

# The Economic Impact of the Qualifying Industrial Estates in Jordan on the Jordanian Economic Activity: A Case Study on Al-Hassan Industrial Estate, Jordan, (2000-2014)

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## Abstract

This study aims at exploring the impact of exports, employment, investment size, and the number of companies in Industrial estate and the economic activity in Jordan from 2000-2014. The economic activity was represented by the Gross Domestic Product (GDP). Statistical analysis for the model of the study demonstrated that there is a positive relationship, with statistical significance, with regard to the exports of the industrial estates in Al Hassan Industrial estate. This means that the export of Al Hassan industrial estate positively contributes to enhance the economic activities in Jordan. However, the study found a negative correlation, with a statistical significance, between employments in the industrial estates of Al Hassan industrial estates with the Gross Domestic product (GDP) since most employees at the estate are from different Jordanian nationalities. The study has also found a positive correlation between the industrial companies' size in Al Hassan Industrial estate with the GDP, but with no significance statistical significance because the inputs of productivity are imported from outside of the country based on the partnership agreement with the United States of America, which also doesn't reflect positively on the economic activity in Jordan. The study has come up with some significant recommendations. There is an urgent necessity to enact regulations and rules for the companies in Al-Hassan industrial estate to employ local Jordanian citizens and motivate the national investment through the financial policies and adopting the policy of diplomacy of the Jordanian investor.

**Keywords:** exports, employment, investment size, number of companies, gross domestic product

## 1. Introduction

In general, industrial estates play a great role in increasing the level of investment and productivity in the private sector, through providing a suitable and attractive environment for investment, the notion that will definitely lead to opening channels of investment to export products and goods for foreign markets.

Jordan, like rest of the countries in the world, seeks to magnetize investments in the industrial sector through providing regions in Jordan in an attempt to attract investment and increase industrial exports, as investing in the industrial sector plays a great role in pushing the economic process ahead.

Jordan has witnessed unique experiments in the field of qualifying industrial estates in Jordan by stressing the significance of investment where investors in these estates got lots of investing privileges, worthy features and a preference of exporting the products abroad in addition to exempting factories, companies and grand projects in industrial qualified estates raw materials, locations and parts from custom fees.

Currently, there are 10 industrial areas distributed over different regions to serve all investors and fulfill their needs. Jordanian Industrial Estate Corporation was founded based on article no. (34) of the year 1980 adopting article no. 59 of the year 1985. This corporation seeks to achieve its goals represented by establishing and developing industrial estates by distributing them all over the country in an attempt to increase the level of productivity and profit.

Al Hassan industrial estates are considered the first qualified estates it was founded in 1991 and is located in Irbid Governorate 75 Kms away from Amman, the capital. It was fully considered the first industrial estate in 1998 to export to American market. Its total area is almost three acres with around 137 companies in the 2014.

The total volume of investment is about 405.72 Million JDs. It has created more than 21292 job opportunities distributed as: 6584 for Jordanians, 14708 for foreigners, when the value of exports for the same year has reached 399, 26 Million JDs. Therefore, it is considered the second in light of the volume of investment in Jordan. Accordingly, the current study is intended to assess the economic impacts of the qualified Industrial zones on the Jordanian economy.

## **2. The Problem of the Study**

Qualified industrial estates play a great role in supporting the national economy and pushing the processes of development ahead through providing motivations to investors. It also works on enhancing the level of competitiveness of the domestic products in international markets in addition to providing lots of job opportunities for local residents.

Due to the significance of the private sector in the national economy, being one of the most significant and strategic one in any economy, the problem of the current study was summed as thus:

1. Is there any positive impact for the volume of investment in Al Hassan industrial estate on the Gross Domestic Product (GDP)?
2. Is there any positive impact for the volume of companies in Al Hassan industrial estate on the Gross Domestic Product?
3. Is there any positive impact for the employees' number in Al Hassan industrial estate on the Gross Domestic Product?
4. Is there any positive impact for the volume of exports in Al Hassan industrial estate on the Gross Domestic Product?

## **3. Objectives of the Study**

This study aims at achieving the following objectives:

1. Studying the present status of Al Hassan industrial estate.
2. Showing the level of economic variables impact on (investment, exports, employment volume, and the number of companies) on GDP during the study period.

### *3.1 The Population and Data of the Study*

The present study adopted the official data archived and published in formal documents in addition to the annual reports and brochures for a number of industrial estates provided by the Public Department of Statistics and the Central Bank of Jordan.

### *3.2 Method of the Study*

The study has adopted an analytical approach through the variables of the volume of investment, the number of companies, the number of exports, and the volume of employment in Al Hassan industrial estate to identify the impact of these variables on the GDP.

## **4. Review of Related Literature**

Al Godrah (2007) tackled a study about the impact of investment in the industrial estates in Palestine on increasing job opportunities. This study revealed that there were no satisfaction in investors' views about the administrative performance of investment-related institutions in Gaza strip industrial estate, thus weakening the potential to attract foreign and local investment, a thing that leads to weakening its chances in creating abundant job opportunities and combating the matter of unemployment. The study recommended that there should be a review for all the legal and official regulations, legislations, and agreements that encourage investing in such industrial estates.

Al Garalah (2006) studied the impact of the Jordanian industrial estates and their impact on the Jordanian economic activities from 1996 through 2005. The study found that there is a positive impact on the volume of investment, employment and companies' number on the GDP. The study further recommended that the government needs to provide lots of support to those industrial estates and encourage establishing new qualified estates.

The Private Economic Sector Affairs conducted a study on the horizons of applying industrial collections and its impact settlements in the Kingdom of Saudi Arabia. The study concluded that there should be a great need for the existence of some main pillars for industrial estates in any country and that they need to be directed towards providing lots of job opportunities, providing raw material and the appropriate infrastructure, planning rules and

legislation that encourage investment, and providing local service to support the institutions and enable them to take part in the series of the international value. The study recommended reviewing the present rules, regulations, and decisions to support the local industrialization and plan a number of public awareness-campaigns to introduce the local products and establishing a database for introducing the local products for foreign investors in KSA.

Sohaib's study (2012) focused on the role of industrial zones in alleviating sustainable development in the Euromediterranean region. The study concluded that the industrial regions are considered the major modern methods for Industry settlement. Also, the study concluded that founding industrial zones achieves for economic, social and cultural objectives. The study also founded that when establishing any industrial region, many factors should be taken into consideration some basic factors so as to become much more effective in achieving economic development. The study had a set of recommendations: ensuring the participation of all participants in running the industrial estates in addition to the collaboration between all the specialized parties when choosing a site for such industrial estate and providing industrial estates with all necessary services.

Awad (2006) studied the impact of industrial Jordanian qualified zones in terms of performance, economic impact and future perspectives. The study concluded that investor's tendency towards the volume of investment, without focusing on quality, led to the concentration of these industries in sewing and clothing, with little interest and value. The study revealed that there is a limit for the impact of industrial qualified zones' agreement on the domestic economy with fields of investment, employment and exports. The study has shown that the reason for the hindrances mentioned above is attributed to the scarcity of raw material in the local market. The study also recommended that an increase in the investment varieties should be noted in light of the recourse, attitude, and field with a concentration on attracting foreign investment of a high value and with promising features for the national economy. The study further recommended qualifying the local employees through proper training programs to increase their professional expertise to meet the domestic market requirements.

#### *4.1 Establishment and Development of Industrial Estates in Jordan*

Building the company of the industrial estates in 1980 is considered the most significant economic projects conducted in Jordan. This project is the biggest attraction for industrial investments. This is attributed to the establishment of industrial qualified estates, which are considered the most significant supporters of the national economy due to the support it provides to investors as these estates have become a local, regional and international model due to the attractive environment for investment in such areas which counted until 2015 around 6 areas. In light of the success of the first industrial estates in Jordan, Al Hassan Industrial estate, other industrial estates were adopted to fulfill the increasing requirements of investors. These zones include<sup>1</sup>:

1. Al Hassan Qualifying Industrial Zone
2. Al Hussein bin Abdullah II Qualifying Industrial Zone
3. Al-Dleel Qualifying Industrial Zone
4. Complexes Estate Qualifying Industrial Zone
5. Jordan Valley entrance Qualifying Industrial Zone
6. Cyber Estate Qualifying Industrial Zone

#### *4.2 Al Hassan Qualifying Industrial Zone*

Al Hassan Industrial Estate qualifying zone is considered the first Industrial Estate qualifying zone in Jordan as it was established in 1991. It is located in the north of Jordan, 75 Kms away from the capital, Amman, with an area roughly 1178 acres<sup>2</sup>.

Among the most important reasons for the distinction and power of Al-Hassan Industrial Estate zone is that it is a qualifying zone. That is, its products enter the market of the USA without restrictions and confinement and they are exempted from custom fees, thus leading to an increase in the volume of investment in Al-Hassan Industrial Estate qualifying zone. Investment rate amounted 405, 72 Million Jordanian Dinars until the end of 2014 distributed on 137 companies<sup>3</sup> compared with the period study in 2000 where the volume of investment reached around 168, 01 Million Jordanian Dinars while the number of companies reached 70 ones. This increase is

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<sup>1</sup>The Hashemite kingdom of Jordan- The official site of the Electronic Government, 2015.

<sup>2</sup>Industrial Estates Company-Annual Report, 2014

<sup>3</sup>Ibid

attributed to the efforts exerted by the government to support and develop the Jordanian economy through establishing Industrial estate zones which is considered the general company State Company for industrial zones and it works on establishing qualified estate zones that are highly qualified with standards and international criteria for the sake of attracting foreign investment in addition to providing lots of facilities and motives that attract investment.

Development of export and investment volume, Companies number, and Employment at Al Hassan Industrial estate qualifying zone

Table 1. Development of export and investment volume, Companies number, and Employment at Al Hassan Industrial estate qualifying zone (2000-2014)<sup>4</sup>

Year	Companies' No	Investment Vol./MJD	Export Vol. MJD	Employment
2000	70	168,01	171,84	13550
2001	74	200,654	181,200	15744
2002	79	211,770	229,71	16920
2003	80	218,370	227,39	17739
2004	84	228,37	294,20	19645
2005	92	237,78	263,200	22035
2006	99	238,78	290,00	22434
2007	106	240,40	278,32	21274
2008	104	247,05	279,12	21055
2009	98	183,23	215,93	11557
2010	103	187,45	235,86	13848
2011	106	215,85	277,80	14054
2012	114	368,13	298,27	14056
2013	124	381,68	344,15	17493
2014	137	405,72	399,26	21292

Throughout table one, we notice that the number of companies have increased during the period from 2000 through 2007 as it reached 70 companies in 2000 but increased to (106) companies in 2007. As for the volume of investment, it amounted 168, 01 Million Jordanian Dinars in 2000m but it increased in 2007 to 240, 40 Million Jordanian dinars. As for the volume of exports, it reached 171, 84 million Jordanian dinars in 2000 and increased to 278, 32 million Jordanian dinars in 2007. The increase in the volume of investment and number of companies have reflected on the volume of employment as it reached 13550 employee in 2000 and it increased to 21274 employees in 2007.

As for the years 2008 and 2009, we notice that the number of companies have decreased to 104 and 98, respectively, and that reflected on the volume of investment and exports' volume, thus negatively affecting the volume of employment compared with the previous period. The volume of investment in the years 2009 and 2010 have decreased to 183,400 million Jordanian dinars in 2010 and it reached 240.40 million Jordanian dinars in 2007. This decrease in the volume of investment and number of companies is attributed to the impact of international financial crisis on the Jordanian economy, thus leading to a decrease in the volume of investment because most exports of this investment target the American market based on QZI.

As for the period from 2011 through 2014, we notice that the volume of investment and the number of companies have increased remarkably. The number of companies increased in 2011 to become 106 companies with an investment volume of 215, 85 million Jordanian dinars and with export volume of 277, 80 million Jordanian dinars to register an increase of 137 companies in 2014, an investment volume of 405, 72 million Jordanian dinars and export volume of 399, 260 million Jordanian dinars, the thing that reflected on the increase on the employees number to become 2014 in 21292 employees.

### 5. Analytical Framework

So as to meet the objectives of the current study, a mathematical approach was designed to explore the level of impact of independent variables represented by the number of companies, investment volume, export volume, and employment volume along with their influence on the dependant variable, GDP.

$$Y = a_0 + a_1 z_1 + a_2 z_2 + a_3 z_3 + a_4 z_4 + u$$

Where  $a_1$ ,  $a_2$ ,  $a_3$ , and  $a_4$  are the parameters that will be estimated,

Y: GDP

<sup>4</sup>Industrial Estates Company-Annual Report, different volumes.

Z1: The number of companies, Z2: the volume of investment, Z3: the volume of exports, Z4: the volume of employment, U: Dummy variable

This study surveys the period 200-2014 for the independent variables that include the volume of employment, the volume of investment, and the number of companies)in Al Hassan Industrial Estate Qualifying Zone. The study also investigates its role in influencing on the dependent variable of the GDP. The researcher depended on the annual reports of Al Hassan Industrial estate qualifying zone. However, as for the dependent variable, GDP, we depended on the statistical brochures of the annual reports issued by the central bank of Jordan.

#### Dependent Variable

1. The Gross Domestic Product

#### 5.1 Independent Variables

1. Foreign companies exports at Al Hassan Industrial Estate qualifying zone
2. Volume of employment at Al Hassan Industrial Estate qualifying zone
3. Volume of investment at Al Hassan Industrial Estate qualifying zone
4. Number of foreign companies at Al Hassan Industrial Estate qualifying zone

We will depend on the regression approach by using the program E-views to study the impact of the independent variables on GDP as the following sample was formed.

$$GDP = F(X, L, I, NC)$$

Where,

**X:** the value of industrial companies' exports, Million Dinars/per year.

**L:** the volume of employment in industrial companies during the year (T).

**I:** Investment in industrial companies Million Dinars/per year.

**NC**'' Number of companies during the year, (T).

Based on these results reached by the researchers, the multi-deviation linear equation can be written as thus,

$$DDP= a |+ B1X + B2L + B3I + B4NC +E$$

Where B4, B3, B2, and B1 represent partial correlation of independent variables, whose signal can identify the direction between the dependant and independent variables.

**Hypothesis One:** There exists a positive correlation with a statistical significance between companies' exports in Al Hassan Industrial estate and the GDP.

**Hypothesis Two:** There exists a positive correlation with a statistical significance between employees' number in Al Hassan Industrial estate and the GDP.

**Hypothesis Three:** There exists a positive correlation with a statistical significance between the volume of investment in Al Hassan Industrial estate and the GDP.

**Hypothesis Four:** There exists a positive correlation with a statistical significance between the number of companies in Al Hassan Industrial estate and the GDP.

#### Regression Analysis

We adopted the regression linear analytical approach to study the impact of the independent variables on GDP with the help of E-views program. The following results were noticed.

$$GDP = 3895.902 + 116.6 X - 1.56L + 12.41 I + 22.6NC.$$

Table 2. Dependent Variable: GDP

Variable	Coefficient	T-statistics	Prob.
X	116.4652	2.861082	0.0169
L	-1.579090	-4.042455	0.0024
I	12.40405	0.429632	0.6766
NC	22.64523	0.355075	0.7299
C	3895.902	0.469416	0.6488

R-Squared: 82%, Adjusted R-Squared: 74.9%, F-Statistics: 11.49, Prob. (F-statistics): 0.00,

Durbin-Watson stat: 2.74

Apparently, from the table above we found that the adjusted R-Squared demonstrates that the changes in independent variables altogether explain 75% of the changes that took place in the dependent variables. As for the F-statistics, it amounted 11.5 with a proportion statistics F of zero value. This means that the sample is statistically significant. Also, DW coefficient mounted 2.74, which means that the sample is suitable and statistically significant as there was not any self-correlation systematic error or between what is real and what is expected for the dependent variable.

The researcher has also conducted some forecast sample tests to ensure the stability test as well as the validity of the study that can be shown as illustrated by the diagram below where the bias proportion was zero while the variance proportion was 5 % and the covariance proportion equals 95%, a percent indicative that the error proportion was random.

Based on the forecast sample above, it can be inferred the following:

**Hypothesis One:** There exists a positive correlation with a statistical significance between companies' exports in Al Hassan Industrial estate and the GDP. It was shown through the forecast sample that the relation between the change of 116.6452 and the change that has taken place in the GDP is positive as the estimated coefficient for the impact of the estate companies in Al Hassan Industrial estate has reached 116.6452, which means that the relation between the impact of the estate exports at Al Hassan qualifying zone on the GDP. This result, in general, matches with financial and economic theories that concluded a n existence of a positive correlation between of the estate exports at Al Hassan qualifying zone on the GDP which means that the exports of the Al Hassan estate companies lead to an increase in the GDP because these industries are specified for the purposes of export to foreign American markets, a thing that led to increasing the volume of Jordanian exports and consequently increasing the GDP.

Based on T-test results, it was found that such results enjoys a statistical confidence at level 5%, meaning that trust level for this variable equals 95 % and this means an acceptance for the theory that assumed an existence of a positive relationship between the estate exports at Al Hassan qualifying zone on the GDP.

**Hypothesis Two:** There exists a positive correlation with a statistical significance between employees' number in Al Hassan Industrial estate and the GDP.

Apparently, it was found through the forecast sample that the relation between the numbers of the employees in Al Hassan industrial estate qualifying zones and the changing proportions in the GDP was negative, as the estimated coefficient for the impact of the employees in the industrial estates amounted – 1.579090, which means that the relation was adverse between the impact of the change in the number of employees in these estates at Al Hassan industrial to that of the change in the GDP. However, such result didn't match with the standard financial and economic theories that concluded the existence of a positive relationship between the number of employees in industrial estates and the GDP in Al Hassan industrial estates as most of the employees at Al Hassan estates are foreigners whose number amounted 14708 in 2014 compared with the Jordanians whose number amounted 6584 for the same year. It is known that the foreign employment normally transfer their monthly wages to their countries the thing that reflected negatively on the economy of the country.

Based on the t-test, this result adopts the statistical proportion of 5% which means that trust level equals 95%, and then the hypothesis that claims the existence of a positive correlation with a statistical significance between employees' number in Al Hassan Industrial estate and the GDP is totally declined.

**Hypothesis Three:** There exists a positive correlation with a statistical significance between the volume of investment in Al Hassan Industrial estate and the GDP.

Apparently, it was found through the forecast sample that the relation between the volume of investment in Al Hassan Industrial estate and the GDP was positive but with no statistical significance at 5% because almost all the inputs of productivity including the equipment, raw material were all imported from abroad based on the partnership agreement with the USA Qualifying Industrial Zone. This, in turn, will reflect negatively on the GDP in Jordan thus resulting with very little added value for those investments on the Jordanian economy because all pillars of productivity are imported in addition to the fact that these products are exempted from fees and taxes, based on the partnership agreement with the USA.

**Hypothesis Four:** There exists a positive correlation with a statistical significance between the number of companies in Al Hassan Industrial estate and the GDP.

Apparently, it was found, through the forecast sample, that the relation between the number of companies in Al Hassan Industrial estate and the GDP was positive but with no statistical significance at 5% because some companies are off work currently and their productivity proportion is zero especially in the last years which will reflect negatively on the GDP.

## 6. Results

1. There is a positive relationship between companies' exports in Al Hassan Industrial estate and the GDP, which means that these exports are highly effective which reflects positively on the GDP.
2. There is a negative relationship between employees' number in Al Hassan Industrial estate and the GDP because most of the employees there are foreigners.
3. There is a positive relationship between the volume of investment in Al Hassan Industrial estate and the GDP but with no statistical significance because all the inputs of productivity including the equipment, raw material were all imported from abroad based on the partnership agreement with the USA Qualifying Industrial Zone.
4. There is a positive relationship between the volume of companies in Al Hassan Industrial estate and the GDP but with no statistical significance because some companies are off work currently and their productivity proportion is zero especially in the last years which will reflect negatively on the GDP.

## Recommendations

1. There should be rules and regulations for Al Hassan industrial estate qualifying zone that enforce them to employ local employees and motivate the national investment through offering lots of motifs.
2. Enhancing the policy of polite and diplomatic conviction towards the Jordanian investor so as to get involved in developmental investments.
3. Using the most proper investment paraphernalia so as to attract more foreign investors through promoting the economic activity of the country and providing it with the modern financial tools such as partnership, leasing and other tools that fit the Jordanian investment environment.
4. The study also recommends that the government reconsiders the agreements with the foreign investors by forcing them to employ a specific number of local people.
5. The government should offer lots of motifs for the Jordanian investor because he is capable of hiring more local people and also he will be able to using productivity tools, once available.
6. Studying the possibility of reviving the statuses of broken estates by providing lots of suggested solutions for them which will later reflect positively on the Jordanian economy.
7. Holding binary agreements with all countries of the world so as to combat the shortage and defects in the Jordanian commercial field.

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