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Analyze the strengths and weaknesses invested in the Arvand free zone impact indexes-convenience province

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Abstract

In recent decades, free zones have been proposed as an effective lever for the growth and improvement of countries' economies. These zones can play an irreplaceable role in this direction as one of the axes of attracting capital. Identifying opportunities and threats to attract capital in free zones, Removing barriers, creating and providing a suitable platform for attracting domestic and foreign investors, are effective factors in investing in free zones, which in turn lead to economic growth and development of these areas. Considering the significant effects of free zones on the welfare of residents in these areas, the purpose of this study was to investigate the effect of effective factors of domestic and foreign investment in the Arvand Free Zone on economic welfare indicators (per capita income, unemployment rate and inflation) in Khuzestan province. During the period 1385-1396, which at first, while obtaining the opinions of 40 managers, experts and residents of the region in order to formulate appropriate strategies and strategies to achieve the goals of creating the region based on the potential and advantages for domestic and foreign investment, using From the technique (SWOT), we identify the factors affecting the indoor and outdoor environment in order to discover the strengths and weaknesses (internal factors) and threats and opportunities (external factors) and then using the model method to explain with a break Extensive (ARDL) The effect of domestic and foreign investment in the region on welfare indicators in Khuzestan province is examined. The results of this study in the first part of the analysis (SWOT), show that the most important opportunities in the development of free trade zone based on maximum investment attraction, respectively, the

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strategic geographical location of the Arvand Free Zone and the use of regional markets. The results of this study in the second part showed that according to the current conditions of the domestic investment region, it has had stronger effects on welfare indicators than foreign investment.

Keywords: Investment, Arvand Free Zone, Welfare Indicators, Khuzestan.

1. Introduction

Today, in order to provide capital and create the necessary infrastructure for economic growth and development, acquisition of new technologies, job creation and the like, countries have to plan to attract domestic and foreign capital and create free and special economic zones. It has been one of the most important strategies in different countries of the world in recent decades to achieve this. More than three decades ago, free zones were based on extroverted views; Based on economic advantages and opportunities, access to consumer markets were formed with the aim of expanding exports. In our country, due to the low presence of the national economy in the field of global competition; Creating free zones as an effective factor in compensating for lost opportunities and developing exports, creating healthy and productive employment, promoting the country's economic position and benefiting from a competitive economy are considered and emphasized by policymakers of the country's economic system. This study intends to study the economic performance of the Arvand Free Zone from 1985 to 1995, the situation of this region in terms of achieving basic goals such as: export development and foreign exchange earnings, creating infrastructure, increasing employment rates and especially attracting domestic investment. And foreign, and as a result the creation and acquisition of public revenues, entry into world markets by increasing the export of goods and services by removing or reducing the usual restrictions in the mainland and creating a comparative advantage for economic activity in the Arvand Free Zone, Identify the existing bottlenecks and obstacles to attracting domestic and foreign capital, export development and foreign exchange earnings in the region and analyze the strengths and weaknesses, opportunities and threats in the Arvand region to create better economic conditions in the province. The purpose of this article is to answer the following questions: 1) What are the primary goals of investing in the Arvand region? And has it been able to achieve these goals? 2) What are the factors affecting domestic and foreign investment in the Arvand region? 3) What are the strategies and strategies for investment development in the Arvand region?

2. Research Hypotheses

1. Carrying out construction and running costs for the construction of infrastructure in Khuzestan province is directly related to attracting domestic investment in the Arvand Free Trade Zone.
2. Carrying out construction and running costs for the construction of infrastructure in Khuzestan province is directly related to attracting foreign investment in the Arvand Free Trade Zone.
3. Export development in Khuzestan province is directly related to attracting domestic investment in Arvand Free Trade Zone
4. Export development in Khuzestan province is directly related to attracting foreign investment in Arvand Free Trade Zone.

3. Theoretical Foundations

Capital and investment have always been of special importance in the economic literature as the main factor of economic growth and development. As in many theories of economic development,

investment has been discussed as the driving force of economic growth. Free zones more than four decades ago based on extroverted attitudes; They were formed on the basis of economic advantages and opportunities and with the aim of expanding exports. Establishment of free and special economic zones is considered as one of the strategies for the development of countries by taking advantage of the opportunities available in the global economic system. Free and special economic zones have different economic regulations with other painters They are mainland, so that these differences can provide the basis for capital attraction, trade prosperity and economic growth. In order to grow and develop these regions, countries benefit from a variety of incentives such as legal, tax and financial incentives. Free Export Zone in Ireland Free Trade Export Zone in South Korea Export Processing Zone in the Philippines Zone of Investment Encouragement in Sri Lanka Foreign Trade Zone in India, Free Zone in the UAE [1] or Special Economic Zone and Tax Free Zone In China, some names of countries are used for free zones. This diversity exists in all aspects of free zones, for example, the area of these zones varies from the area of a factory to the area of a large city [2], or some are run by the government and some by the private sector. These variations and differences make it difficult to provide a common definition. In order to provide a proper definition of a free zone, some definitions proposed by the international community are first provided. In 1992, the World Bank defined free zones as "export processing zones, which are industrial areas, usually 10 to 300 hectares, fenced and recognized by free trade rules and freer environmental conditions." The Encyclopedia Britannica states: "The Free Trade Area, also known as the Foreign Trade Area and most of the Free Port, is an area where goods can be unloaded and supported, produced, repackaged and re-exported without customs intervention." "Customs duties will only be calculated when goods are shipped to customers within the mainland. Free trade zones will be created in the area of seaports, airports and border areas with geographical potential for trade." In 1998, the ILO defined export processing areas as "areas with specific incentives to attract foreign capital, into which raw materials are imported to complete all or part of their process before re-exporting." [3]. The World Bank Investment Advisory Group, known as the FIAS, defined some definitions in 2008 as follows: A free trade area is also known as a free trade area: these areas are small, enclosed, free of customs duties, Provides warehousing services, as well as facilities for trade, transshipment (ship-to-ship operations), and re-export operations located at ports or ports of entry around the world. A perfect example of this is the Colon Free Zone in Panama [11]. Entrepreneurial Areas (Empowerment, Free Urban Zone): In order to revitalize low-income cities and rural areas, these areas are given financial benefits and tax exemptions. The United States, Britain, France, and South Africa, with an almost identical definition of these regions, have used the most. Export Processing Zone: The industrial zone has special facilities and incentives for production and related activities, which are mostly for the export market. This zone exists in two forms. The first is a model of a commercial export processing zone under the regulations of this region, and the second is a multi-purpose export processing zone, which is a range of a large public zone that has a section dedicated to export industries and a smaller area to an entrepreneurial zone.

4. Research Background

Kian Karimi and Moghadam [9], in an article entitled "Investigation of investment attraction factors in the Arvand Free Zone" with the Delphi method and Student t-test to investigate and identify effective factors of investment attraction. The results of the research show that the lack of infrastructure facilities, lack of proper investment in government agencies, inadequacy of laws and regulations are the main obstacles to attracting investment in the Arvand Free Zone. Dudangeh Mohammad [4] conducted a study entitled Factors Affecting the Attraction of Domestic and Foreign

Investment in Iran. Studies show that fluctuations in crude oil prices and revenues, international guarantees and contracts, effective exchange rate fluctuations and high inflation rates have increased the desire to attract foreign direct investment in achieving stable and positive economic growth in Iran. Despite the positive trends, the amount of foreign direct investment attraction has not been sufficient. Evaluation of the results of economic models has shown that several factors such as national income, GDP, public sector expenditures, inflation rate, degree of economic openness, human capital and foreign direct investment have been effective in the total amount of investment. As a result of this research, new methods have been proposed that can be used to improve the business environment with the aim of increasing investment, and in countries with similar problems, to amend related laws and regulations to improve The process of attracting investment is effective. Ghaffari Farhad and Akbari Jaber [6] conducted a study entitled "Study of economic factors affecting the attraction of foreign direct investment in oil-rich countries of the Middle East." Foreign direct investment with its arrival in the host country, in addition to financing investment projects, accelerates the process of technology upgrading, training and increasing the productivity of human capital, increasing the quality and standard of domestic goods, expanding trade with other countries, reducing unemployment and finally Due to the importance of attracting this type of investment, in this study, while analyzing FDI, to examine the economic factors affecting foreign direct investment in oil-rich Middle Eastern countries over a period of time (1995-2010). We dealt with the econometric method of integrated data. Results of model estimation Research shows that the degree of openness of the economy and economic security, a positive and significant effect and economic instability has a negative and significant effect on attracting foreign direct investment in the studied countries, but market size and labor alone have a significant effect on capital absorption. They do not have direct foreign investment in these countries. Hassan Nazari [10] conducted a study entitled Major Barriers to Foreign Investment Development in Iran. Cultural, economic and political issues and participation are structural and legal challenges and are one of the major obstacles to investment development in Iran.

5. Factors affecting the less benefit of the Arvand Free Zone

5.1. Lack of attention to production

Lack of attention to production as the main axis of trade development is one of the main reasons for the failure of this region. The neglect of production and relying solely on comparative advantages and the orientation towards non-productive activities in this region, has caused the products of this region and its type to be far from what is expected. Free zones can be a platform for exports when they are primarily productive. Ignoring the creation of advantage has led to the export of raw materials and low value-added goods in this region. Free zones can have a development function when we have a specific production plan, otherwise these zones will become a place for import.

5.2. Legal gaps

Some ambiguities in the laws and some legal challenges have prevented the region from achieving some of its primary goals. Some of these ambiguities are:

5.2.1. How to calculate the added value created in free zones

The problem of how to calculate value added is one of the most important problems of the industrial sector located in the free zones and also one of the factors hindering the development of industry in the region, which has always caused challenges between free zones and customs and has created problems in producing.

5.2.2. Foreign investment

Ambiguities regarding foreign investment are another problem with legal barriers to free zones. Arvand Free Zone has not been able to provide a favorable environment for foreign investors by creating confidence in the investment climate.

5.2.3. Banking and insurance

SWOT analysis is a summary of strengths and weaknesses, opportunities and threats. This technique is an important tool in decision making and is generally used to systematically analyze strategic conditions and identify internal and external factors in the organization's environment. Through SWOT analysis, the organization can identify its positive and negative factors and then develop and implement its strategies to optimize these factors. SWOT analysis can be an initial stage of an analysis with the ultimate goal of presenting and adopting the necessary policies to fit between internal and external factors. When this analysis is fully used, it can provide a suitable basis for policy formulation [8]. In the form of this analysis, the organization tries to take advantage of external opportunities by using internal strengths and maximize opportunities by taking advantage of strengths. To achieve such a situation, organizations usually use review strategies (WO), diversity strategies (ST) and defensive strategies (WT) to reach the point where they can use aggressive competitive strategies (SO) [5]. To achieve this, the organization needs to examine its internal and external environment. Environmental review is: monitoring, evaluating and disseminating information about the internal and external environments of a collection. The external or external environment includes variables (opportunities and threats) that are outside the organization and are outside the scope of continuous control of managers, these variables create the space and context in which the organization or group exists and operates. The internal environment includes variables (strengths and weaknesses) that exist within the set itself and are usually in the area of continuous and long-term control of managers. These variables form the context in which the context or work environment is performed [7].

6. Research Method

In this research, a significant part of the theoretical foundations and research methodology of related articles, statistics and required information has been prepared through library information and the Secretariat of the Supreme Council of Free Zones and Statistics of Iran. Managers, experts and residents of the region, while obtaining their opinions in order to formulate appropriate strategies and strategies to achieve the goals of creating the region based on the potential and advantages of the region for domestic and foreign investment using SWOT technique, identify factors affecting the internal environment and External environment In order to discover the strengths and weaknesses (internal factors) and threats and opportunities (external factors) and then the impact of domestic and foreign investment on economic welfare indicators (per capita income, unemployment rate and inflation) in Khuzestan province, During the period of 1385-1396, we examine the explanation with wide intervals (ARDL) using our model method, first, a brief explanation is provided on the topic of SWOT.

6.1. Determine strengths and weaknesses using the SWOT technique

SWOT analysis is a summary of strengths and weaknesses, opportunities and threats. This technique is an important tool in decision making and is generally used to systematically analyze strategic conditions and identify internal and external factors in the organization's environment. Through SWOT analysis, the organization can identify its positive and negative factors and then

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7. Internal and External Factors Affecting Arvand Free Investment

In this section, by using a researcher-made questionnaire, the most important strengths and weaknesses (internal factors), opportunities and threats (external factors) from the perspective and collective perspective of experts, managers and residents of Arvand Free Zone (40 people) are assessed. For this purpose, the most important and basic environmental features and potentials of the region were placed separately in the form of Tables 1 to 4. Accordingly, the characteristics of the indoor and outdoor environment of the study area, separately for each of the studied dimensions, are described in (1 to 4). In the first column of the tables of external and internal factors, the most important strengths, weaknesses, opportunities and threats of the Arvand Free Zone are expressed. In the second column, each of these factors is assigned a weight of one to zero (the most important web); The greater the weight of a factor, the greater its role and impact on the development of the region. In the third column of the mentioned tables, each factor is given a score from 1 to 5, in fact, points 1 and 2 indicate a very weak and weak situation, and the number 3 indicates an average, and the numbers 4 and 5 indicate a good and very good, which in the table is called the coefficient. Significance is used. In the fourth column, the weight points of the factors are calculated, which are obtained by multiplying the weight by the rank of the factors. Finally, the weight scores of all external and internal factors in the fourth column are added together and calculated separately. The total weight score shows how a system responds to existing and potential factors and forces in the external environment. The average weighted total score in a field (internal or external) is always 3. If it is higher, it is more important and if it is less, it is less important and effective.

The total weight of internal factors (strengths and weaknesses) is equal to 1 and the weighted total score of internal factors is equal to 4.207. The land border with Iraq with a score of 0.504 is the most important strength and the second and third strengths of oil, gas and petrochemical resources with a score of 0.352 and rail and road transportation facilities with a weighted score of 0.264 are the second and third strengths, respectively. Regular sea passenger lines with a weighted score of 0.074 and the advantages of agricultural and fishing talent with a weighted score of 0.123 have been identified as the least important strengths of the region.

Also, the most important weaknesses of the Arvand Free Trade Zone are the above unemployment rate The top of the region and the lack of dredging of the Arvand River with similar weighted scores

Table 1: Determining the strengths of the factors affecting investment in the free zone

Row	Strengths	Weight (0 until 1)	Significance factor (1 to 5)	Score
S1	Existence of water border with five countries and land border with Iraq	0.12	4.2	0.504
S2	Existence of commercial, fishing and oil ports	0.07	3.7	0.259
S3	Rail and road transportation facilities	0.06	4.4	0.264
S4	Advantages of having agricultural and fishing talent	0.03	4.1	0.123
S5	Air transport (airport)	0.05	4	0.200
S6	Existence of oil resources, gas petrochemicals	0.08	4.4	0.352
S7	Existence of industrial estates	0.04	3.7	0.148
S8	Existence of universities and higher education centers	0.03	4.2	0.126
S9	Regular sea passenger lines	0.02	3.7	0.074
S10	Existence of appropriate manpower in the region	0.04	4.4	0.176
Total		0.54	4.1	2.349

Table 2: Determining the weaknesses of the factors affecting investment in the free zone

Row	weak points	Weight (0 until 1)	Significance factor (1 to 5)	Score
W1	Existence of some failure - on the field of attracting investors	0.04	4.1	0.164
W2	Existence of some failure - ban infrastructure facilities	0.03	4.3	0.129
W3	Insecurity in the region, especially in Iraq	0.05	3.5	0.175
W4	Existence of ethnic and tribal problems and imbalance of social and cultural structures in the region	0.02	4.4	0.088
W5	No dredging of Arvand River	0.04	4.7	0.188
W6	Unemployment rate above Super high area	0.04	4.7	0.188
W7	Existence of damage and destruction left over from the war	0.02	4	0.08
W8	High risk of foreign investment	0.14	3.8	0.56
W9	No establishment of domestic and foreign joint banks	0.06	3.5	0.21
W10	Do not use agricultural and industrial capacities	0.02	3.8	0.076
Total		0.46	-	1.858

is 0.188, which have gained the highest score among other places, followed by insecurity in the region, especially Iraq, with a score of 0.175, which is in third place.

According to the analysis, the total weight of external factors (opportunities and threats) is equal to 1 and the weighted total set of external factors is equal to 4.081. The most important threats identified by the survey have been identified; Existence of extensive international sanctions and their effects on attracting foreign investment with a weighted score of 0.328 and the high degree of foreign investment risk in the country. To be. The third place of threats is the various restrictions related to the banking system with a weighted score of 0.258 have been determined and calculated.

In Table 1 to 4, the calculation of the weighted score is as follows (weight multiplied by the coefficient of importance is equal to the weighted score); The most important opportunities in the field of development of Arvand Free Trade Zone are: Strategic geographical location of Arvand Free Zone with a weighted score of 0.343 as the most important opportunity, the global market needs for oil and gas resources in the province with a weighted score of 0.264 Border crossings near the region with a weighted score of 0.258 are also known as the third opportunity for this region. The least important opportunities from the respondents' point of view are the possibility of developing research centers with a score of 0.111 and trying to create regional unions in order to expand the market and enjoy its advantages with a score of 0.164 and use the agricultural and industrial benefits of the region with a score of. Is 0.176. The results of prioritization of opportunities and threats (external factors) show that the most important opportunities in the development of free trade zone is the strategic geographical location of the Arvand Free Zone and the use of regional markets. Strategies are developed to achieve a more favorable situation. Strategies are formulated based on a combination of four factors involved in the strategic planning model, but in practice, some strategies overlap with each other or are implemented simultaneously and in coordination with each other. In fact, depending on the situation under study, four categories of strategies that are different in terms of degree of activism can be formulated:

SO Strategies Aggressive Strategies: Using the strengths, seeks to seize opportunities.

ST Strategies Diversity Strategies: Uses strengths to avoid threats.

WO Strategies Review Strategies: Takes advantage of opportunities to reduce weaknesses.

WT Strategies Strategies Defensive: Reduces weaknesses and avoids threats.

Now, according to the current situation studies and inferring from case studies, comprehensive and realistic strategies are proposed for Aras Free Trade Zone and to mobilize its growth and development in accordance with the indicators of the region. As Table 5 the weight of the factors is concentrated in the SO vector. Also, according to the results of the analysis tables of internal and external factors and the major goals identified for the area, strategies for the development of the free zone are presented, which are based on the four parts of the SWOT technique.

According to the results of SWOT tables and despite the existence of infrastructure, including the condition of roads, railways, machinery, ports, facilities, etc., the possibility of attracting foreign investment and effective domestic and foreign financial and banking facilities and facilities for The development of the Arvand Free Zone has not occurred. The reason for this should be mainly sought in the structure of laws and macro-management of the country and the lack of appropriate infrastructure facilities, restrictions on the allocation of government funds and the existence of international restrictions and sanctions on free zones. Given the characteristics of the Arvand Free Zone and its potential, the region has not been very successful in achieving its goals (developing non-oil exports, attracting investment, attracting technology and re-exporting, creating jobs, increasing production

Table 3: Determining the threat points of factors affecting investment in the free zone

Row	threats	Weight (0 to 1)	Coefficient Importance (1 to 5)	Rhythmic score
T1	extensive international and foreign investment adsorption effects	0.08	4.1	0.328
T2	Proportional transfer restrictions of the country's advanced technology and technologies	0.05	3.9	0.195
T3	Various restrictions related to the banking system	0.06	4.3	0.258
T4	High degree of foreign investment risk in the country	0.07	4.1	0.287
T5	Insecurity in the region, especially in Iraq	0.05	4.1	0.205
T6	Existence of widespread and targeted negative propaganda in some countries to prevent the development of foreign trade	0.04	3.7	0.148
T7	Insufficiency of various specialized and scientific forces	0.04	3.85	0.154
T8	Inadequate distribution and allocation of development budgets in the Arvand Free Zone compared to some other free zones	0.03	4.4	0.132
T9	Lack of proper advertising, agencies, executive offices and marketing in the region	0.03	3.7	0.111
T10	Lack of capital - making the appropriate agency - and depends on government investment institutions in the region	0.05	3.4	0.17
Total		0.50	-	1.987

Table 4: Determining the opportunity points of factors affecting investment in the free zone

Row	Opportunities	Weight (0 to 1)	Significance factor (1 to 5)	Score
O1	Possibility of using global resources, especially sailing investment due to the wide market	0.05	3.7	0.185
O2	Take advantage absorption of capital resources - of Iranians living abroad	0.05	3.8	0.19
O3	The possibility of the establishment of the bank - corporate internal and external use of its advantages	0.05	4.1	0.205
O4	Existence of airport and railway near Arvand free zone	0.05	4.5	0.225
O5	Strategic geographical location of Arvand Free Zone	0.07	4.9	0.343
O6	Global market needs for oil and gas resources in the province	0.06	4.4	0.264
O7	Trying to Creating Union - regional - to Mnzvrgstrsh market and having its Azmzyt	0.04	4.1	0.164
O8	The possibility of development and research Marakez tahqiqati	0.03	3.7	0.111
O9	Utilizing the agricultural and industrial benefits of the region	0.04	4.4	0.176
O10	Existence of border markets near the region	0.06	4.3	0.258
Total		0.50	-	2.094

Table 5: Strategies developed for Arvand Free Trade Zone

Diversity strategies (ST)	Offensive strategies (SO)
S1T. Use of universities and higher education centers in the region to cultivate specialized personnel, as well as attract student tourists (S8, S10, T7). S2T. Exploitation of common land and water borders with neighboring countries to transfer state-of-the-art technologies to the country (S1, S2, T2). S3T. Introducing opportunities for oil, gas, petrochemical, industrial and agricultural resources in order to reduce sanctions and attract foreign capital (S4, S6, T1).	S1O. Possibility of exporting as many domestically produced products using the facilities and capacities of the region's ports (S2, S3, O4, O5). S2O. Emphasis on creating and strengthening the conversion industries of local products (S4, S7, O5, O9). S3O. Use of existing road, rail, sea and air transportation facilities to attract investors (S3, S4, O4, O5). S4O. Expansion of border markets in order to attract and employ local manpower (S1, S10, O7, O10).
Defensive strategies (WT)	Review Strategies (WO)
W1T. Advertising to better introduce the region in terms of attracting foreign and domestic investors (W8, T9). W2T. Distribution and allocation of development budgets in the region in order to create a bed and conditions for proper infrastructure and urban equipment (W2, T8,). W3T. Elimination of administrative barriers, creation of facilities and easy conditions to eliminate shortcomings in attracting capital and more use of agricultural and industrial capacities in the region (W1, T7,)	W1O. Possibility of using and attracting foreign capital according to the capacities and potentials of the region (W1, O1, O2) W2O. Providing conditions for the establishment of domestic and foreign partner banks in order to facilitate trade and investment conditions in the region (W8, W2, O6) W3O. Efforts to create regional unions and expand the market in order to use local manpower and reduce the region's unemployment rate (W1, O3).

and exports). Despite its large size, it has not been able to capture a large share of production, employment and exports and attract domestic and foreign investment. Has not shown.

8. Model Estimation Using Statistical Data

The main part of estimating a model is access to valid statistics and information. The statistics used in this study have been collected from statistical sources and regional accounts of the Statistics Center of the country, the Central Bank of Iran and various issues of the statistical yearbook of Khuzestan province in a time series for the period 2006 to 2017. Due to the fact that the period of information available in the province is not more than 11 years, the number of data for linear regression is limited and the results obtained from the estimate are not acceptable. As the number of data increases, the degree of reliability of the estimation results increases. One way to increase the number of data for a particular period is to use seasonal data instead of annual data. Due to the lack of quarterly data in most national and provincial statistics, we have to use scientifically acceptable methods to season the variables. According to theoretical foundations and empirical studies, the following regression equations are specified for Hypotheses 1 to 4.

$$LFDI = f(LGDP, LPOW, XI) \tag{8.1}$$

$$LDI = f(LGDP, LPOW, XI) \tag{8.2}$$

LFDI: Foreign direct investment in the free zone process
LDI: Foreign domestic investment in the free zone
LGDP= Provincial GDP logarithm (million Rials)
LPOW = Logarithm of construction and current costs
XI = Provincial Export Logarithm
According to the research questions, the following regression equations are specified for the hypotheses.

$$INF = f(LFDI, DI) \tag{8.3}$$

$$LGDP = f(LFDI, DI) \tag{8.4}$$

$$LUNE = f(LFDI, DI) \tag{8.5}$$

Given that the variables discussed in the proposed theoretical framework may have different degrees of significance, the best way to estimate the model in this case is to use the self-return method with distributed intervals (ARDL). In this method, to test the existence of a long-run relationship between pattern variables, the statistics $t = (\sum_{i=1}^{p} \hat{\varphi}_{i-1} / \sum_{i=1}^{p} \hat{S}_i)$ are used. It becomes. The condition for a long-term relationship between model variables is that the absolute value of the above statistic is greater than the quantity presented. To examine the long-run relationship, edge test based on the non-constrained error correction model (UECM) estimation approach, including the dynamic relationship and the long-run equilibrium relationship, can also be used. In this method, the existence of a long-run relationship between the variables under study is tested by calculating the F-statistic related to the significance of the levels with interrupt variables in the error correction form. It should be noted that the F distribution is non-standard. If the computational F statistic is outside this range, a definite decision is made without the need to know whether the variables are $I(0)$ or $I(1)$. In this case, if the computational F is above the upper limit, the null hypothesis that there is no long-term relationship is rejected, and if it is below the lower limit, the null hypothesis is not rejected. After ensuring a long-term relationship in the model, the ARDL model can be estimated using the intervals determined by Schwartz-Bayesian.

Table 6: Test results ADF On the surface of variables

Variable	Statistics	Critical value	Result
	-1.61	-2.98	Namana
	-2.8	-3.56	Namana
	-2.30	-2.99	Namana
	-3.86	-3.59	mana
	-4.19	-3.59	mana
LUNE	-4.01	-3.59	mana
INF	-3.14	-3.59	mana

Table 7: Test results ADF On the first-order difference of the variables

Variable	Statistics	Critical value	Result
	-3.67	-1.95	mana
	-8.61	-2.96	mana
	-4.26	-1.95	mana

Before estimating the model, we must make sure that the estimated regression relationship is not false, for this purpose we must first examine the mania and aggregation of the variables. The first principle in estimating the regression model is to examine the significance of the variables. Given that most macroeconomic time series variables are anonymous. Therefore, according to the theory of integration in econometrics, to avoid the problem of false regression in regression analysis, it is necessary to ensure the significance of the variables. For this purpose, the variables studied in this study should be tested using the generalized Dickey-Fuller unit (ADF) root test and their static degree should be determined. The following tables show the results of the Dickey Fuller unit root test for the data level and their first-order difference, respectively.

As shown in Table 6, for the data of the provincial GDP logarithm (LGDP), domestic investment logarithm (LDI) and foreign investment logarithm (LFDI), the inflation rate (INF) and Unemployment Rate (LUNE) The absolute value of the calculated Dickey-Fuller Generalized Statistics (ADF) is smaller than the critical values. It can be concluded that these variables are not in the mana level. The variables of export logarithm (XI), construction and current cost logarithm (LPOW) are at the level of mana; Because the absolute value of the generalized Dickey-Fuller statistic (ADF) is greater than the critical values. The results of the first difference of the Mana test for the Namana variables are presented below 7.

it can be concluded that the first-order difference of the unnamed variables are mana and the null hypothesis that the data root has a single root is rejected. Therefore, the collective degree of these variables is one $I(1)$. As shown in the previous section, some variables are mana of zero degree and some are mana of first degree. Therefore, since not all variables are $I(1)$, the Johansen-Josilius method cannot be used.In this case, the wide-interrupt (ARDL) self-explanatory method can be used to examine the dynamic relationship, long-run, and error correction. According to the Schwartz-Bayesian criterion, and for the case where the width from the origin is constrained and without trend, the optimal interrupt length according to the table below for both models was 1.

Referring to the optimal interrupt length, equations (8.1) and (8.2) using Ives 9 software and method OLS Estimates and estimation results are presented in Table 9 below.

After estimating the above regression, the following statement is applied for both equations to ensure the existence of a long-run relationship.

Table 8: Determining the optimal interrupt in the model

Model(1)		Model(2)	
Schwartz - Bayesian criterion	Degree	Schwartz - Bayesian criterion	Degree
-2594 / 00	.	-2895 / 00	.
-2200 / 20	1	-2294 / 20	1
-2212 / 90	2	-2434 / 90	2
-2212 / 6	3	-2432 / 6	3
Optimal interrupt: p = 1		Optimal interrupt: p = 1	

Table 9: Results of non-constrained error correction model estimation

Model(1)		Model(2)		Independent variable
Statistics t	Coefficient	Statistics t	Coefficient	
-	-	7/11	0/96	
14/95	1/17	-	-	
0/46	0/215	31/69	0/334	LGDP
-	-	-7 / 87	-0 / 325	
2/39	0/062	0/58	0/000315	
-2 / 94	-0 / 076	3/29	-	
-2 / 14	-0 / 042	3/29	0/0010	
3/54	0/055	-2 / 22	-0 / 00084	
0/88	255/39	-0 / 38	-0 / 877	C
F =(00/0) 95 R2 =99/0 DW =54/2		F =(00/0) 90 R2 =99/0 DW =24/2		Model fit

Table 10: Test results F For long-term relationship in the model (1)

Statistics F	At the ٪ 95 level		At the ٪ 90 level	
	I (0)	I (1)	I (0)	I (1)
4.78	2.39	3.38	2.08	3.00

Table 11: Test results F For long-term relationship in the model (1)

Statistics F	At the ٪ 95 level		At the ٪ 90 level	
	I (0)	I (1)	I (0)	I (1)
4.24	2.39	3.38	2.08	3.00

$$H_0 : \phi_1 = \phi_2 = \phi_3 = \phi_4 = \phi_5 = 0 \tag{8.6}$$

The test statistics obtained from the application of the above constraint on model (1) and (2) are equal to 4.78 and 4.29, respectively. Regardless of whether the mentioned variables are I (0) or I (1), the mentioned statistic does not have a normal distribution. As can be seen in Tables5 and 6, in cases where the number of regulators is equal to 3 and the model has a width of origin, the upper and lower limits of critical values are at the level of 95% in the range of 3/38/38. 2 is located.

Due to the fact that the test statistic is more than the critical values presented in Tables 10 and 11, the hypothesis of no long-term relationship between the model variables is rejected. Therefore, co-existence is accepted in both models. After confirming the existence of a long-run relationship between the model variables, the long-run relationship of the ARDL model is shown in Table 10, 11, 12, which is used to refute the hypotheses.

Table 12: Long-term relationship results

Model(1)		Model(2)		
Statistics t	Coefficient	Statistics t	Coefficient	Variable
3/268	0/4798	3/54	0/542	
2/932	0/3068	1/99	0/258	
1/98	0/158	2/403	0/2697	XI

Table 13: Results of the error correction equation

Model(1)		Model(2)		
Statistics t	Coefficient	Statistics t	Coefficient	Variable
0/58	0/0035	2/39	0/0062	
3/29	0/00101	-2 / 14	-0 / 0043	
31/69	0/334	0/468	0/00216	D
-2 / 90	-0 / 39	-2 / 211	-0 / 17	
R2 =88/0 , DW =09/2 F =(00/0) 34		R2 =80/0 , DW =14/2 F =(00/0) 359		Model fit

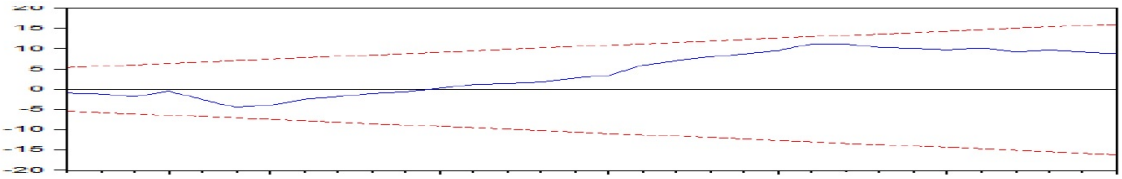

Figure 1: Coefficient Stability Chart (CUSUMSQ)

9. Model correction pattern

Error correction models (ECM) can be used to ensure a long-term relationship between economic variables. These patterns correlate between short-term fluctuations of variables and their long-run equilibrium values. Using these models, the effective forces in the short run and the speed of approaching the long run are measured. The ECM sentence coefficient shows that in each period, what percentage of the short-term imbalance of the province's GDP is adjusted to achieve the long-term equilibrium; In other words, this coefficient indicates how long it takes for GDP to return to its long-term trend. Table 10, 11, 12, 13 shows the results of estimating the error correction model.

As can be seen from the table above, the research variables are not significant except for the dXIRT variable; At the 90 and 95% levels, they are significant and consistent with theory. The coefficient of error correction in model (1) is 0.39 and in model (2) is 0.17 and is statistically significant and shows that in each period, respectively, 0.39 and 0.17% of the lack of The balance in foreign and domestic investment is adjusting and approaching its long-term trend.

10. Estimation of estimated coefficients

The stability of the model coefficients has been investigated using the cumulative total squares test (CUSUM) and the cumulative residual squares test (CUSUMSQ). As can be seen in the following figures, the results of these tests indicate the stability of the estimated coefficients and there is no structural failure in the model due to the 95% confidence interval.

Due to the fact that the test statistic is more than the critical values presented in Tables 10 and 11, the hypothesis of no long-term relationship between the model variables is rejected. Therefore, co-existence is accepted in both models. After confirming the existence of a long-run relationship between the model variables, the long-run relationship of the ARDL model is shown in Table 10, 11, 12, which is used to refute the hypotheses.

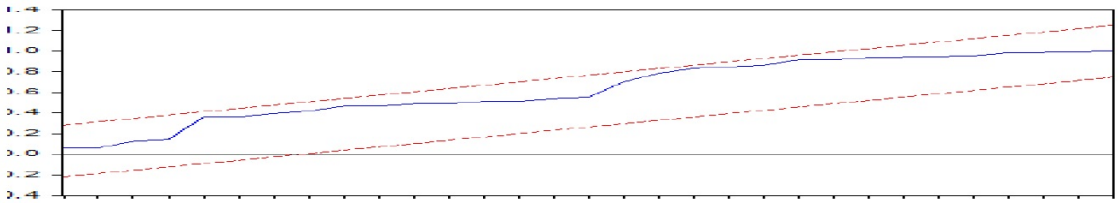

Figure 2: Stability diagram of coefficients (CUSUM)

Table 14: Graph of coefficient stability (CUSUM), Test results F For long-term relationship in the model (1)

Model	Statistics F	At the ٪ 95 level		At the ٪ 90 level	
		I (1)	I (0)	I (1)	I (0)
Model3	3/89	3/38	2/39	3/00	2/08
Model4	4/11	3/38	2/39	3/00	2/08
Model5	3/48	3/38	2/39	3/00	2/08

10.1. Determining the following indicators affecting investment in the Arvand Free Zone using the confirmation model of route analysis:

Path analysis method was used to determine the relationship between the sub-indicators affecting investment in the Arvand Free Zone and how they affect it.

The value of RMSEA is equal to 0.096, so this value is less than 0.1, which indicates that the mean squared error of the model is appropriate and the initial model is acceptable. Also, the value of FIGFI, CFI and NFI indices is more than 0.9, which show that the measurement model of sub-indices is a suitable model. The results of Table 17: show that there is a significant difference and effect with respect to the mean and the difference between the means obtained from the comparison of Wood sub-indices. Due to the fact that the critical ratio is out of range (1.96 and -1.96) and the significance level is less than 0.01, and has been confirmed at the confidence level of 0.99. That is, a sub-indicator affecting investment in the Arvand Free Zone. They have a significant impact on investment at the level of 99%.

11. Conclusion

The most important role of free zones is economic tools to establish a better relationship with the global economy, and the Arvand Free Zone, despite its large size, has not been able to capture a high share of production, employment and exports and attract domestic and foreign investment. In all successful countries in the field of industrial export development, which was initially designated in the free zones, the necessary infrastructure has been provided with a suitable scope. Then, their

Table 15: Long-term relationship results

GDP		Unemployment		Inflation		
Statistics t	Coefficient	Statistics t	Coefficient	Statistics t	Coefficient	Variable
1/98	0/0254	1/14	0/00135	1/23	00256/0	
2/932	0/0968	2/45	0/086	1/99	0/0658	

Table 16: Indicators related to the fit of the research model

title of exam	Description	Acceptable values	The value obtained
	Kai Squares by	< 3	2.102
RMSEA	The root of the mean power of the approximation error	< 0.1	0.05
RMR	The root mean square of the remainder	< 0.1	0.95
GFI	Modified fitness index	> 0.9	0.943
NFI	Soft fit index	> 0.9	0.956
CFI	Comparative fit index	> 0.9	0.925

Table 17: significantly different parameters affecting investment in Arvand Free Zone

Index - Display	(B)	(CR)	t	Average	The mean of	Significance level
Currency system	0/51	2/62	3/6 **	3/12	0/39	0/000
Governance system	0/46	2/82	3/9 **	3/25	0/46	0/000
The inflation rate	0/77	2/68	4/2 **	3/45	0/67	0/000
Economic Growth Rate	0/87	2/54	4/1 **	4/35	0/86	0/000
tax laws	0/72	2/79	5/2 **	4/36	0/83	0/000
Commercial openness	0/54	2/52	62 / **	3/12	0/72	0/000
Social - legal factors	0/52	2/33	6/4 **	4/12	0/76	0/000
Banking exchanges	0/57	2/27	6/3 **	4/23	0/79	0/000
Administrative bureaucracy	0/52	2/32	5/4 **	3/25	0/68	0/000
Infrastructure development	0/54	2/34	4/6 **	3/72	0/57	0/000
Possibilities	0/56	2/31	4/5 **	3/95	0/62	0/000

purposeful activities have been formed in order to strengthen national industrial economic development programs. But in the Arvand Free Zone, as in other free zones, it must rely on the collection of imported goods to create infrastructure, development and even social and welfare measures. Also, no organic cooperation has been established between the executive organs of the country and the organizations of the free zones in order to establish and develop these zones, and in other words, the executive organs at the national and regional levels do not have any duties and missions in this regard. They have not felt and even in many cases have been in conflict with the practices of these areas. In this way, the Arvand Free Zone, as a center abandoned from the total structure of government activities and its economic programs, were guided only by the idea of maintaining their survival, and their achievements were not commensurate with their main and principled missions. Considering that the work of setting up and constructing infrastructure and providing appropriate services to investors is still halfway and it is natural that in such a situation, ie lack of financial facilities, adequate infrastructure facilities, lack of unity of procedure and support of national management and unclear position And the role of these regions in the strategic plans of economic development of the country can never be expected beyond the current performance of these regions. In addition to the above issues, the mechanism of financing the initial investment of the establishment of this region should be mentioned as one of the reasons for its relative failure, because the dependence of free zone income on imports of goods has caused indirect pressures to turn regions into import platforms. In this way, the role of the region changes from the place of export to the place of import.

Causes of failure of special economic and free trade zones in the country, despite the interesting goals and motives, the creation of free and special trade zones due to deviation from the philosophy and basis of activity of special economic and free trade zones (which focus on production and industrial operations, trade and development Non-oil exports are stable (as well as shortcomings due to non-compliance of instruments with the development strategy) The main objectives were not achieved. The results of the analysis showed that the effect of the coefficient of construction and current costs on domestic investment according to model (2) was 0.258 and the value of computational t-statistic was 1.99, which is higher than the critical values at the level of 95% confidence. have been. Therefore, it can be said that the above hypothesis has been confirmed at 95% confidence level. Therefore, it can be said that the implementation of construction and current costs for the construction of infrastructure in Khuzestan province is directly related to attracting domestic investment in the Arvand Free Trade Zone. The value of the coefficient of construction and current costs on foreign investment according to Model (2) was 0.360 and the value of computational t-statistic was 2.93, which was higher than the critical values at the level of 95% confidence. Therefore, it can be said that the above hypothesis has been confirmed at 95% confidence level. Therefore, it can be said that the development of construction and infrastructure costs for the construction of infrastructure in Khuzestan province is directly related to attracting foreign investment in the Arvand Free Trade Zone. The effect of export development coefficient on domestic investment according to model (2) was 0.15 and the value of computational t-statistic was 1.98, which was higher than the critical values at 95% confidence level. Therefore, it can be said that the above hypothesis has been confirmed at 95% confidence level. Therefore, it can be said that the development of exports in Khuzestan province is directly related to attracting domestic investment in the Arvand Free Trade Zone. The value of the effect of export development coefficient on foreign investment according to model (2) was 0.26 and the value of computational t-statistic was 2.40, which was higher than the critical values at the level of 95% confidence. Therefore, it can be said that the above hypothesis has been confirmed at 95% confidence level. Therefore, it can be said that the development of exports in Khuzestan province is directly related to attracting foreign investment in the Arvand Free Trade Zone.

The effect of foreign and domestic investment coefficients on the unemployment rate of 0.00135 and

0.0856, respectively, the value of computational t-statistics was equal to 1.14 and 2.45, respectively, which is one of the critical values for domestic investment at the level of 95. The confidence rate was higher but lower for foreign investment. Therefore, it can be said that domestic investment in the Arvand Free Zone has a negative and significant effect on the unemployment rate, but foreign investment has not had a significant effect on the unemployment rate. This study uses SWOT results that are fully developed in strategies or strategies after reviewing and evaluating the strengths and weaknesses in the domestic environment and opportunities and threats in the external environment, barriers to attracting domestic and foreign investment in the free zone. Arvand is described as follows.

1. Existence of obstacles in the general laws of the country, in order to attract and encourage domestic and foreign investment
2. Extensive international sanctions, especially on foreign investment
3. Lack of establishment of partnership banks (domestic and foreign) in the country.
4. High investment risk.
5. There are limitations in the maritime transport system and ports due to the high risk of the insurer.
6. Weakness of incentive and promotional measures and services to motivate the cold
7. Obstacles arising from special laws (labor law, social security law, tax laws, etc.)
8. Diversity of investment decision-making centers in the country.
9. Devaluation of the national currency and its effects on macroeconomic variables, including exports and imports.

Also, the existence of some political and cultural barriers is one of the factors that aggravate the restrictions for some of the factors mentioned above.

Suggestions

The free zone is a tool that can reduce the damage caused by the transition period to the economies of countries and make them face less damage in establishing gradual coordination with the global economy. Also, the creation and development of free trade zones can be used as a quick policy and a shortcut to achieve goals such as attracting domestic and foreign capital and rapid industrialization to develop non-oil exports. As observed, the most important barriers to investment in the region Azad Arvand, lack of infrastructure facilities in accordance with the needs of the region, insufficient investment of government organizations and institutions and lack of legal clarity and inadequacy of laws and regulations related to investment in the Arvand Free Zone, so based on the results to address The above obstacles and creating a suitable package to attract and attract the presence of more investors in the Arvand Free Zone The following suggestions are presented in order of importance:

- Political stability: Political stability is considered as the most important factor of capital inflow into free economic zones and the investment risk will be low, which requires serious determination of the government. The success of free zones, especially the Arvand region, due to the special geographical location of the region, depends on the economic security of the country, which must be considered through current laws and regulations. By establishing a legal and institutional system focused on the growth of production and trade, each country must create stable conditions for private sector activities in the free zones, and through appropriate changes in laws and regulations, especially investment laws and regulations governing the movement and

transfer of capital, and Profits and labor laws, in addition to providing security and reducing investment risk and strengthening incentives, provide a good ground for financial and non-financial facilities necessary to attract investment.

- Efficiency and competence of managers: The main issue in the development of Arvand Free Zone is to increase the awareness of district managers about the goals of the establishment functions of that area and their obligation to plan properly or prioritize and adopt appropriate strategies that require a lot of time and work and eliminate or reduce bureaucracy. And superfluous administrative formalities and handling investment applications and licensing companies to establish or enter the area to act quickly.

- Appropriate advertisements: Introducing more and more comparative advantages of Arvand Free Zone by regional managers for investment applicants is one of the most important factors in the growth of partnerships in the region, because the need to pay attention to investment advantages in the region indicates cost reduction. Products and can be used as leverage to add value to the product.

- Studies and researches: Managers of Arvand Free Zone Organization should make necessary expenses in the field of marketing studies and researches and adopt correct policy by formulating and preparing a foreign marketing strategy and recognizing and managing the producers' market in achieving the goals and motivating them. To be present as much as possible. Identifying the consumer markets of Iraq, UAE, Qatar, Oman due to proximity as well as Southeast Asian countries and transit of goods through the Arvand Free Zone and establishing permanent and temporary industrial and commercial exhibitions to display products and goods and develop proper marketing of goods And products.

- Facilitating laws and regulations: Debugging the current laws and regulations by criticizing and amending some of the laws and regulations, improving the methods and making the rules easy and rational, as well as recognizing the rules and providing the necessary mechanisms by recognizing equality of rights of the parties. In financial contracts and providing factors to create mutual trust and adequate guarantees by laws and regulations for them

- Allocation of budget to Arvand Free Zone from the general budget of the country in order to build and establish infrastructure and basic infrastructure in the region and make huge government investments in this regard - Liberalization of the country's trade regime and privatization of government institutions and industries It becomes a branch of multinational companies as well as Iranian and foreign joint ventures and is an important factor in attracting FDI in the country.

- Establishment and establishment of international stock exchanges in the region with the participation of international financial institutions

- Connection with the world market causes the expansion of Arvand region. The policy of detente of the Islamic Republic of Iran at the international level can increase the participation of foreign investors in development projects in the region.

In addition to the above, it is necessary to use the benefits and legal facilities to build infrastructure in the region and accelerate the growth of the industry and services sector, which depends on the preparation and construction of buildings to be handed over to applicants. He was not unaware of the existing potential in the agricultural sector of the province, including strategic products such

as sugarcane and dates. Also, the existence of strong and sufficient transportation connections in order to connect with global and domestic markets is very important. Equipping the road, sea and air transport fleet, having a dynamic, coordinated and organized transportation network in the Arvand Free Zone are among the conditions that will lead to the success of achieving the goals of the Arvand Free Zone. At the same time, the creation of luxurious welfare, health, accommodation and recreational facilities and services should not be overlooked. Also, with the creation of the necessary infrastructure, the existence of tourism and health tourism should not be neglected.

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