Equation (11).

$$ME = \frac{\partial P_i}{\partial X_i} = \frac{\partial \Phi(\beta'X)}{\partial X_i} = \Phi(\beta'X) \cdot \beta_i \quad (11)$$

The elasticity of each variable indicates how much the probability  $Y_i = 1$  changes if the explanatory variable changes by one percent. The elasticity of the  $i$ th explanatory variable is calculated as equation (12) ([Griffiths et al., 1985](#)).

$$E^P = \frac{\partial \Phi(\beta'X)}{\partial X_i} \cdot \frac{X_i}{\Phi(\beta'X)} = \frac{\Phi(\beta'X) \beta_i X_i}{\Phi(\beta'X)} \quad (12)$$

The advantage of Tobit and Heckman models is that in these models it is determined how much each parameter and factor affect the probability of potential investors joining the many actual investors. In fact, if these possibilities and factors are identified, the right policy can increase the probability of investors entering the country and ultimately succeed in attracting FDI.

### 3.2 Data

As we have used Heckman Model in this paper, the dependent variable in the first step (Probit) that is binary, indicates the entry/non-entry of investors, so that, “one” indicates their entry to Iran and “zero” indicates non-entry. In the second step (linear regression), dependent variable is the amount of realized investment inflow into Iran by actual investor. Relevant data was collected from Organization for Investment, Economic and Technical Assistance of Iran<sup>1</sup>.

Theoretical literature and interviews with an accessible sample of statistical population were used to identify independent variables and we collected data using questionnaires ([Appendix A](#)). We prepared a research-made questionnaire about identifying obstacles that investors face. It was in the form of pair-wise comparisons encompassing soft and hard dimensions of the business

<sup>1</sup> <http://investiniran.ir>

environment. Then, we handed it to potential investors to specify the preference of criteria and sub-criteria over each other. Based on Analytical Hierarchy Process (AHP) and using Expert Choice software, we prioritized factors. When decision-making process faces with a few options and Decision Index, AHP could be helpful.

This process is based on pair-wise comparisons. In fact, experts make comparisons between decision criteria and sub-criteria and prioritize them over each other. Finally, in order to measure investors' perceptions of the identified variables, a questionnaire in the form of a Likert scale was prepared again and handed to investors. For this purpose, we distributed 243 questionnaires among actual investors and 107 questionnaires among potential ones<sup>2</sup>.

It should be noted that to assess the validity of the questionnaires were used by experts and to measure the reliability of the questionnaires, Cronbach's alpha coefficient was calculated using SPSS software (Table (1)). A coefficient above 0.7 indicates that the internal correlation between questions is high. Since Cronbach's alpha coefficient is above 0.7, so the reliability of the questionnaires is confirmed.

**Table 1. Cronbach's alpha reliability coefficients of variables**

Variable name	FPI	INFPI	DP	GG	EX	GEI
Cronbach's alpha	0.736	0.795	0.781	0.835	0.810	0.803

*Source: Research findings.*

We have briefly explained method of collecting information by implementation phases in Table 2.

<sup>2</sup> It should be noted that because it was difficult to access potential investors, we distributed them among those who had entered the country, have evaluated the situation in Iran, have concluded that it's not suitable for investment and had left the country.

**Table 2. Method of collecting information by implementation phases**

Phases	Purpose	Measuring tools	Explanations
1st phase	Explain the problem to the statistical population to identify obstacles facing foreign investors	Interviews and text analysis	Obstacles to foreign investment in Iran have been identified through interviews and analysis of texts related to foreign investment.
2nd phase	Identify the most important factors influencing foreign investors' behaviors	Questionnaire	Based on the identified obstacles, a pairwise comparison questionnaire was prepared and distributed among members of the statistical target population (actual and potential investors) to determine the preference of criteria and sub-criteria.
3rd phase	Enumerate the most important obstacles foreign investors face	AHP	According to the results of the pairwise comparison questionnaire, the factors that were most important from the perspective of foreign investors have been prioritized.
4th phase	Measuring investors' perceptions of the identified variables	Questionnaire	For this purpose, a questionnaire in the form of Likert scale was prepared and distributed among investors
5th phase	Using the identified variables as independent variables of the Heckman model	Heckman Model	From the analysis of the questionnaire set in the form of Likert scale, the mentioned variables have been used as independent variables of Heckman model.
6th phase	Model estimation and study of the effect of independent variables on foreign investors' behaviors	Heckman Model	The Hackman model has been estimated using STATA software and the effect of independent variables on investor behavior has been identified.
7th phase	Provide basic solutions to succeed in attracting foreign investors	Consulting with specialists and experts	After analyzing foreign investors' behaviors, the basic strategies for success in attracting foreign investment have been presented.

*Source: research findings*

#### 4. Results

To estimate the Heckman model, the most important factors of preference from the investors' point of view are entered into the model as independent variables and the Heckman model is estimated by separating the two types of foreign investors (actual and potential), the results of which are shown in Table (3).

**Table 3. Results of estimating the Heckman two-stage model**

Variables	1st stage: Probit				2nd stage: linear regression	
	Coefficient value	test t	Final effect	Weight elasticity	Coefficient value	t-test
y-intercept	4.21	5.57	-	-	63.96	9.28
FPI	-0.37	-3	-0.076	-0.767	-	-
INFPI	-0.19	-1.46	-0.011	-0.103	-	-
DP	-0.31	-3.15	-0.065	-0.469	-	-
EX	-0.94	-9.28	-0.167	-2.083	-1.57	-2.69
GG	0.57	5.10	0.120	1.044	-	-
Ease of doing business	-	-	-	-	15.73	9.28
GEI	-	-	-	-	-17.52	-13.42
Economic Sectors	-	-	-	-	0.10	0.44
the Inverse of Mills Ratio	-	-	-	-	0.82	3.38
	Likelihood Ratio Test :-913.32				The coefficient of determination : 0.90	
Tests	LR TEST= 7.62				F test : 579.01	
	Percentage of correct prediction: 87.14					
	The area under ROC curve: 0.92					
	Pearson chi2 (316) = 479.3					
	Prob> chi2= 0.0000					
Wald chi2 (4) = 2346.36						
Prob>chi2= 0.0000						

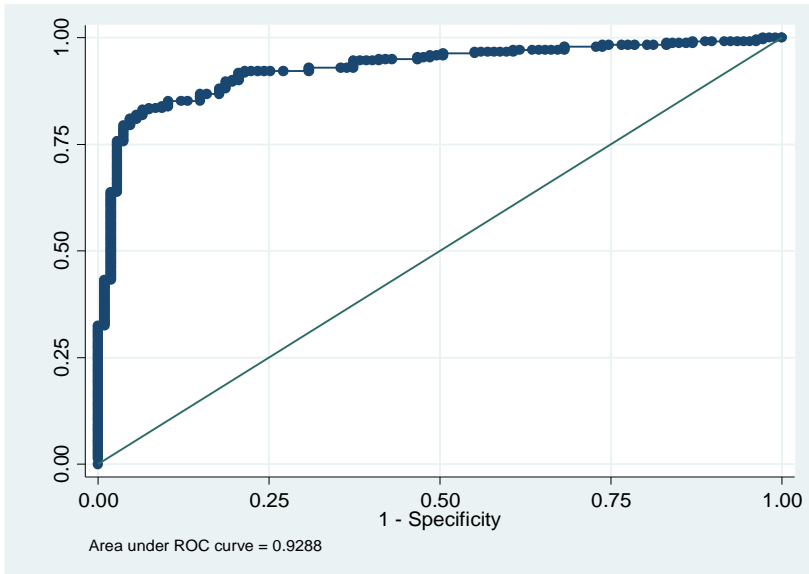
*Note:* Significance at the level of 0.05.

*Source:* Research findings

In the first stage (Probit) all variables (except the informal political instability variable) were significant at the level of 0.05 and the sign of all variables is as expected. The LR test in the Probit model is equal to 7.62 which indicates the general significance of regression. The value of Pearson goodness of fit test is equal to 479.3 which indicates the goodness of fit of the model. In order to check the accuracy of the Probit model, a value called percentage of prediction is used, and a figure higher than 70% for this parameter indicates that the model has a high accuracy (Greene, 1993). Since the existence of collinearity between variables invalidates the results of the model, so VIF(Variance Inflation Factors) test was used to examine collinearity. Since

value of the mentioned statistic for the variables is less than 10, the hypothesis of collinearity in the model is rejected ([Appendix B](#)).

The percentage of correct prediction of the model is equal to 87.14 which indicates the modeling power and proper prediction of the model. Also, the area of the loop of Receiver Operating Characteristic (ROC) is 0.92, which indicates that the test model has a very good diagnostic power or accuracy. Figure (3).



**Figure 3. Area under ROC curve**

*Source: research findings*

As the raw coefficients in the Probit model are not very reliable, so the final effects and elasticity of the model variables are estimated. The elasticity of the official political instability variable shows that a one percent increase in this variable reduces the probability of investors entering Iran by 0.767%. In the sense that, for example, the more the regime's opponents are barred from participating in society or the more rapidly and unpredictably they replace ministers and heads of state, the deeper the insecurity in society becomes. Also, the government in Iran is heterogeneous, meaning that different parts of power are in the hands of different parts of political fractions, and the power is not integrated and each part of power pursues its own goals, making different sectors' decisions and measures neutralize each other's power. Thus, no policy succeeds, resulting in the need for new policymaking. New policy-making means new change, and any change is a new instability and new uncertainty. This confirms the findings of [Aloui \(2019\)](#), [Brada et al. \(2003\)](#), [Gouenet and Ngena \(2013\)](#), [Gouenet \(2011\)](#), [Jun and Singh \(1996\)](#) and [Azzimonti et al. \(2007\)](#).

The elasticity of Informal Political Instability is not significant. The next variable is investors' perception of the Despotism Power in Iran. Results show that a one percent increase in the perception of Despotism Power by investors leads to a 0.469 percent decrease in the probability of foreign investors entering Iran.

This means that the weaker the infrastructural power (for instance, if the ability of government to negotiate with civil society is weak or if the government does not involve society in the decision-making process), the more political instability in society increases, which provides grounds for strengthening the climate of uncertainty. The evidences of this paper indicate that from the standpoint of potential investors in Iran, the power is concentrated in the hands of a few specific groups and the government does not treat certain social activists properly. This issue confuses investors, psychologically and mentally, and deprives them of the power to make decisions while deciding whether or not to choose Iran as a target country, which confirms [Mann \(1984\)](#) and [Lucas \(1998\)](#) findings.

The elasticity of the xenophobia shows that a one percent increase in this variable reduces the probability of investors entering Iran by 2.083 percent. This variable had been more influential on investors' decision-making than any other variable. The evidences of this paper along with interviews with people confirm this viewpoint of foreign investors. Evidence suggests that the Iranian people have a xenophobic mindset. In other words, they think that government men and foreign investors seek pillaging the resources and exploiting them just to achieve their own goals. They believe that most of the failure in Iran is due to the presence of foreigners in the country. Knowing this, foreign investors don't choose Iran as investment target.

In fact, xenophobic mindset in Iranian culture is due to their attitude and vision. During the history, they had bitter memories of foreign invasions and interference of foreign powers in the internal affairs of their country. The xenophobic characteristic of the Iranian people under the pretext of the country's independence from the West is also important issue in this regard. In fact, opposition to the presence of foreigners in the country is the product of a discourse produced and promoted in the country. The independenceist approach of the Islamic Republic was an attempt for the real independence of the country. This approach has been misused under the influence of internal political disputes and hostilities and factional interests, and has moved away from its real meaning and has become a negative and xenophobic discourse that opposes dialogue and interaction with foreign powers. Therefore, any dialogue and interaction with foreigners is considered a betrayal of the country's values, so that the dialogue has played an effective role in destroying Iran's relations with world powers. On the other hand, foreigners have realized that despite the role of this xenophobic discourse, they cannot have effective and reliable relations with Iranians. This confirms [Foreman-Peck \(1989\)](#) and [Umezurike et al. \(2016\)](#) findings.

The elasticity of the GG shows that a one percent increase in this variable increases the probability of foreign investors entering Iran by 1.044 percent. If the situation of governance components in Iran becomes more favorable (for example in case citizens are given more power to protest and express their opinions about the functionality of government men's or if the rules are enforced more efficiently, or in case the judicial structure has more independence or if possession rules have stronger guarantee), it will have a positive effect on investors' views and will increase their desire to enter the country, which is in line with researches conducted by [Globerman et al. \(2006\)](#), [Baptiste \(2004\)](#), [Wernick et al. \(2009\)](#) and [Bellos & Subasat \(2012\)](#).

Heckman's second stage result show that all the variables except for economic sectors have the expected and significant sign. The coefficient of determination of the model is equal to 0.90% that indicates dependent variable is explained by independent variables to the same degree and that this model has a high explanatory power. Also, the significance of Inverse of Mills Ratio demonstrates that we should differentiate variables impacting the entry/non-entry of foreign investors from variables impacting the amount of investment inflow into the country by actual investors. In fact, the significance of this variable is a testament to the confirmation of the uses of Heckman two-step model. Coefficient of the "ease of doing business" variable shows that one percent increase in the mentioned variable causes a 15.73 percent increase in the dependent variable.

In other words, the easier it is to do business, the more the investors will invest in the country and develop their countries. This confirms studies conducted by [Piwonski \(2010\)](#), [Nuadozie and Njuguna \(2011\)](#), [Bayraktar \(2013\)](#) and [Corcoran & Gillanders \(2015\)](#). Coefficient of the "GEI" variable shows that a one percent increase in the variable causes a decrease of 17.52 percent in the dependent variable. In fact, besides setting appropriate policies and agendum, executive capacity in institutions in charge of foreign investment is an important factor determining the success of the relevant policies. This is in line with research done by [Camba \(2017\)](#) and [Hanson and Sigman \(2013\)](#). Moreover, an increase of one percent in the xenophobia variable leads to a decrease of 1.57 percent in the dependent variable. It means if actual investors believe that Iranian people have a xenophobic mindset, they will avoid the inflow of their investment in Iran for developing their business. Accordingly, based on the above-mentioned findings, it is obvious that while making decision about entering Iran, investors consider the soft dimension of the business environment not its hard dimension.

In fact, if the soft dimension is not favorable, it means the increase in uncertainty concentration, which disrupts the decision-making process of investors. According to the evidence of this paper (Table 4), about 62.6 percent of the potential investors believe that they don't have the power in decision-making about investing in Iran, which confirms the climate of uncertainty in Iran. 31.8 percent of the investors consider the situation in Iran as risky, which

means if they want to invest in the country, they have to take the risk into account. Only 5.6 percent of the investors quickly and confidently decide to invest in Iran. Policy-makers have ignored problems investor face (the soft and hard dimensions of the business environment), that's why the powerful investors who care about the soft dimension, have no interest or motivation to enter Iran.

**Table 4. Investor's decision-making**  
**Table 4. Investor's decision-making**

Explanation	Frequency	%	Valid percentage	The cumulative percentage
I make decisions quickly and confidently	6	5.6	5.6	5.6
I take the risk into account	34	31.8	31.8	37.4
I don't have power in decision-making	67	62.6	62.6	100
Total	107	100	100	

*Source: Research findings*

## 5. Concluding Remarks

The purpose of this paper is to criticize the Iranian governments' policies supporting the Foreign Direct Investors. We collected data thorough questionnaires and analyzed them using Heckman two-step model. The results indicated that while policy-making in the field of FDI, policy-makers have made a mistake prioritizing obstacles and troubles investors face.

To be more precise, all policy-makers are trying to improve the hard dimension of the matter regardless of the soft one and spend abundant financial and human resources on their policies in order to attract foreign investors while in fact, according to the evidence of this paper, potential investors only care about the soft dimension not the hard one when they want to decide whether to enter Iran or not. The result of policy-makers point of view is the failure in attracting actual investors.

The evidence of this paper suggests that potential investors to make the decision to enter Iran consider soft dimensions such as xenophobia of the Iranian people, the status of governance components, political instability, and the power exercised by the government. However, after entering the country, the hard dimensions such as ease of business environment and executive capacity of the government affect the behavior of investors, so that if the country status is in terms of hard dimensions is more favorable, investors will be more motivated to develop their business and they are encouraged to bring more capital into the country. For example, in addition to setting appropriate policies and agendas, paying attention to the executive capacity of the organizations that are responsible and in charge of foreign investment is an important factor in determining the success rate of relevant policies. In fact, when the government enforces rules and policies that go beyond the capacity of the executive branch, compliance and observance of rules is easily disrupted, and as executive branch



is exposed to constant legislative pressure, it loses its executive capacity. For example, the government in Iran is constantly setting up service desks, defining new tasks, and recruiting new forces, which puts an excessive burden on the executive organizations, which ultimately weakens its executive capacity.

Based on the evidence of this paper, (top and powerful) investors see the big picture and the long-term horizon and when they want to make decision about entering Iran, they care more about the soft dimension of the business environment than the hard dimension. In fact, it appears that when deciding to choose Iran as an investment destination, the speed of investors' minds to react to the soft dimension is faster than the speed of their minds' reaction to the hard dimension. Thus, based on the results, two points can be deduced. First, when Iran is not in a favorable situation in terms of soft dimensions of the business environment, investors do not enter the country. Second, if an investor comes to Iran, she/he is usually an opportunist (of second or third degree). In other words, the most important characteristic of these groups of investors is that they see the short-term horizon and leave the country at the sight of the first international enactment regarding businesses.

According to the evidence of this paper, the reason these investors only see the short-term horizon lies in two factors. The first factor is xenophobia of Iranian people, which is due to their historical memory. They had witnessed foreign invasions and interference of foreign powers in the internal affairs of their country. Therefore, with such a standpoint, they oppose the activities of foreign investors in the country and harass them. On one hand, investors who enter Iran, find out about the attitude of people and the authorities; consequently, they choose the best reciprocal action: the short-term horizon. These investors seek to leave the country quickly as soon as they achieve their interests.

On the other hand, over time, people become aware of the behavior of investors (that they have a short-term horizon) and thus their xenophobic mindset is strengthened. The result of this process is the formation of a vicious circle that leads to the failure to attract strong investors. The second factor is the increase in the concentration of uncertainty in Iran. According to the evidence of this paper, Iran is almost out of risk and has fallen into the trap of uncertainty. More than 62 percent of potential investors believe that they don't have the power in decision-making about investing in Iran, which confirms the climate of uncertainty in Iran. When uncertainty reins in the country, decision-making is disrupted and it makes it impossible for top and strong investors to enter Iran because investment is a long-term process.

Because of the high level of uncertainty and instability in Iran, long-term planning is not possible. After investors enter Iran, they face hard dimensions of the issue like GEI and the ease of doing business and these factors affect their behavior. Investors do not have the motivation and desire to develop their business if the governing dimensions of the country do not have favorable conditions. It appears that unless Iran facilitates the soft dimensions of the issue, efforts to improve the hard dimension of the business environment in order to

attract foreign investors will not have a significant achievement. In fact, the complexity of attracting foreign investors to Iran refers to the fact that the soft dimension does not have a favorable condition. Therefore, success in the process of attracting foreign investment requires the favorable soft dimensions of the business environment. Therefore, based on the results of this paper, the following policy recommendations are presented:

- Promoting xenophobia as a major problem in the path of economic transformation in the press and media and trying to reduce the cultural distance with other countries and bring cultures closer together.

- To reduce political instability and uncertainty in society, frequent changes in rules and policies should be avoided and efforts should be made to establish mechanisms for continuous collective dialogue to reach a lasting agreement on rules and regulations.

- Establishment of an efficient, impartial judiciary with a fast and cheap trial is mandatory to comply with contracts, to guarantee property rights, and to reduce transaction costs.

- When passing rules and regulations, and notifying the tasks and duties to the executive bodies in charge of investment, attention should be paid to the executive capacity, because imposing excessive burden and beyond the capability threshold of organizations leads to weakening the executive capacity and brings reverse results.

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Supervision: H.A. Conceptualization, methodology, validation, formal analysis, resources, writing—original draft preparation, writing—review and editing: all authors.

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### **Conflicts of Interest**

The authors declare no conflict of interest.

### **Data Availability Statement**

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## Appendix

### Appendix A

A total number of 243 questionnaires were distributed among actual investors whose names and information were obtained from the Investment and Economic and Technical Assistance Organization of Iran. Conducting interviews and completing questionnaires were done in person and via phone. Also, 107 questionnaires were distributed among potential investors. It should be noted that due to the difficulty of access to potential investors, to identify investors, the researcher first referred to Investment and Economic and Technical Assistance Organization of Iran and obtained the names and information of investors who intended to enter invest in Iran, but gave up their decision after observing the situation and realizing that the country unsuitable for investment. The questionnaires were completed in such a way that the questionnaires were distributed among those investors who could refer in person the questionnaires were emailed to a number of other investors who could not refer in person. Descriptive statistics of the statistical Sample is presented in Tables (1) and (2).

**Table 1. Age of investors**

Age	actual		potential	
	mean	Standard deviation	mean	Standard deviation
	46.04	9.05	45.47	9.11
30-35		32		22
36-40		53		16
41-45		45		10
46-50		29		26
51-55		36		18
56-60		35		9
Uper 60		13		6
sum		243		107

*Source: Research findings*

**Table 2. investors education**

Education	actual		potential	
	Number	%	Number	%
Bachelor degree	68	27.9	32	29.9
Master degree	122	50.3	56	52.3
Doctorate degree	53	21.8	19	17.8
sum	243	100	107	100
Standard deviation		0.704		0.682

*Source: Research findings.*

## Appendix B

**Table 3. VIF test to examine the model collinearity**

Variance Inflation Factors			
Date: 06/23/21 Time: 05:52			
Sample: 1 243			
Included observations: 242			
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
BE	56.53050	42.10137	4.864166
EX	0.204779	8.021437	1.123116
GEI	1.870405	115.5635	5.065736
SECTOR	0.063568	12.00817	1.006413
C	51.66206	264.8853	NA

*Note:* The variance inflation factor (VIF) value of each regressors is less than 10. So there is no collinearity between the explanatory variables.