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# The Role of the World Trade Organization in Achieving the Interests of Developing Countries "Egypt Case"



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ABSTRACT: The principles of the World Trade Organization (WTO) included a set of exceptions to help developing countries to speed up the process of their economic development. Therefore, the research problem focused on the extent to which developing countries benefit from these exceptions, and by applying it to the Egyptian case. The researchers used the threshold regression model to measure this benefit based on the data of the World Bank. The research concluded that most of the exports of developing countries, including Egypt, are raw materials that Industrial countries seek to innovate alternatives for them and thus do not benefit the optimum benefit from the export subsidy exception, just as the developing countries opened up to the world and entered the competition market without being qualified enough to compete. Although the WTO allowed the protection of nascent and emerging national industries in a manner that does not contradict the foundations adopted in its 1994 WTO agreement, the developing countries did not achieve the maximum benefit because they did not have the conditions for competition in the global market, and some developing countries also accepted to sign the Government Procurement Agreement Because of the political pressures that achieve the interests of the developed countries that have interests. The research recommended the need to request re-negotiations to try to extend the transitional period to allow the advancement of emerging and nascent industries in developing countries, and the importance of accelerating the upgrading of the industries of developing countries in order to be eligible to enter the global competition, in addition to the need to maintain the value of commodity and service exports and the added value in manufacturing. And the net inflows of foreign direct investment in Egypt at levels lower than the threshold in order to promote economic growth in Egypt.

KEYWORDS: Role - WTO - Developing Countries - Egypt

# 1. INTRODUCTION

Several international organizations were established after the end of World War II in 1945 AD, including the International Monetary Fund and the World Bank, in addition to the GAAT General Agreement on Tariffs and Trade, which was established on October 20, 1947 AD, and then evolved into an World Trade organization and the main objective of establishing the GATT centered on liberalizing international trade and removing customs and non-tariff barriers that impede the movement of goods across international borders, in addition to opening up to the outside world, opening markets and expanding the field of competition between countries (Awad Allah, 2006). The main role of the GATT focused on regulating the rules and laws that reduce customs tariffs among member states (El-Shafei, 2005).

The implementation of the GATT was carried out through a permanent secretariat based in Geneva. The World Trade Organization (WTO) was established in 1995, which was established on the basis of the Uruguay Round, which is one of the most important rounds of GATT, and began its activity in January 1995 (Al-Itani, 2003). The WTO was established after the endorsement of the outcomes of the second Uruguay Round and the Final Communiqué in Marrakesh.

The highest authority in the WTO is the Ministerial Conference, which consists of the ministers of trade and economy in the member states, and its mission is to take decisive decisions for the organization. It convenes every two years, and acts as a government for the world in the field of trade (Abu Ela, 2012). The World Trade Organization is an independent organization and is not affiliated with the United Nations organizations and has no branches. The World Trade Organization is the legal and institutional framework for the multilateral trading system, which secures the basic contractual obligations that define for governments how to formulate and implement domestic trade regulations and controls.

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The organization is considered as a forum that seeks to develop trade relations among countries through discussions, collective negotiations and judicial rulings for commercial disputes (Abu El-Ala, 2012). The World Trade Organization has a General Council that replaces the Ministerial Conference if it is not convened, a General Secretariat (Secretariat), and a Director General, with four deputies. Three main councils emerge from the General Council, which are the Council for Trade in Goods, the Council for Trade in Services, and a Special Council for Intellectual Property Rights (United Nations Conference, 2003).

Several committees and working groups are attached to these councils. The World Trade Organization covers a wider area than the GATT in terms of trade activity and the policies governing trade. The GATT applies only to trade in goods, while the WTO includes trade in goods and trade in services as well as trade in ideas and property rights, as well as the WTO's focus on the need to make positive efforts to ensure that developing countries, especially the least developed, get a large share of growth In International Trade (United Nations Conference, 2003).

# 2. RESEARCH PROBLEM AND METHODOLOGY

The problem of the research lies in reaching the extent to which developing countries benefit from exceptions to the principles of the WTO in promoting their economies by applying to the Egyptian case? The research assumes that the World Trade Organization worked to achieve the interests of developing countries through the exceptions it made to its principles, and that Egypt benefited from these exceptions. The analytical and descriptive approach was followed in analyzing the extent to which developing countries benefit from exceptions to the principles of the World Trade Organization.

Then the researchers used the Threshold Regression Model to reach the extent to which Egypt benefits from exceptions to the principles of the World Trade Organization. The measure of GDP in constant prices in US dollars was used to express the extent to which Egypt benefits as a dependent variable, while the independent variables are commodity and service exports in dollars EXPORTS, value added in manufacturing MANFA, net inflows of foreign direct investment in NIFFDI, and the research is limited to two exceptions. Two important principles of the organization, namely the principle of the most favored nation, and the principle of national treatment. Emphasis is also placed on the role of the World Trade Organization towards developing countries since its inception in 1995 until 2020.

# 3. PREVIOUS STUDIES

The study of (Al-Esawy, 2001) concluded that the State of Jordan did not sign the Government Procurement Agreement of the World Trade Organization, but it is an observer state in the agreement at the stage of negotiating the Government Procurement Agreement. Because officials in Jordan believe that the negatives of joining the agreement outweigh its positives, which they believe are in the interest of the developed countries.

The study by (Fouad, 2004) also recommended the need to take into account the interests of developing countries and improve production and work to raise its quality, in addition to the need to monitor the behavior of countries exporting to Egypt industrial products in terms of their Greek policies, and the study also recommended the need to upgrade industry in Egypt and keep pace with the latest technology methods. Also, the trade liberalization policy should be gradual in proportion to the nature of the problems of each industry separately, and the customs incentives for production requirements should be reduced (Ismail, 2004).

In a study by (UNCTAD, 2005) it analyzed the impact of trade liberalization and economic reforms in developing countries and stressed the importance of trade liberalization in developing countries, but on condition that the industry reaches a certain degree of maturity and provided that this liberalization is gradual and selective, because rapid liberalization leads to the destruction of Emerging national industries.

Another study by (Abdul Salam, 2010) stressed the need to pay attention to overcoming the obstacles facing the export sector. In addition to benefiting from regional economic blocs and encouraging developing countries to trade among them, the study also recommended the need to work on creating Qualified, pioneering and expert cadres in the field of foreign trade, as well as accelerating accession to the Free Trade Organization (Al-Siddiq, 2010).

The study (Saudi Ministry of Trade and Industry, 2010) also found that opening the door to international competition on government procurement through the agreement without any discrimination in favor of the trader; the local government is tantamount to achieving gains for the developed country at the expense of the developing countries.

The study by (Bailey, 2012) indicated that the Government Procurement Agreement is a strategic policy for the European Union that aims to Ensuring the existence of legislation related to government procurement in the agreements in which the European

Union enters into a partner, and the water sector is one of the most important sectors in which the European Union is interested in its agreements, as the European Union rejects the partner country's control over the procurement of this sector, as is the agreement in the country in the country between the European Union and Central America. The study also indicated that the Syrian government clearly aimed to intervene in the field of government procurement, and among the most important government institutions that control government procurement are the General Establishment for Grain Trade and Processing, the General Establishment for Ginning and Co-marketing, and the General Counsel.

# 4. PRINCIPLES OF THE WORLD TRADE ORGANIZATION

The principles of the World Trade Organization included many foundations and principles aimed at liberalizing trade, services, intellectual property rights, etc., and the WTO stressed the commitment that customs tariffs are the primary means of protection, meaning not to resort to non-tariff restrictions such as the quantitative quota system except in special cases, such as a defect in the balance of payments of the member state of the organization (Al-Esawy, 2001), the principles also included the principle of undertaking to liberalize international trade in the long term, which means abandoning protection by entering into negotiations for the mutual reduction of customs tariffs, as well as the commitment to avoid the policy of dumping, Obligation to avoid export subsidies, for example, a contracting party granting a subsidy to exports of any product that may cause harm to another contracting party, whether it is an importer or an exporter.

The principles also included the principle of prevention standards, which provides for the possibility of resorting to preventive measures in emergency situations - where a country that has become a member of the organization may impose trade restrictions on certain goods when faced with a sudden and huge influx of imports of certain goods in a way that harms the local producers of these Goods - (Al-Esawy, 2001).

Thus, the commitments it had previously undertaken were suspended, and then returned to the GATT procedures after overcoming the crisis. The possibility of quantitative restriction of trade in the event of a crisis in the balance of payments, in which case the state has the right to impose restrictions on the quantity or value of goods allowed to be imported (Al-Mahdi, 2004).

There is another principle, which is the principle of trade without discrimination, whereby all member states are equal in international trade obligations, even if discrimination is in the interest of developing countries through distinguished and more preferential treatment and the protection of their emerging industries through their enjoyment of additional procedures that allow them sufficient flexibility in adjusting the tariff structure Customs duties to provide the necessary protection for an industry to implement quantitative restrictions to contain the imbalance in the balance of payments (Al-Mahdi, 2004).

In the following, we discuss in detail two important principles of the principles of the World Trade Organization, which included some exceptions behind which the organization aimed to take into account the interests of developing and least developed countries, and through them it is possible to evaluate the role of the organization towards developing countries.

# 4.1 Most Favored Nation Treatment (MFN)

The principle of MFN means that in the event that any country grants a commercial advantage or services of any kind to another, it must grant this advantage to all other countries (favor on, favor all), with some exceptions, where any member state may be exempted from this obligation and grant Exceptions Provided that exceptions are specified at the time. The Agreement becomes effective, all exceptions granted for a period of more than 5 years shall be reviewed by the Council for Trade in Services, and such exceptions shall be terminated on the date specified for the termination of an exemption.

Knowing that the exemption period should not exceed 10 years, and in all cases these exemptions must be subject to negotiation during successive rounds of trade liberalization (Al-Mahdi, 2004).

# 4.1.1 The first exception: the protection of infant and emerging industries in developing countries in order to strengthen them in global competition

The GATT agreement allowed the protection of nascent and emerging national industries in a manner that does not contradict the foundations adopted in its 1994 World Trade Organization agreement, as the provision of customs and non-tariff protection, subsidies and support for economic activities of industrial, agricultural and others has become prohibited except in exceptional cases supported by strong justifications and for very limited periods.

The rules of the World Trade Organization have stipulated that such measures may be taken to ensure competition and support developing countries to preserve their economies (Syrian Ministry of Industry, 2011). Under the exceptions of the most favored nation principle, developing countries have the right to take the necessary measures to protect their nascent and emerging industries until those industries reach the ability to compete in global markets.

Although developing countries are constantly trying to reach full economic independence, the ability of developing countries to advance industry and maintain their emerging industry is weak because they are facing great competitive pressures from giant multinational monopoly companies, which is an unequal situation that exceeds the ability of developing countries to compete and withstand (Khairy, 2012).

The protection of emerging industries is considered a protection for national production by setting relatively high customs tariffs for the products to be protected. Products can be divided into a higher tariff category according to the importance of the product - a good or a service - as well as the future industries being prepared for which are requested to be fixed at a higher level than other commodities, and a gradation can be made in reducing customs tariffs in the future and during the coming periods in the manner that it has done some developing countries during negotiations to join the World Trade Organization (Syrian Ministry of Industry, 2011).

The developing country has the right to formulate a law within the framework of excluding the principle of the most favored nation within the GATT agreement aimed at protecting the emerging national industry and in order to achieve an encouraging investment climate for such industries with the aim of giving them the opportunity to acquire the expertise and technical, administrative and marketing skills necessary to reduce production costs and then to enhance their competitive capabilities enabling them to Competition in the global market and this can be done through the following mechanisms: -

- 1- Increasing the customs duties applied on imports of a competing product to the product required to be protected nationally or locally, or imposing new customs duties.
- 2- Enhancing the competitiveness of industries required to be protected, reducing customs duties on production inputs.
- 3- The term of protection does not exceed five years according to the GATT.
- 4- The industrial establishments benefiting from the industry protection measures must not raise the prices of their products above the appropriate price rate, and must adhere to high quality specifications throughout the protection period.

# 4.1.2 The second exception: the preferential advantage that links developing countries to developed countries

The generalized system of preferences or preferential advantage is a system that grants new or emerging products in developing countries tariff rates lower than those normally enjoyed in the case of the most favored nation. The generalized system of preferences is a special measure granted to developing countries with the aim of increasing their export earnings and promoting their economic development. The GATT issued the Generalized System of Preferences in the GATT Resolution 1971 and then the GATT Resolution 1979. The GSP focuses on developing countries to enhance their development capacity. The beneficiaries of this system are limited to developing countries, as it is a benefit granted by developed countries to developing countries.

If we review the history of the rise of the developed countries at the world level, we find that they began to support local industries, and to rely on preferential advantages, which helped the ability of those countries to withstand and compete in the global market against the strongest countries that possessed foreign markets at that time. It found that it did not open up to the world by reducing or canceling customs duties or removing customs protection for the national product once, and that was not done until after full preparation and ability to compete.

Therefore, the economic advancement of these countries would not have taken place until after they had obtained full protection for their industry and obtained a preferential advantage for their economy. The protection of emerging industries in the midnineteenth century has been associated with the name of the Economist List. And he had a well-known saying during the British behavior (such as the behavior of someone who pushes the ladder he climbed to the top so as to prevent anyone else from ascending to it.

Returning to the situation of the developing countries, we find that the situation is reversed. The developing countries asked to open up to the world and enter the competition market without being Qualified enough to compete, therefore, the benefit of developing countries from the principles of the GATT agreement is incomplete, and even the exceptions granted to developing countries were not able to benefit from them (Al-Hamsh, 2010), because the advantages granted to developing countries from the enjoyment of their trade preferential treatment by the developed countries are represented in: Some advantages and conditions to facilitate the access of developing countries' exports to the markets of developed countries, at a time when developing countries do not have the ability to produce, and if they do, they do not have the conditions of competition in the global market, as they do not have the ability to produce high quality or lower price (Nasr (2002), and therefore the liberalization of international trade leads to obstruction of development efforts and the advancement of the economies of developing countries and the establishment of advanced industries and thus widening the gap between developed and developing countries.

# 4.2 The principle of national treatment (NT)

NT principle provides for non-discrimination in treatment between nationals and foreigners in the provision of services, which ensures that the foreign supplier receives the same treatment as the local supplier (in terms of non-discrimination in granting support in favor of the local service supplier - also in terms of nationality and residence conditions, in addition to the requirements related to technology transfer and language specific conditions, with no prohibition of land or real estate ownership, as well as non-discrimination in requirements related to qualifications, licensing and registration requirements, and training).

If the state wishes not to provide a commitment to supply the service in a particular form of supply, it should be listed in the table that there is no obligation to release, which means that the service cannot be provided for technical reasons (Al-Afori, 2000). The objective of the principle of national treatment is to remove domestic barriers to trade, and thus all members of the World Trade Organization are required to grant the treatment of imported products the same treatment accorded to local products. Adherence to this principle is intended to maintain a balance of rights and obligations, which is necessary to maintain the multilateral trading system. Article 3 of the General Agreement on Tariffs and Trade (GATT) requires that WTO members provide national treatment to all other members. The third article stipulates the laws, regulations and requirements that affect imported or local products in a way that protects local production. With regard to internal taxes or other internal duties, the same article states that WTO members do not apply standards higher than those imposed on domestic products between imported goods and "similar" domestic goods, or between imported goods and a "directly competitive or replaceable product". With regard to internal regulations and laws, the same article states that members shall be given treatment for imported products less favorable than treatment accorded to "similar products" of national origin (Al-Afori, 2000).

# 4.2.1 The first exception: - government purchases

GATT allows governments to purchase local products preferentially (Article IIIa), making government purchases an exception to the national treatment rule. This exception was approved in recognition of GATT members' role in government procurement in national policy. In addition, there may be a security need to develop and purchase products locally, or government procurement may be used as is often the case as a policy tool to promote small business, local industry, or advanced technologies.

While GATT recognizes government procurement as an exception to the national treatment rule, the Uruguay Round Agreement on Government Procurement also provides for signatories to provide national treatment in their government procurement. This agreement is not binding on all GATT members to join the Government Procurement Agreement. Most of the developed countries have joined the Government Procurement Agreement, and the national treatment rule applies only to those who have joined the Government Procurement Agreement. For others, the traditional exception still applies.

Government procurement is one of the important tools for developing countries, provided that they are used well and according to the country's economic capacity and that it is qualified to benefit from it. It is also an important tool for national macroeconomic management. Legislation related to government procurement is defined as the preferential policies enjoyed by central government institutions, and government procurement is usually associated with advantages related to a monopoly or a restriction in the purchase of commercial products.

Government purchases are estimated at large expenditures, especially in developing countries, where in some developing countries they amount to between 15% of GDP and 20%. There are many justifications for developing countries to engage in government procurement, including social security or the encouragement of certain productive sectors. Therefore, government measures have different applications, ranging from social development, economic profit and job creation. In many cases, the liberalization of government procurement, whether it is within the framework of regional agreements or within the framework of the "Government Procurement Agreement" of several parties signed by a number of member countries of the World Trade Organization may help developing countries develop in the development process, Such as raising the production efficiency of governmental institutions because they are in a competitive position with the private sector, in addition to stimulating production in the private sector, as well as increasing transparency and allowing the comparative advantage to play its role (Bailey, 2012).

Within the framework of the World Trade Organization there are multilateral agreements. Among these agreements is the Government Procurement Agreement, and this agreement includes 28 countries - considering that the European Union is one country as an economic bloc - and the agreement includes texts that guarantee access for foreign suppliers to purchase goods and services in a non-discriminatory manner, and the agreement includes non-monopolization of central government institutions For procurement procedures and signing commercial contracts, except to a certain limit 185,000 dollars.

The agreement specified the value of the purchases to which this agreement is subject, so that it must be 150,000 dollars or more equal to special drawing rights, and provided that all products are subject to a treatment no less than that granted to a local

supplier or to any product in another country, The agreement special and preferential treatment in favor of developing countries in order to maintain the balance of payments balance, and a sufficient reserve of hard currency to achieve the economic growth program (Billy, 2012).

This agreement was negotiated for the first time within the framework of the Tokyo Round (1973-1979) and entered into force in 1981. It includes two components, the first relates to general obligations and the second relates to schedules that include national institutions subject to the Government Procurement Agreement. In the second time - within the framework of the 1996 Uruguay Round - it was renegotiated and made it include more governmental institutions. The new formulation was activated on January 1, 1996. The texts of the agreement include what obliges developing countries to open the government procurement market to foreign institutions.

If there is a positive impact of that agreement represented in the integration and integration with global markets, but there are many negative effects represented in the possibility of developing countries losing the ability to use the exceptions and preferential advantages granted to them by the GATT and the World Trade Organization, the loss of financial returns resulting from Government purchases carried out by national government institutions, or preventing losses that were borne by the state treasury, if those institutions were making losses. It is possible for the level of food security to decline when talking about industrial and food security and in the case of agricultural industrial commodities as a result of reliance on suppliers present in the market and not on a specialized governmental institution.

In addition to the inability of the developing countries to protect their nascent and emerging industry, which is what must be sought first, and then they tend to liberalize trade and open up to the outside world after that, after they have stood on firm feet. The acceptance of some developing countries to sign the Government Procurement Agreement can be attributed to the political pressures that achieve the interests of the developed countries that have interests.

Within the framework of the Doha Round, most developing countries refused to include the Government Procurement Agreement among the binding agreements for political and legislative reasons. Therefore, this agreement remained optional, non-binding, not multilateral, and remained multilateral. In late 2011, an agreement was reached on another amendment that increases the powers of the agreement (Bailey, 2012).

# 4.2.2 The second exception: Subsidies to local producers

Article III (b) of the General Agreement on Tariffs and Trade (GATT) stipulates the payment of subsidies exclusively to local producers as an exception to the rule of national treatment, provided that the subsidy does not violate other provisions of Article III and the Agreement on Subsidies and Compensatory Measures. As an exception to the prohibition of support in accordance with Article 3 of the Agreement on Support and Compensatory Measures, then a special treatment was approved for developing member states, where the least developed countries were exempted from being subject to the principle of prohibiting the imposition of support (Article 27/2/a), as for other developing countries they are subject to exemption Temporary provision regarding imposing subsidies (Article 27/2/b), where it commits to reduce the value of subsidies granted to agricultural producers by 13.3% (Mahmoud, 2005).

The purpose of this exception is that it is recognized that subsidies are an effective tool of public policy and that they are essentially within the purview of local authorities. However, since subsidies may have a negative impact on trade, the Agreement on Subsidies and Countervailing Measures imposes strict controls on their use. The agreement gave an adequate definition of the subsidy, as it is (a financial contribution provided by the government or any public authority, and the benefit is achieved by the one who receives it).

There is prohibited subsidy, which requires countermeasures to be taken, such as subsidizing a particular good, service, industry or sector, and there is support for preferring the use of local products over imported ones, and there is permissible subsidy that does not require countermeasures, such as support directed to research programs Scientific support, the support granted to the least developed regions in the country, and the support granted to projects to enable them to modify their equipment in line with the new environmental requirements imposed by law (Al-Itani, 2003).

There are measures that can be taken against the subsidy, including the imposition of compensatory fees or the provision of compensation to the injured party. Compensation fees must be canceled within 5 years of their application. There are a number of exceptions granted to developing countries, including its role in their economic development programs, including: The ban on export subsidies will not apply to least developed member countries or developing countries if their per capita income is less than

\$1,000 per year, while other member countries must cancel Export support during 8 years of the establishment of the World Trade Organization.

With regard to supporting the preference of the local product over the imported product, the ban on this type of support does not apply to developing countries for a period of 5 years from the date of the establishment of the World Trade Organization, and this period increases to 8 years for the least developed countries (Ahmed, 2004).

As for the subsidy that can be bypassed, if the total subsidy granted to a product originating in a developing country does not exceed 2% of the value of the product, or if the volume of subsidized imports does not exceed 4% of the total imports of this product in the importing country (Al-Itani, 2003).

It is worth mentioning here to mention that the tenth ministerial conference included the ministerial declaration issued by it to stop agricultural support for developed countries immediately and to grant developing countries that are net importers of food including Egypt - the right to support their agricultural exports (marketing support, internal and external transport support) until 2030 with a period Seven years more than the period available for developing countries, which will enjoy this advantage until 2023 only.

The ministerial decision also included the continuation of negotiations in the organization on ways to protect developing countries - protecting the domestic market of these countries from a large increase in the volume of imports of agricultural commodities or a significant drop in prices - (Gulf Cooperation Council, 2016). However, most developing countries did not benefit from this exception, because most of the Arab countries' exports of raw materials, which the industrialized countries seek to invent alternatives to, and therefore the Arab countries do not compete in them and do not make gains from them (Al-Sahmrani, 2003).

Therefore, increasing investment is the best solution, which in turn depends on filling the financing gap that most developing countries suffer from so that developing countries can produce according to specifications that have the ability to compete in global markets, as well as studying the possibility of benefiting from GATT in the field of investment by entering into Labor-intensive projects as a solution to the problem of unemployment.

#### 5. THE ECONOMETRICS MODEL- EGYPT CASE

# 5.1 Theoretical framework of the Threshold Regression model

Threshold regression (TR) model is one of the types of non-linear regression that has the characteristic of linear gradient and change of systems to express the variable dependent on known or unknown thresholds. (TR) models are diagnosed through three elements: the identity of the threshold variable, the variables affected by the threshold, the method of determining the threshold where the use of the delays of the dependent variable as a threshold refers us to the self-stimulation (SE) model, and if it is not used, it is the traditional TR model (Khuwaild et al., 2019). Several studies such as (Bai, Perron, 1998), (Gibson, 2011), (Chong & Yan, 2014) indicate that the observed non-linear observations in the data series need to enter the system switch models, as the increasing shift to non-linear models drew attention to develop regression models known as threshold models. The main applications of TR we find: Segmented sampling (SS) models, multiple equilibrium (ME) models, and Markovian variable systems (MS) models, self-regressive models with Threshold and Stream Transfer (STAR), self-regressive models with thresholds and self-alertness (SETAR), self-regressive models Thresholds and instantaneous transmission (TAR) (Khuwailid et al., 2019).

# 5.2 Description of the methodology used

This study depends on the use of the threshold regression model developed by the study (Hansen, 1996, 2000), and the general idea of the threshold models is to find a number of different partial models through the total model, and that each of these partial models operates in a different case space from the rest. Other models, and that these spaces are divided according to what is known as the threshold variable, in the case of turbulent temporal observations, that is, there is a state of rise and fall in the value of observations, which is the dominant case in practical reality, each observation from the set of temporally successive observations can belong to a different partial model because models the normal threshold is in fact dependent on a horizontal threshold (Mahmoud, 2020)

# 5.3 Threshold Regression (TR) Model Characterization

If we assume the following model

$$yt = \alpha 0 + \alpha 1 xt + \alpha 2 zt + \Sigma t \qquad \Rightarrow (1)$$

It is a simple linear model where the behavior of the variable yt is constant (symmetric) for the length of the series because they are  $\alpha 1$   $\alpha 2$  constant, but if the effect of one of them is asymmetric during the period of the time series, then if we assume that

the variable zt is the threshold variable and that it affects the variable yt by Through two systems, through parameter  $\alpha 2$ , therefore, equation (1) is modified according to the following formula:

$$\alpha_0 + \alpha_1 x_t + \alpha_{21} z_t + \Sigma_t \hspace{1cm} \text{If } zt < C$$
 
$$y_t = \hspace{1cm} \alpha_0 + \alpha_1 x_t + \alpha_{22} z_t + \Sigma_t \hspace{1cm} \text{If } zt \ge C$$

Equation (2) represents a model with two systems in the simplest form, meaning that each equation corresponds to a specific system, and even if the variable yt behaves in a linear direction in each system separately, but in total it shows a nonlinear behavior (El-Baramawi, 2021).

# 5.4 Model Estimation Steps Using Threshold Regression

# 5.4.1 Testing the unit root in the case of a broken point

The variable that has a breaking point in the case of belonging to the system before the breaking point takes the value (0) and in the case of belonging to the system after the breaking point takes the value (1).

# The results of the unit root test in the case of a broken point using (ADF)

	Level			Level 1th different			
variable	Prob. t-stat		Prob. t-stat Break type Prob. t-stat		t_ctat	Break	Break point
							t-stat
GDPC\$	0.946	-2.848	Trend	0,012	5,297 -	Trend	2015
GDFC 3	0.940	-2.040	constant	0,012	3,297 -	constant	2013
EXPORTS	0.370	3,529 -	constant	<0,01	6,088 -	constant	2008
NINFFDI	<0,01	5,871 -	constant				2004
MANVA	0,231	3,810 -	constant	<0,01	7,102 -	constant	2017

**Source:** Prepared by the two researchers using Eviews9 program.

It is clear from the table that the variables GDPC, EXPORTS, MANVA are stable at the first difference (1) and at the level of significance of 1%, while the variable NINFFDI is stable at the level of 1 (0).

# 5.4.2 Estimation of regression threshold (TR)

From the result of the unit root test, it's noticed that the presence of structural refraction points in the time series of the model, and therefore we will use the TR model, which is used to estimate models with structural refractions, which is a non-linear model. The form takes the following form:

Where;  $\alpha 11$  is the parameter of Export in the first system (before reaching the threshold in where the export parameter is in the second system (after reaching threshold) while (C) threshold value. Before estimating the model we will work Bai-Perron test to determine the number of optimal systems for the model and shows the result in the following table:

# Table 2. The results of the Bai-Perron test for the first model

Multiple threshold tests

Bai-Perron tests of L+1 vs. L sequentially determined thresholds

Date: 12/22/21 Time: 10:17

Sample: 1990 2019

Included observations: 30
Threshold variable: EXPORTS\$

Threshold varying variables: EXPORTS\$
Non-threshold varying variables: NINFFDI\$ MANVA\$

Threshold test options: Trimming 0.15, Max. thresholds 5, Sig.

level 0.05

2	Sequential F-statistic determined thresholds:				
Critical Value**	Scaled F-statistic	F-statistic	Threshold Test		
8.58 10.13 11.14	84.63224 12.14000 1.243837	84.63224 12.14000 1.243837	0 vs. 1 * 1 vs. 2 * 2 vs. 3		

<sup>\*</sup> Significant at the 0.05 level.

<sup>\*\*</sup> Bai-Perron (Econometric Journal, 2003) critical values.

<b>Thres</b>	hol	d val	lues:

 Repartition	Sequential		
27.187999	27.187999	1	_
39.456999	39.456999	2	

It is clear from table 2 at a level of significance of 5%, that; the optimal number of systems for the model is three, which means that there are two thresholds. When estimating this model using Eviews9, the results were as follows:

Table 3. the results of the threshold (TR) for the first model

Dependent Variable: GDPC\$
Method: Threshold Regression
Date: 12/22/21 Time: 10:15
Sample (adjusted): 1990 2019

Included observations: 30 after adjustments

Threshold type: Bai-Perron tests of L+1 vs. L sequentially determined  $\,$ 

thresholds

Threshold variable: EXPORTS\$

Threshold selection: Trimming 0.15, Max. thresholds 5, Sig. level 0.05

Threshold values used: 27.187999, 39.456999

Prob.	t-Statistic	Std. Error	Coefficient	Variable
EXPORTS	\$ < 27.187999 -	- 15 obs.		
0.0000	14.36224	0.429659	6.170868	EXPORTS\$

27.187999 <= EXPORTS\$ < 39.456999 -- 4 obs.

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0.0000	6.293434	0.605853	3.812894	EXPORTS\$
39.456999	<= EXPORTS\$	11 obs		
0.0000	6.662020	0.406469	2.707903	EXPORTS\$
Non-Thres	hold Variables			
0.0838	1.800734	1.465550	2.639065	NINFFDI\$
0.0000	6.514878	0.348082	2.267710	MANVA\$
173.5481	Mean dep	endent var.	0.948125	R-squared
65.51095	S.D. deper	ident var	0.939826	Adjusted R-squared
8.542817	Akaike info	criterion	16.07016	S.E. of regression
8.776350	Schwarz cı	riterion	6456.248	Sum squared resid
8.617526	Hannan-Q	uinn criter.	-123.1422	Log likelihood
			1.225484	Durbin-Watson stat

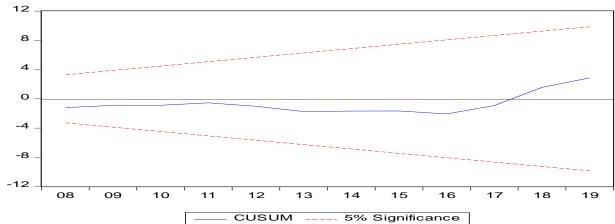
It is clear from table 3 that the value of the threshold (C) is 27,187 billion dollars and that the value of  $\alpha 11$  which is the EXPORTS parameter before reaching the threshold amount is 6.17 and is statistically significant and that the value of  $\alpha 12$  which is the value of the EXPORTS parameter after exceeding the threshold level is 3.81 and is significant Statistically, but provided that exports are less than 39.45 billion dollars, and if exports are greater than 39.45 billion dollars, then 12% equals 2.70 and is statistically significant.

This means that commodity and service exports have a positive impact on the GDP in Egypt, but this effect varies according to the value of merchandise and service exports, as before reaching the level of \$27.18 billion in commodity and service exports, the impact of exports is largely positive, as the increase in commodity and service exports by one billion dollars leads to an increase in GDP by 6.17 billion dollars.

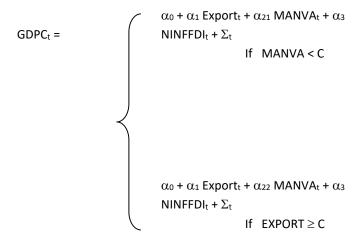
But after exceeding the level of 27.18 billion dollars (the first threshold level) and before reaching 39.45 billion dollars -the second threshold level-, the impact of exports is also positive, but to a lesser extent, as the increase in goods and services exports by one billion dollars leads to an increase in GDP The total amount of \$3.81 billion, and after exceeding the second threshold, which is \$39.45 billion, the impact of merchandise and service exports is still positive on Egypt's GDP, as the increase in merchandise and service exports by \$1 billion leads to an increase in GDP by \$2.70 billion in Egypt.

Model stability test: The (Cwsum) test is performed for the cumulative sum of the residuals, and the stability of the estimated parameters is achieved if the graph of the (Cwsum) test falls within the critical limits at the level of significance of 5%.

Figure (1) the result of the Cwsum test for the first model



**Another model;** in this model, the value added in manufacturing will be entered as a threshold variable, and the form of the model is as follows:



Where;  $\alpha 21$  is a parameter of MANVAt when MANVA is less than the threshold level,  $\alpha 22$  is a parameter of MANVAt when MANVA is greater than the threshold level, and (C) is the threshold level, which is the value at which the model system changes. The results were as follows;

#### Table 4. the results of the Bai-Perron test for the second model

Multiple threshold tests

Bai-Perron tests of L+1 vs. L sequentially determined thresholds

Date: 12/29/21 Time: 19:32

Sample: 1990 2019

Included observations: 30
Threshold variable: MANVA\$

Threshold varying variables: MANVA\$
Non-threshold varying variables: EXPORTS\$ NINFFDI\$

Threshold test options: Trimming 0.15, Max. thresholds 5, Sig.

level 0.05

1	Sequential F-s	Sequential F-statistic determined thresholds:				
Critical Value**	Scaled F-statistic	F-statistic	Threshold Test			
8.58 10.13	58.53970 8.872702	58.53970 8.872702	0 vs. 1 * 1 vs. 2			

<sup>\*</sup> Significant at the 0.05 level.

<sup>\*\*</sup> Bai-Perron (Econometric Journal, 2003) critical values.

	Threshold values:	
Repartition	Sequential	
20.04799	20.04799 1	

Table 5. Results of the regression threshold (TR) for the second model

Dependent Variable: GDPC\$
Method: Threshold Regression
Date: 12/29/21 Time: 19:31
Sample (adjusted): 1990 2019

Included observations: 30 after adjustments

Threshold type: Bai-Perron tests of L+1 vs. L sequentially determined

thresholds

Threshold variable: MANVA\$

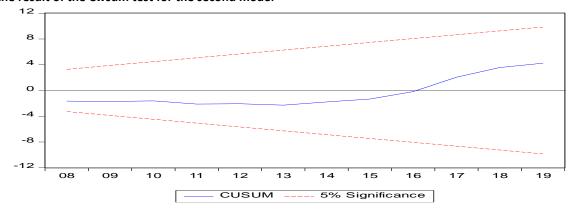
Threshold selection: Trimming 0.15, Max. thresholds 5, Sig. level 0.05

Threshold value used: 20.04799

Prob.	t-Statistic	Std. Error	Coefficient	Variable		
MANVA\$ < 20.04799 17 obs						
0.0000	9.188826	0.678449	6.234153	MANVA\$		
20.04799 <= MANVA\$ 13 obs						
0.0000	6.106877	0.454113	2.773210	MANVA\$		
Non-Thres	hold Variables					
0.0001 0.1703	4.831053 1.410228	0.502857 1.603992	2.429330 2.261995	EXPORTS\$ NINFFDI\$		
173.5481 65.51095 9.140959 9.327785 9.200727	S.D. dependent var  Akaike info criterion  Schwarz criterion		0.899150 0.887513 21.97176 12551.72 -133.1144 0.812400	R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat		

It is clear from table 5 that the value of the threshold (C) is 20.04 billion dollars and that the value of  $\alpha$ 21 which is the parameter MANVA before reaching the threshold amount is 6.23 and it is statistically significant and that the value of  $\alpha$ 22 which is the value of the parameter MANVA after exceeding the threshold level is 2.77 with significant, but this effect varies according to the value added in manufacturing, as before reaching the level of \$20.04 billion as value added in manufacturing, the effect of value added in manufacturing is largely positive, as the increase in value added in manufacturing by one billion dollars leads to an increase the gross domestic product is 6.23 billion dollars, but after exceeding the level of 20.04 billion dollars, the impact of the added value in manufacturing is also positive, but to a lesser extent, as the increase in the added value in manufacturing by one billion dollars leads to an increase in the gross domestic product by 2.77 billion dollars.

Figure (2) the result of the Cwsum test for the second model



The (Cwsum) test is performed for the cumulative sum of the residuals, and the stability of the estimated parameters is achieved if the graph of the (Cwsum) test falls within the critical limits at the level of significance of 5%.

In the last model, the net inward foreign direct investment in Egypt (NINFFDI) will be entered as a threshold variable, and the form of the model is as follows:

Where; the  $\alpha_{31}NINFFDI_t$  parameter when NINFFDI<sub>t</sub> is less than the threshold level,  $\alpha_{32}NINFFDI_t$  parameter when NINFFDI<sub>t</sub> is greater than the threshold level while (C) level of threshold. The results are as follows;

# Table 6. Bai-Perron test results for the third model

Multiple threshold tests

Bai-Perron tests of L+1 vs. L sequentially determined thresholds

Date: 12/29/21 Time: 19:38

Sample: 1990 2019

Included observations: 30
Threshold variable: NINFFDI\$

Threshold varying variables: NINFFDI\$
Non-threshold varying variables: EXPORTS\$ MANVA\$

Threshold test options: Trimming 0.15, Max. thresholds 5, Sig.

level 0.05

1	Sequential F-statistic determined thresholds:				
Critical Value**	Scaled F-statistic	F-statistic	Threshold Test	_	
8.58 10.13	34.41917 4.860849	34.41917 4.860849	0 vs. 1 * 1 vs. 2	_	

<sup>\*</sup> Significant at the 0.05 level.

<sup>\*\*</sup> Bai-Perron (Econometric Journal, 2003) critical values.

	Threshold value			
Repartition	Sequential			
2.7979999	2.7979999	1		

# Table (7) Results of the slope (TR) for the third model

Dependent Variable: GDPC\$
Method: Threshold Regression
Date: 12/29/21 Time: 19:37
Sample (adjusted): 1990 2019

Included observations: 30 after adjustments

Threshold type: Bai-Perron tests of L+1 vs. L sequentially determined

thresholds

Threshold variable: NINFFDI\$

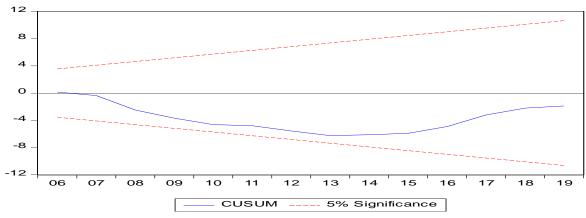
Threshold selection: Trimming 0.15, Max. thresholds 5, Sig. level 0.05

Threshold value used: 2.7979999

Prob.	t-Statistic	Std. Error	Coefficient	Variable		
NINFFDI\$ < 2.7979999 16 obs						
0.0000	5.762765	9.029252	52.03346	NINFFDI\$		
2.7979999 <= NINFFDI\$ 14 obs						
0.1972	1.323381	1.911980	2.530279	NINFFDI\$		
Non-Thres	hold Variables					
0.0000 0.0001	4.977901 4.478143	0.581146 0.533287	2.892888 2.388134	EXPORTS\$ MANVA\$		
173.5481 65.51095 9.476874 9.663700 9.536641	51095 S.D. dependent var 76874 Akaike info criterion 63700 Schwarz criterion		0.858888 0.842606 25.99009 17562.61 -138.1531 1.181713	R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat		

It is clear from table 7 that the value of the threshold (C) is \$2.79 billion and that the value of  $\alpha$ 31 which is the NINFFDI parameter before reaching the threshold amount is 52.03 and is statistically significant and that the value of  $\alpha$ 32 which is the value of the NINFFDI parameter after exceeding the threshold level is 2.53 It is statistically significant, but this effect varies according to the value of net inward foreign direct investment inflows, as before reaching the \$2.79 billion level as net inward foreign direct investment inflows, the effect of net inward foreign direct investment inflows is significantly positive, as the increase the net inflow of foreign direct investment inflows of one billion dollars leads to an increase in the gross domestic product by 52.03 billion dollars, but after exceeding the level of 2.79 billion dollars, the effect of the net inflows of foreign direct investment inward is also positive, but by a much smaller amount, as the increase in Net inflows of foreign direct investment in the amount of one billion dollars leads to an increase in the gross domestic product by 2.53 billion dollars. We also note the significance of the non-threshold variables, which are commodity and service exports and the added value in manufacturing in the previous table.

Figure (3) Cusum test result for the third model



# **RESEARCH RESULTS**

Most of the exports of developing countries, including Egypt, are raw materials that industrialized countries seek to invent alternatives to, and therefore do not compete with developing countries and therefore do not benefit from the optimum benefit from the exception of export subsidies, as the developing countries opened up to the world and entered the competition market without being sufficiently qualified to compete.

Although the GATT agreement allows the protection of the nascent and emerging national industries in a manner that does not contradict the foundations adopted in its 1994 World Trade Organization agreement, the developing countries did not achieve the maximum benefit from this exception.

The advantages granted to developing countries regarding their trade enjoying preferential treatment, but they do not have the ability to produce, and if they do possess, they do not have the conditions of competition in the global market. With regard to the Egyptian case, we find that the econometrics model resulted in a positive, non-linear relationship between commodity and service exports in Egypt and economic growth, but the satisfaction is limited to weak limits, as previously stated.

A positive non-linear relationship was found between the value added in manufacturing and economic growth in Egypt, but the strength of this relationship varies according to the size of the added value in manufacturing in Egypt, where before the threshold level of \$20.04 billion, the increase in value added in manufacturing by one billion dollars leads to an increase in the domestic product.

The total amount of 6.23 billion dollars, but after exceeding the level of 20.04 billion dollars, the impact of the added value in manufacturing is also positive, but to a lesser extent, as the increase in the added value in manufacturing by one billion dollars leads to an increase in the gross domestic product by 2.77 billion dollars, which makes the benefit in manufacturing from limited within the framework of the exception in manufacturing. It also found a positive, non-linear relationship between the net inward FDI inflows in Egypt and its economic growth, but there are many other factors that attract FDI, which have clearly affected the FDI flow other than the rate of economic growth such as political instability in the Arab region. And the direction of competitor economically developed countries in attracting foreign direct investment.

# RESEARCH RECOMMENDATIONS

The research recommends requesting re-negotiations to try to extend the transitional period to allow for the advancement of emerging industries in developing countries. Also, it should not rush to enter into a government procurement agreement until after the country is qualified to enter into it. The importance of accelerating the upgrading of the industries of developing countries must be realized in order to be eligible to enter the global competition and benefit, with the exception of the state-sponsored principle of infant and emerging industries. These results recommend the necessity of maintaining the value of merchandise and service exports, the added value in manufacturing, and the net inward FDI inflows in Egypt at levels lower than the threshold, in order to promote economic growth in Egypt.

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