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The Role of Knowledge of the International Marketing Environment In Choosing the FDI Strategy for Entering Foreign Markets: An Econometrics Study of the Markets of A Sample of Arab Countries During the Period (2002-2019) Using Panel Data

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Abstract:

The study aims to determine the impact of marketing environment variables on the decision of international companies to choose an FDI strategy from foreign market access strategies, by using cross-sectional data models (panel data) for the period (2002-2019) for a sample of Arab markets.

Based on the results of estimating the model, the study concluded that there is a positive correlation between independent variables GNI and the political stability index and the dependent variable FDI flows, and negatively between the population size variable, which means that increasing the population does not necessarily mean attracting foreign direct investment, as for the economic freedom variable It has no effect on foreign direct investment flows to the Arab countries under study.

***Keywords**: international marketing environment ; foreign direct investment.*

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1. Introduction

The world today is witnessing a great expansion of international business resulting from the rapid developments in the international markets on the one hand and the desire of institutions to grow and expand on the other hand. These transformations have made the international marketing environment with a great influence on the institution, as it witnesses continuous developments and changes that have produced a state of complexity and instability. This placed the institution in a turbulent environment, and the local markets themselves became insecure، (Feroudji & Alouen, 2020, pp. 109-110) .This prompted economic institutions to move towards a set of strategic marketing options aimed at moving to the spaciousness of the international market, including the FDI strategy that expresses the maximum degree of penetration into international markets. Despite the degree of risk and the transfer of capital to the target markets, it provides total freedom in managing its projects and giving it the greatest degree of control over business policies related to the various aspects of the functional activity of the organization. (Hassni & Boultif, 2015, p. 433) In view of the difficult economic situation that developing countries are experiencing, including weak financing, high external debt, and a chronic deficit in the balance of their payments, and in their endeavor to accelerate economic development and catch up with developed countries, their interest in the issue of FDI has increased . And this is shown by their endeavor to attract the largest amount of its flows as they have improved their investment climate. (Djaber, 2018, p. 1)

Likewise, Arab countries have sought to obtain a share of FDI flows commensurate with their natural and human resources, and this requires diligent work to address the obstacles and benefit from the desire of many international companies to be present in the Arab markets. (Mouhamed & Djamel, 2017, p. 3) And, in order to understand how to attract FDI, it is important to understand the factors that affect the behavior of companies in choosing the target countries and the business environments in which they prefer to work, as the advantage of the location of the business climate is the most important for the international company by virtue of the fact that foreign direct investments are by their nature long-term. Therefore, it is necessary to know the variables of the marketing environment in the host country to formulate business plans successfully and to provide safety and security for the foreign investor. (Ercilasun, Akyüz, & Döner, 2015, p. 113)

1.1. The problematic of the study

Making the decision about the country in which the company should invest is not an easy matter, as many factors of the international marketing environment can influence this decision, whether economic, legal, political, technological, social and cultural, and this is what we will try to study in this paper by addressing A set of variables that represent some of the marketing environments in the Arab countries, according to the available data in order to answer the following problem:

What is the role of knowing the variables of the Arab marketing

environment on the choice of international companies for the strategy of foreign direct investment and its flow to the Arab markets?

1.2. Study hypotheses

To answer the research problem, we can formulate the main hypothesis:

The variables of the international marketing environment greatly affect the choice of international companies for the strategy of FDI and its flows to the markets of the Arab countries under study.

Based on this hypothesis, we draw three hypotheses:

H1: There is a statistically significant effect between the variable of the economic marketing environment (gross national income) and foreign direct investment flows to the markets of the Arab countries under study.

H2: There is a statistically significant effect between the political marketing environment variable (political stability) and foreign direct investment flows to the markets of the Arab countries under study.

H3: There is a statistically significant effect between the legal marketing environment variable (index of economic freedom) and foreign direct investment flows to the markets of the Arab countries under study.

H4: There is a statistically significant effect between the variable of the social marketing environment (population size) and foreign direct investment flows to the markets of the Arab countries under study.

1.3. Literature review

Upon reviewing previous studies, we find that many of them dealt with the determinants of FDI in the host country, and the extent of the influence of the investment climate for countries in attracting the largest amount of investment flows to them, in addition to standard studies that studied the relationship between investment climate variables and FDI flows. Each researcher selects a set of variables, and among them we find:

A study (Akhter & Robles, 2006), which confirmed that it is necessary for the company before choosing the target market to know the legal conditions in it and that the lack of knowledge of the legal and regulatory development in the international markets (knowledge of changes in laws and regulations, customs impediments, laws related to the transfer of profits and assets, laws related to canceling contracts) negatively affects companies' operations, assets, and profits, as well as constitute an obstacle for companies by preventing them from achieving their goals from operating internationally. (Imad & Nima, 2015, p. 875)

The study (Zekiri & Angelova 2011) indicated that it is very important for companies, whether domestic or international, that wish to conduct international business, taking into account the political environment of the country in which they intend to operate. It is also necessary for the international marketer to understand the different types of legal systems, in addition to the various threats that the company may face as it is open to global business. Marketers also need to be fully aware of cultural matters and issues that are very sensitive to one's culture, and accept the differences between cultures through objective evaluation, not the creation of stereotypes. (Zekiri & Angelova, 2011, p. 583)

In another research (2015) Ercilasun Mustafa & all confirmed that changes in the economic environment, political situation, legal framework and financial stability play roles in bringing foreign direct investment inflows, as he assessed the steps that Turkey took after the experience of the economic crisis of 2001 and 2003, when it issued a law about FDI and measures were taken to stimulate incoming FDI. The study concluded that Turkey's efforts were serious and came up with recommendations, the most important of which is the need to eliminate bureaucracy and the informal sector and thus eliminate unfair competition for potential investors from abroad. Consideration should also be given to improving the legal system, and a transparent economic policy would eliminate unforeseen events and contribute to stabilizing the economic outlook supported by political stability that enhances the attractiveness of FDI inflows . (Ercilasun, Akyüz, & Döner, 2015, p. 113)

A study (mouhamed & djamel, 2017) has estimated a standard economic model of the determinants of FDI in the Arab countries during the period (1995-2010), using the method of analyzing cross-sectional data. The size of the market, the index of trade openness, the monetary mass, the conclusion of agreements between the host countries and the investors and the provision of tax facilities, the provision of guarantees to investors not to impose restrictions on capital flows, and the activation of its role in combating and addressing corruption had a positive impact and contributed in a direct way to attracting foreign investments in the country. The host also found that some macroeconomic variables, the most important of which is inflation, have an adverse effect in attracting FDI. (Mouhamed & Djamel, 2017, p. 3)

Kaaloul Sofiane 2017 study studied the attractiveness of Arab countries to FDI, where he estimated a standard model using the basic components method PCA through 16 variables divided into four axes: the economic framework, the basic structure, the legal institutional framework, and the ease of doing business. The group of human and natural resources in the focus of the economic framework greatly affects the attraction of FDI, as for the ease of business, it is considered as the appropriate ground that the host country must prepare, and the infrastructure is a fundamental pillar in influencing the decision of the foreign investor and with regard to the legal and institutional framework there. It is unanimously agreed that the overall institutional and organizational conditions and their stability, especially laws and legislations, and the extent to which they are in line with internationally applicable standards, directly affect the flows of FDI in order to give confidence to the foreign investor and reduce the risk. (Kaaloul, 2017, p. 26)

A study (2017sahel.M & Ben tafat.A) analyzed the determinants of FDI in the Arab countries. Using the method of analysis of the main components as a basis for the analysis. The results revealed a positive relationship between the independent variables studied, namely the gross domestic product, the size of the population as two measures to calculate the size of the local market, inflation, and trade openness, and the variable of the study, which is FDI in the Arab countries in 2017. (Sahel & Ben fatet, 2019, p. 442)

Manamba (2018) study provided a standard analysis of the determinants of FDI flows in Africa during the period (1996-2016) and included 48 African countries using the random effect model (RE). Control of corruption and political stability have a significant positive explanatory power on FDI coming into Africa. The study recommends that the policy of African governments should encourage more market liberalization and that the effective policy on FDI should focus on improving production efficiency in order to increase per capita output. GDP and market size increase. The quality of institutions and governance should also be improved, especially those related to strengthening anti-corruption and political stability. (Manamba, 2018, p. 63)

A study (2019 Goraieb & all), which dealt with the impact of cultural distances on FDI, and examined whether cultural values affect bilateral FDI, that is, the stock of FDI between countries. The study included a sample of 45 countries for the year 2007. The similarity in the cultural distance between two countries positively affects the stock of FDI between them, meaning that companies prefer countries similar to their country of origin and negatively affect the stock of FDI between them, that is, they avoid countries that differ from their country of origin . (Goraieb, do Nascimento, & Verdu, 2019, p. 128)

As for the study Farok J, Ramesh & Raghunathc, it discussed the impact of the choices of multinational companies on the regulatory and institutional factors for investment in a country, through the study of 189 economies, where it examined the regulatory factors of the host country that affect the incoming foreign direct investment. It has more access to commercial contracts and regulations and is characterized by efficient international trade systems that attract more FDI. (Farok J, Ramesh, & Raghunathc, 2019, p. 1)

What distinguishes our study from previous studies is that it combined a set of variables and dealt with multiple aspects of the international marketing environment from a marketing perspective and from the viewpoint of the international marketer who has many strategic alternatives to penetrate international markets and choose FDI from other strategies. Mosy of the studies which focused on the determinants of FDI in the host countries were concentrating on the economic aspects for the most part, so we try to study the factors that affect international marketing activity, make decisions about international marketing, and choose a strategy for FDI.

2. concepts and principles

Environmental analysis of international markets is one of the basic steps that must be taken before the start of international marketing, as there are forces that cannot be controlled. They are external forces over which the administration has no direct control, and therefore the international marketing environment and its variables must be known to enable it to make a decision about the potential markets to invest in.

2.1. Definition of international marketing environment

It is defined as "the general climate that faces companies when they decide to sell outside the national borders for part or all of their local production. This environment consists of the elements and conditions that the company faces when passing across geographical and political borders, and within the host international markets" (Nouh, 2017, p. 89)

2.2. Variables of the external international marketing environment

2.2.1. The economic environment:

It refers to all the factors that affect the purchasing power of consumers and their spending models, and that the administrations of international business companies identify the nature of the economic conditions and their current and future developments in the host countries, making them more able to determine the solidity or fragility of the economic environment in these countries and their suitability to carry out commercial and investment activities.

We have relied on the gross national income variable in our study, which represents the final total of all goods and services that were produced within a year. This indicator is used to measure the size of the country in economic terms and the degree of its development. The higher the national income of the country becomes, from the point of view of marketing experts, the more attractive as a target market it is. (Eldjiar, 2014, pp. 184-185)

2.2.2. The political and legal environment:

The political and legal environment refers to the set of rules, regulations and legislation that affect the behavior of individuals and organizations in a particular society, which the state enacts, and requires the organization of various activities and events that take place within its borders. Since marketing is one of these activities, it will certainly be affected with laws and legislation determined by the existing political system. (Maachou & Foudil, 2019, p. 363)

The Governance Indicators Report issued by the World Bank Institute is considered one of the most important tools to help identify and understand political changes, which measures global indicators of governance through six general aspects of governance in more than 200 countries and regions, to rank countries through the following aspects: On opinion and accountability, political stability and absence of violence or terrorism, the effectiveness of governance: the quality of organizational frameworks: the rule of law: reducing corruption. We have relied on the Political Stability Index .(Bouguesba, 2016, p. 65)

As for the legal environment, we have relied on the economic freedom index as it affects property rights, freedom of business, freedom of trade and investment, and then influences the marketing of goods and services by facilitating or complicating the movement of international trade exchange. (Hani, 2019, p. 53)

2.2.3. The social and cultural environment:

affects both consumer behavior and the performance of marketing managers. It is all the beliefs and values that members of society share are transmitted from one generation to another and can be changed very slowly, and among their patterns (language, religion, values and customs, education, law, politics, material culture, social institutions, morals and beauty), and there are subcultures that distinguish behavior in the same culture. So, culture must be studied from a holistic and partial perspective to develop correct marketing strategies. (Tamimi, 2018)

As for social factors, they include the ways in which changes in society affect the international company. Therefore, international consumer behavior must be studied through some indicators such as the increase in average household income, population growth rate, and age distribution. (Tan & all, 2012, p. 2) We have relied on the population variable in the study.

2.2.4. The technological environment:

It studies how technology affects the decision of the investing company in light of the competing technological developments, technological legislation, and new discoveries. As the global and local information technology, the internet and communications can be easily accessed by the user at the present time (Tan & all, 2012, p. 2), technology has implications for the marketing performance of institutions and individuals, for example, it is now possible for anyone to shop and pay financial obligations in exchange for purchases while sitting in his home or office. Besides, the indicator of using the internet and means of communication is important for the investing company when it targets foreign markets. (Betib, 2016, p. 40)

2.2.5. Competitive environment:

The intensity of competition vbetween institutions affects the international marketing business as every institution tries to distinguish its products in the international markets. So if the institution wants to establish a position for itself in the market, it must study competitors and get to know their number, sizes, weaknesses and strengths. (Remass, 2016, p. 52)

2.3. Definition of foreign direct investment

The role of FDI has increased dramatically in recent years due to its strong impact not only on the economy of the investing country, but on the economic and social well-being of the host country as well. It also promotes growth, and thus FDI has become an important mechanism for global economic integration.

According to the Organization for Economic Cooperation and Development (2008), foreign direct investment is defined as "a category of investments that reflects the goal of establishing a permanent interest by an institution residing in one economy (a direct investor) in an institution (a direct investment institution) residing in another economy. " The Permanent interest" means "The existence of a long-term relationship between the direct investor and the direct investment institution that reflects the investor's benefit and has the right to manage his assets. (Kusumawati & Laksmi, 2018, p. 14)

It also means "cross-border investment made by a resident of one economy in an institution in another economy, with the aim of creating a permanent income in the economy of the invested company"; or it is an "investment in the business of one country by a company in another country." (Sudha, 2013, p. 175)

2.4. Knowing the marketing environment for choosing a FDI strategy

International companies choose their target markets based on knowledge of the various environmental factors that guarantee them a physical presence abroad because it is the most complex, advanced and risky strategy, as the company has to invest a large amount of resources to prove its physical presence . (Ercilasun, Akyüz, & Döner, 2015, p. 113) Therefore, many investing companies have faced the consequences of foreign investment in different countries as a result of fluctuations in the factors of the international marketing environment that the international marketing department cannot control in most cases. So we review the effect of knowing the marketing environment of the host country on the company's choice of FDI strategy through experiences of some international companies.

2.4.1. The impact of the political and legal environment:

Coke's experience in the Indian market was particularly difficult due to the protectionist political and legal environment. When Coke entered the Indian market for the first time, it gained a large market share. Then, it was forced out of India in 1977 when the governm ent demanded at that time Coca-Cola to reduce its stake in its Indian subsidiary. However, India soon reversed its stance towards foreign investment and Coca-Cola entered India again in 1994.Things went smoothly for a while, but confrontations quickly began with the regional political bodies, when Coca-Cola set up a $ 12 million plant in the town of Plachimada in the southern state of Kerala in India. Four years later the company was forced to shut down due to the Coca Cola campaign, Quit Plachimada, Quit India "To combat Coca-Cola" because residents living near the plant accused it of drying out their wells as the plant was extracting large amounts of groundwater every day for its operations. So the political body refused to renew the company's license despite its appeal to the Supreme Court, and Coca Cola was forced to suspend production at the factory and the company lost millions in the Indian market. But Coca-Cola overcame this setback and remained suspended in the hope that it could one day win the second largest population in the world. It launched new health products and responded to the growing protests against it in India through a variety of corporate social responsibility initiatives, including Every Drop Counts campaign, which was launched in 2007 . (Kotabe & Helsen, 2010, p. 188)

Google also had a difficult experience with the Chinese as it viewed its entry conditions imposed on it as temporary and could be reconsidered .However, the Chinese government believed that censorship was not negotiable. Google also alarmed the Chinese government when it explicitly notified users that their search results were being censored according to Chinese law. As the conflict escalated, Google took steps in 2010 to reduce its presence in China after it threatened to withdraw entirely. As a result, Google experienced a sharp decline in market share in China, and Google fell to less than 2 percent of search engine size in China by the beginning of 2014, ranking fourth behind Chinese competitors Baidu, Qihoo 360, and Sogou. (Hollensen, 2017, p. 255)

2.4.2. The impact of the cultural and social environment:

Electrolux is one of the largest manufacturers of vacuum cleaners in the world with its vacuum cleaners currently sold in more than 50 countries around the world. Most of the vacuum cleaners are produced in low-cost countries. It has been especially difficult for Electrolux to adapt its vacuum cleaner to the Japanese market because Japanese homes are relatively small and the vacuum cleaners must be quiet so as not to disturb family members and neighbors, and Japanese customers are very keen on cleanliness in their homes and they clean them regularly. In order to meet all these demands, our R&D team has developed an ultra-small vacuum cleaner especially suitable for the Japanese market. The new "Electrolux Ergothree" vacuum cleaner was introduced in Tokyo in late 2011 with the attendance of more than 100 Japanese journalists .(Hollensen, 2017, p. 225)

The company can also use culture to compare the different cultures of countries as each country is distinguished from others and it has been proven that, for example, in Asian countries the style of Asian management is strongly based on culture. As they deal diligently with the specified time and date, and to obtain the confidence of Asian company managers, they must be visited and hosted for the sake of building a deep relationship of trust and understanding. Negotiations with Asians may be difficult for Europeans due to negotiation points and a sudden change in the direction of discussion, or overly emotional reactions. Asians avoid using the word "no", but if they are not positive about a particular issue, they express it through body language, gestures, and behavior.

As for the Arab countries, religion has a great influence on the way decisions are made by Arabs. In most Arab countries the consumption of alcohol and pork is not acceptable, and it is better to avoid this at a common table, and the negotiation technique of the Arabs is based on the open door policy, "which means that the door Negotiation is open to anyone, and the Arabs hate impulsion, and therefore decision-making requires more time and consultation. When negotiating prices, the Arabs are very strict negotiators for this, so it is necessary to adapt to Arab customs. (Hani, 2019, p. 53)

2.4.3. The impact of the technological environment:

One of the main drivers of global development is the speed of communication and the reduction of the cost of technology. We are witnessing an amazing penetration of internet users in the world. There has been a 150% increase in the use of the internet globally since 2000. Latin America, the Middle East and Africa have shown the largest increases. E-commerce is also considered one of the revolution in the technological age starting with electronic data exchange (EDI) and other modern forms of interaction. So global marketers now have to be aware of new forms of marketing as the continuous and rapid rise of the internet gives them more opportunities to expand their communication, research and distribution facilities. (Lee & Carter, 2012, p. 62)

Through the foregoing, we conclude that it is necessary for the investing company to know all the variables of the marketing environment on the one hand, and that the host country must provide all the favorable conditions to benefit from the advantages of foreign direct investment.

3. The empirical part of study

3.1. Sample

We have tried to obtain as much data as possible from the Arab countries. However, some of them were not available. Meanwhile, the scarcity of data made it a reason to exclude them from the sample. Therefore, the study sample consisted of 12 Arab countries from 2002 to 2019.

Table (01) : The Arab countries used in the study

Continent	country
Africa	Algeria, Tunisia, Morocco, Egypt, Sudan
Asia	Lebanon, Jordan, Kuwait, Oman, Bahrain, Qatar, Saudi Arabia, the United Arab Emirates

Source: Prepared by the researchers

3.2. Study variables and the mathematical model approved

In order to test the role to know the variables of the international marketing environment for investments in foreign markets and their flow to the countries under study, this study uses a multiple regression model based on cross-sectional time series data **(Panel Data).**

The following mathematical model has been adopted:

$$FDI_{it} = \alpha i + \beta_1 GNI_{it} + \beta_2 POPU_{it} + \beta_3 POLI_{it} + \beta_4 LAW_{it} + \varepsilon_{it}$$

- i=1,2,... 12, It is the number of Arab countries that made up the study sample;

- t : the time period (2002-2019);

- β1, β2, β, 3 regression coefficients for the independent variables;

-αi: constant, represents the value of the dependent variable when the value of all independent variables is 0 ;

- FDI: Foreign investment flows to the Arab countries under study;

- GNI: represents the gross national income of the countries of the study sample, and it expresses the international economic marketing environment variable;

-POPU: represents the population and is the expression of the international social marketing environment variable;

-POLI: the political stability index in the countries under study, which is a variable of the international political marketing environment;

- LAW: indicator of the degree of economic freedom in the markets of the countries under study, which is one of the variables of the legal marketing environment;

-ε_{it} :Error limit.

3.3. Data collection sources

The study was based on data sources:

-Books and scientific articles to illustrate the theoretical aspect of the study variables;

-For countries' data, it has been taken from various sources: World Bank, World Governance Indicators (WGI), indicators published by the American Heritage Research Foundation in association with the Wall Street Journal of Economic and Business.

3.4. Model of study

When we were briefed on a group of previous studies, we found many of them, as we mentioned earlier, studying the relationship between FDI and many variables related to investment and the extent of the host countries' efforts to attract the largest amount of it, which is what distinguishes our study, where we study the inverse relationship, in the sense the extent to which a study is taken into consideration. The international marketing environment for choosing a strategy for FDI using four variables, each variable represents a type of marketing environment, which is the gross national income, the population, an indicator of political stability, the degree of economic freedom, and the dependent variable is the flows of foreign investment to the countries under study.

3.5. Descriptive statistics of the study variables

Before starting to estimate and analyze the results of the marketing environment determinants of the flow of FDI in the study sample (2002-2019),the study variables data must be described and their key features clarified using the most acceptable descriptive analysis. This includes standard deviation, highest value, lowest value. Table 02 shows this (cherouki, 2017, p. 332) .

Table (02) : descriptive statistique of varibles

	FDI	GNI	POPU	POLI	LAW
Mean	348.92	10.92	6.93	1.86	1.79
Median	169.01	10.90	6.90	1.87	1.79
Maximu	3945.58	11.90	8.00	1.95	1.89
Minimu	-281.26	9.95	5.80	1.72	1.65
Std. Dev.	532.6234	0.45	0.56	0.056	0.04
Obs	216	216	216	216	216

Source: Prepared by the researchers bsed on the outputs of the **eviews10**

We notice through Table (2) that the index of economic freedom has the lowest value of the standard deviation 0.047, In this case, it is responsible for the concentration of the sample. Meanwhile, the maximum value of the standard deviation for foreign direct investment was 532.62, which means that it is the reason for the dispersion of the sample and is due to its disparity between Arab countries, which is the same for the arithmetic mean (FDI = 348.92, LAW = 1.79).

3.6. Analysis of correlation between explanatory variables

We prepared a correlation matrix between independent variables in order to ensure that there is no problem of multiple linear correlation between the study variables. Table (04) explains that:

Table (03): Matrix of correlation between independent variables

	GNI	POPU	POLI	LAW
GNI	1.000000			
POPU	0.521663	1.000000		
POLI	-0.039905	-0.277677	1.000000	
LAW	-0.143834	-0.678472	0.347236	1.000000

Source: Prepared by researchers based on the outputs of the **eviews10**

We notice from the above table that the largest value of the correlation coefficient is 0.67, and therefore there is no multiple linear correlation problem between the independent variables. Whereas, according to many researchers, the problem of multiple linear correlation appears when the values of the correlation coefficients are greater than 0.8 .

To reinforce and confirm the absence of this problem, we did a VIF test (Variance inflation factor), where if the coefficient of this test is less or equal to 10 then the problem of multiple linear correlation between the independent variables does not exist (Gujarati & Porter, 2009, p. 340) . The following table shows the results of this test:

Table (04): Variance inflation factor test (VIF)

variables	GNI	POPU	POLI	LAW
VIF	1.65	2.77	1.13	**2.12**

Source: Prepared by researchers

Since the coefficient of variance amplification for all the explanatory variables (VIF **GNI** = 1.65, VIF **POPU** = 2.77, VIF **POLI** = 1.13, VIF **LAW** = 2.12) respectively is less than 10 , the model excludes the problem of multiple linear correlation between the explained variables.

3.7. Time series stability test

To avoid getting what is called a spurious regression problem,the stability of the study variables must be studied by relying on the most common and used tests. Table 5 displays the results of these tests:

Table (05): Results of the study variables stability test

varibles	tests	level		First diffrence	
		Stat	Prob**	stat	Prob**
FDI	LLC	-3.05988	0.0011	//	//
	IPS	-3.88426	0.0001	//	//
	ADF	54.2661	0.0004	//	//
GNI	LLC	-8.79069	0.0000	//	//
	IPS	-5.27332	0.0000	//	//
	ADF	70.6315	0.0000	//	//
POPU	LLC	-5.95280	0.0000	//	//
	IPS	-6.40351	0.0000	//	//
	ADF	99.0846	0.0000	//	//
POLI	LLC	-0.95580	0.1696	-11.2958	0.0000
	IPS	1.02494	0.8473	-9.14489	0.0000
	ADF	12.8707	0.9682	115.753	0.0000
LAW	LLC	0.21224	0.5840	-10.5610	0.0000
	IPS	0.47546	0.6828	-9.48286	0.0000
	ADF	22.8058	0.5313	120.524	0.0000

Source: Prepared by researchers based on the outputs of the **eviews 10**

What can be observed from the table is that the results obtained after applying the three tests coincide with each other, so that they clearly indicate the absence of unit roots at the level of the three variables, FDI, GNI, and POPU.It reveals the stability of this variables at the level, which indicates the rejection of the H_0 hypothesis of the existence of the roots of the unit. As for the differential variables of the first degree at the level of 1%, the results proved that they include the rest of the study variables represented in These results showed that they include the rest of the study variables represented in the Political Stability Index (POLI) and the Economic Freedom Index (LAW).

3.8. The Cointegration test

After performing stability tests and the presence of some unstable and integral variables of the same degree, which are growing at the same pace as the trend in the long term (a long-term equilibrium relationship),we move to the second stage, which is to test the simultaneous integration relationships between these variables using the **Pedroni** test. This latter focuses on the unit root tests for the estimated residual and this is shown in the following table:

Table (06): The results of the integration relationship –Pedroni test-

Within demension	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-1.125444	0.8698	-1.103712	0.8651
Panel rho-Statistic	1.026182	0.8476	0.965967	0.8330
Panel PP-Statistic	0.203469	0.5806	0.252822	0.5998
Panel ADF-Statistic	0.291785	0.6148	0.216403	0.5857
Between demension	**Statistic**		**Prob.**	
Group rho-Statistic	2.183305		0.9855	
Group PP-Statistic	0.950453		0.8291	
Group ADF-Statistic	0.738318		0.7698	

Source: Prepared by researchers base on the outputs of the **eviews 10**

The results shown in Table (06) indicate that all the prob values corresponding to the statistics V, PHO, PP, ADF are greater than 0.05.This means rejecting H_1 hypothesis and accepting H_0 hypothesis which states that there are no simultaneous integration relationships between the studied variables of the same degree And represented by the index of economic freedom, the index of political stability.

3.9. choosing the appropriate model for the study

The appropriate model for the study is chosen through the comparison between the three models of the Panel, and this is done by doing two tests:

-**Fisher's constrained test** for choosing between a common constant model and a fixed effects model.

-**Hausman's test** of the comparison between the fixed effects model and the random effects model.

a- Fisher's constrained test:This test is based on the following two hypotheses:

H_0: the common constant model is appropriate.

H_1: the fixed effects model is appropriate. (Harkati, 2018, p. 225)

$$F=\frac{R^2_{\mathrm{FEM}}-R^2_{PM}/(\mathrm{N}-1)}{(1-R^2_{\mathrm{FEM}})/(\mathrm{NT}-\mathrm{N}-\mathrm{k})}=(N-1, NT-N-K)$$

R^2_{PM}= R-squared When using the Pooled Regression Model ;

R^2_{FEM}= R-squared When using the fixed effects model ;

: Number of parameters estimated ;

N: The number of the sample.

$$R^2_{PM} = 0.291981 \text{،} R^2_{\mathrm{FEM}}=0.484033 \text{،} NT=216 \text{،} T=18 \text{،} N=12 \text{،} K=4$$

$$F_{\mathrm{cal}}=\frac{(0.484033-0.291981)/(12-1)}{(1-0.484033)/(216-12-4)}=6.7696$$

$$F_{tab}=(11.199)=1.83$$

We observe that the calculated Fisher value is greater than the tabular Fisher value at the level of 5%, and therefore we reject the H_0 hypothesis and accept the alternative hypothesis which states that the fixed effects model is the appropriate model.

b-Hausman's test: The results of this test are shown in the following table:

Table (07): Hausman test results

Chi-Sq-Statistic	**10.496205**
P-Value	0.0328

Source: Prepared by researchers based on the outputs of the **eviews 10**

Through Table (07), we note the probability value 0.0328 is less than the level of significance 5%, which means accepting the H_1 that states that the fixed effects model is the appropriate model for the study.

3.10. Analysis of multiple regression model results using fixed effects model

Table (08): Results of multiple regression model using fixed effects model

variable	**coefficient**	**t-statistic**	**prob**
C	-5374.094	-1.372601	**0.1714**
GNI	932.5119	3.312834	**0.0011*** **
POPU	-1084.349	-2.143319	**0.0333** **
POLI	1820.723	2.199031	**0.0290** **
LAW	-190.4733	-0.149912	**0.8810**
R-squared	**0.484033**		
Adjusted R-squared	**0.445335**		
F-statistic	**12.50809**		
Prob(F-statistic)	**0.000000**		
Durbin-Watson stat	**0.445402**		

Source: Prepared by researchers based on the outputs of the **eviews 10**

(***) ,(**) level of statistical significance 1%,5% Respectively

3.11. Diagnostic of the estimated model

a- The statistical significance test for the estimated parameters: Based on the previous table (08), we note that:

- With regard to the GNI coefficient, we notice that its probability value is 0.0011, which is less than 0.01, of which GNI has a statistically significant figure in the model, meaning that the variable explained gross national income affects the dependent variable FDI flows.

- With regard to the variable POPU, we notice that its probability value is 0.0333, which is less than 0.05, and of which POPU has a statistical significance in the model, that is, the variable explained by the number of population in the countries under study affects the dependent variable the inflows of FDI flows.

- We also notice the same thing for the POLI variable. The probability value is 0.0290, and which is less than 0.05. This means that it has a statistical significance in the model, that is, the variable explained by the POLI affects the dependent variable FDI flows.

- As for the economic freedom variable, its probability value according to the chosen random model reached 0.8810 which is a large value of the level of statistical significance, and therefore it is not statistically significant and therefore has no effect on the dependent variable FDI flows .

b- The overall significance test of the model: We use the determination factor and the Fisher test to test the overall significance of the model obtained as follows:

- **R squared :** was estimated at 0.4840, meaning that the explained variables control and explain 48.40% of the changes that occur in the dependent variable, which indicates that there is a bit average correlation between FDI flows and the explained variables. Meanwhile the remaining 52.60% is explained by factors other than those included in the model and included in the error limit.

- **Fischer statistic F:** Since the Fisher statistic computed starting from the above table is estimated at 12.5080 corresponding to the probability 0.0000, which is less than the level of significance 5%, and therefore we reject the H_0 hypothesis and accept the H_1 hypothesis. Accordingly, the model as a whole has a statistical significance.

3.12. Model quality testing

After confirming the quality of the model statistically, the second stage follows. It is a test in standard terms to see the extent of its consistency and conformity with the study hypotheses by conducting a autocorrelation test and testing the heteroscedasticity as follows:

3.13. autocorrelation test

Autocorrelation measures the degree of correlation between values for the same variable during a specific period of time and not between one or more variables. It is possible to find out if there is an **autocorrelation** between the variables of the independent study by the use of the

Wooldridge Test to detect this problem.
The results of this test were as follows:

Table (09): Wooldridge Test

Test statistic: F(1, 11)	**25.1706**
p-value	**0.0003**

Source: Prepared by researchers based on the outputs of the **Gretl** program

It becomes clear to us that it is Prob>F=0.0000 and thus rejecting the null hypothesis and accepting the alternative hypothesis which states the existence of autocorrelation

3.14. heteroscedasticity test of variance:

The Wald test is used to ensure the consistency of variance for errors or not, and the results of this test are as follow:

Table (10): The Wald test

Chi-square(12)	**50523.2**
p-value	**0.0000**

Source: Prepared by researchers based on the outputs of the **Gretl** program

We notice that the p-value is smaller than the level of significance 5%, and therefore the null hypothesis is rejected and the alternative hypothesis accepted. So there is an imbalance of the error variances in the fixed effects model.

Based on what is mentioned before, it can be said that the fixed effects model suffers from the autocorrelation problem and also heteroscedasticity problem.

To correct these problems we resort to the White cross-section standard errors & covariance method, and the results of the corrected study model can be presented as shown in the following table :

Table (11): The corrected random effects model

variable	coefficient	t-statistic	prob
C	-5374.094	-2.465006	**0.0145****
GNI	932.5119	4.054925	**0.0001*****
POPU	-1084.349	-3.941960	**0.0001*****
POLI	1820.723	5.053906	**0.0000*****
LAW	-190.4733	-0.207928	**0.8355**
R-squared	**0.484033**		
Adjusted R-squared	**0.445335**		
F-statistic	**12.50809**		
Prob(F-statistic)	**0.000000**		
Durbin-Watson stat	**0.445402**		

Source: Prepared by researchers based on the outputs of the **eviews 10**

(***) ,(**) level of statistical significance 1%,5% Respectively

4. results and Test the hypothesis of the study

Through the results of statistical analysis and hypothesis testing, we reached a set of results that clarify the form of the relationship and influence between some of the explanatory variables related to the international marketing environment and that affect the companies' decision to enter the markets of the Arab countries under study and thus affect the flow of FDI to them during the extended period (2002-2019) The most important of these results include:

-It was found that the corrected fixed effect model is the most appropriate to express the relationship between the study variables as the independent variables explain more than 48% of the changes occurring in the dependent variable, which is represented in the FDI flows to the economy of the Arab countries under study. And perhaps this model is superior to my model. The stochastic effects and the cumulative regression are due to the environmental characteristics that are somewhat similar between the sample countries. So this model assumes that the differences between countries lie in the constant boundary

-The results of the multiple regression according to Table N°11 indicate that there is a statistically significant effect between the GNI variable and FDI flows as the probability of the variable 0.0001 was estimated, which is smaller than the level of significance 1%, and that its coefficient was positive.Therefore, the relationship has a positive effect and this corresponds to the study of 2017sahel.M & Ben tafat.A, which took the variable GDP as a positive determinant of FDI which is the closest concept to gross national income. This is what makes us accept the first hypothesis.

-The outputs of the fixed effects model indicate that there is a statistically significant relationship at the level of significance of 1% between the variable of population size and flows of FDI, where the probability of the variable 0.0001 was estimated, which is smaller than the level of significance 1%. However, its coefficient is negative and therefore there is an inverse relationship between the two variables. The more it increases the size of the population, the inflows of FDI gets smaller. And that was unexpected. Although the size of the population reflects the size of the local market, the more the interest of the investing company is to achieve the largest amount of profits, especially in those markets where the cost of labor is low. And sahel.M & Ben tafat.A(2017), which demonstrated population growth or population size, has a significant positive explanatory power on FDI coming into Africa. Thus, according to our study sample, increasing the population does not necessarily mean an increase in FDI flows, and this is what makes us reject the second hypothesis.

-The results also indicate the existence of a statistically significant relationship between the political marketing environment variable poli and the dependent variable FDI where the probability of the variable reached 0.0000, which is less than 1%. There is a direct relationship between the two variables, meaning that the more Arab countries are characterized by political stability, the more they are encouraged international companies for FDI in them and increased their flows to the countries under study. This corresponds to the majority of previous studies that have dealt with this variable and which unanimously agreed on the existence of a positive explanatory relationship between the two variables such as the study of Manamba2018 and the study (Zekiri & Angelova 2011), (2015 Ercilasun Mustafa & all) which emphasized that political stability enhances the attractiveness of FDI, and therefore we accept the third hypothesis.

-As for the number of the interpreted variable (law) that expresses the legal marketing environment, the results indicate that there is no statistically significant relationship between it and the dependent variable as the value of the statistical probability reached 0.8355, which is a very large value greater than the level of statistical significance 5%. Therefore, it is statistically insignificant, in other words that the degree of economic freedom does not directly affect the flow of FDI in the sample countries, and this contradicts some previous studies that dealt with the degree of trade openness as the closest variable to the degree of economic freedom as a study (mouhamed & djamel, 2017. and Farok J, Ramesh & Raghunathc. It confirmed that the countries that are distinguished with efficient international trade systems that attract more FDI (kaaloul sofiane 2017), with which it has been proven that the ease of doing business is a suitable ground for the host country to prepare, and for this we reject the fourth hypothesis.

5. Conlusion

This study examines the relationship of the influence of the variables of the international marketing environment on choosing a strategy for FDI and consequently on its flows to some Arab countries during the period 2002 to 2019, using some factors related to the marketing environment which are gross national income, political stability, degree of economic freedom, as well as the size of the population for these countries, and their impact on FDI flows to countries, based on cross-sectional data for time series. We have reached a model with some standard problems. Although they are corrected, they may lead to misleading conclusions. Despite this, the study found a positive correlation between the two explanatory variables the total national income and political stability and between FDI flows. It also found an inverse correlation between the size of the population and the flows of FDI, and this is due, in our opinion, to the discrepancy and differentiation of this variable significantly between the sample countries. As for the variable of economic freedom , it has no effect on the flows of FDI .

So through the results of the standard study, we conclude that studying and knowing the variables of the marketing environment in general contributes to motivating international companies to choose a strategy for FDI even though it is the most complex and risky strategy within international marketing strategies, and that the variables of the marketing environment are not limited to the factors chosen in this study. Forming prospects for future studies, especially since foreign investment has become the focus of attention of many countries that lack funding sources and suffer from indebtedness and an imbalance in the balance of their payments.

Through the above, the following recommendations can be drawn up

-As long as there are opportunities for investment in international markets, institutions must be aware of the characteristics of these markets by monitoring and following up on what is happening in them by analyzing the factors of their marketing environment to ensure the best presence in them;

-The need to give importance to the variables of the international marketing environment by studying and analyzing them at the micro and macro level to avoid the threats that may face the international company in the host country, especially the legislative and legal regulations and the cultural environment that greatly affect purchasing decisions;

-On the other hand, the host countries should make more efforts to strengthen governance and reduce investment risks in some Arab countries that are behind the reluctance of the foreign investor despite the availability of investment opportunities available in the region;

-Enhancing macroeconomic performance by adopting a number of policies and structural reforms aimed at overcoming internal and external differences;

-Updating laws related to investment promotion in line with the current development and changes in the international investment environment.

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