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Analysis of Foreign Direct Investment and Unemployment and Their Impact on Economic Growth in Jordan

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Abstract

The objective of this paper is to study the impacts of foreign direct investments (FDI) on both the unemployment rate and economic growth in Jordan using empirical analysis of the times series data from 1998-2015. Tests such as unit root and diagnostic tests was carry out to ensure that the variables used in the model are non-stationary in levels and stationary in the first difference and the models used in the study do not have any autocorrelation and heteroscedasticity problem, as well as the data series is normally distributed. The ordinary least squares (OLS) method was used to explore the relations and the impact of FDI on both of the unemployment and real GDP. The result of the analysis shows that one percentage increase in FDI cause a decrease of (0.009%) of the unemployment rate in Jordan during the study period and in the meantime resulted on an increase of to increase 1.219% of real Gross Domestic Products (GDP).

1. Introduction

Jordan is an Arab country, located in the West Asia, Bordered by Syria to the north, Iraq to the east, Saudi Arabia to the south and south-east, and Palestine (the West Bank) to the west. This location give Jordan very important and unique economics and geographical comparative advantages that allow Jordan to be near two important and large markets gulf and European markets in addition other markets such as Iraqi and Syrian markets. In addition make Jordan directly influenced by the surrounding political and economical situations.

The total population of Jordan in 2015 was an estimated 6.8 million, out of them are (1.3) million considered as labour force. According to the Department of Statistics the unemployment rate was around 12.6% of the labour force, (11%) of the male labour force and (23%) female labour force in 2014. Yet these general statistics on the country as a whole conceal important differences related to gender, age, training level and governorate. Thus being young and being women represent a double source of difficulties to find a permanent job in Jordan. These figures imply very huge burden on the economic planner in Jordan as well as the government and have very negative impacts on the Jordan society.

In literature, it found that FDI is positively related to gross domestic production (GDP), an increase in FDI will boost the economy. In addition, it found that FDI provides developing countries include Jordan, with much needed resources such as capital,

technology, managerial skills, entrepreneurial ability, brands and access to markets. These are essential to industrialize, develop and create more jobs and reducing poverty situation. Foreign firms established in a particular country can provide more jobs, and thus, the total number of the unemployed will decrease. Therefore, most developing countries recognized the potential value of FDI and make all essential things to promote foreign and local investment.

The main objective of the Jordanian strategy to alleviate unemployment is to create growth in national economy so that it can absorb these people who seeking jobs. Which can be achieved by different ways among of them is to increase and accelerate FDI.

Building on the geostrategic position, comparative advantages provided by the location of Jordan, outward-oriented open economic policies, political stability, and security, robust and stable economy that favorable business environment, modern and well connected infrastructure, and skilled and talented human capital. The government of Jordan recognizes the role and the benefits of foreign investment to be bring to Jordan, so issued the Investment Promotion Law No. 16 of 1995, which includes provisions that encourage FDI and domestic entrepreneurs in different sectors. This make UNCTAD to classified Jordan investment benchmarking system as among the top twenty countries in the world in terms of attracting inflows of FDI. (UNDP, 2010).

Thus, the question about relations between foreign direct investment and unemployment makes very important and interesting scientific problem for economists as well as the planners. It is also crucial for forming development policies especially in developing countries like Jordan. Although foreign direct investment (FDI) is often seen as a significant factor of economic development in developing countries, there are very strong debates about the benefits, taxes and costumes exemption given to investor and the benefits for the national economy and unemployment.

The aim of this paper is to investigate interrelationships among FDI, economic growth, and unemployment in Jordan in the years 1994-2014. To achieve this objective the study tries to answer the following research questions:

1. What extent incoming FDI influences on the Economic Growth in Jordan?
2. What extent incoming FDI influences on the Unemployment in Jordan?
3. What extent Economic Growth influences on the Unemployment in Jordan?

This paper is organized as follows: the first section is revision of literature and theoretical background of the subject. The second section presents the methodology, data collections, and the models of the study, while the third section present the results of the data analysis of the impact of investment on the employment in Jordan. Finally the paper ends up with concluding remarks.

2. Review of Literature and Theoretical Background

FDI acquired an important role in the international economy after the 2nd World War. Foreign Direct Investment (FDI) can be defined as the investment which is invested by an investor in foreign countries with interest to gain more market share in the international context and enjoy the economies of scale (Shaari, Hong & Shukeri, 2012).

International Monetary Fund (IMF) and Organization for Economic Co-operation Development, defined the FDI as an international venture in which an investor residing in the home economy acquires a long-term —influence || in the management of an affiliate firm in the host economy. According to the definition, the existence of such long-term influence should be assumed when voting shares or rights controlled by the multinational firm amount to at least 10 percent of total voting shares of rights of the foreign firm. FDI flows can be observed from the perspective of the host economy, which records them as inward FDI along with other liabilities in the balance of payments, or from the perspective of the home economy which records them as outward FDI, a category of assets (Contessi and Weinberger, 2009). Further, European Union Report on International trade and foreign direct investment, 2013 stated that, The Globalization has the impact on the economy through the foreign trade in goods and services, financial flows and the movement of persons linked to cross – border economic activity.

FDI provides the basic infrastructure facilities to host countries especially developing countries such as capital, technology, managerial skills, entrepreneurial ability, brands, and access to markets. These are essential for developing countries to industrialize, create jobs and reduce the unemployment rate, enhance the entrepreneurial intention and reduce the poverty. (Athukorala, 2013).

investment can benefit the host country in several aspects, it is working to increase the national income as a key component of aggregate demand components, the level of skills, technology transfer to the host country and private foreign investment on modern technology transfer, and is also working to increase local expertise and in particular managerial experiences through new ideas non-existent in the host country, which creates a quantum leap in national activities. Foreign direct investment is also connected to the transmission quality and methods which drives efficient domestic market, also helps investment to reduce unemployment, especially if the labor-intensive investments, making it easier Optional saving process, through wages and salaries for employees, which leads to increased national income and that helps out the poverty cycle which drives the wheel of development in the country. (Kharboush, 1999).

In 2002, Organization for Economic Co-operation Development (OECD) suggested that FDI has the favorable climate in terms of economic growth, employment

opportunities and poverty alleviation in an economy. But the achievements of the above mentioned favorable climate generally depend on the various economic, social and political factors. In the economic factors, the financial system stability, better integration of financial intermediaries, appropriate fiscal and monetary policy, interdependence between the economic sectors, well established connection between domestic and foreign trade are recognized as the influencing factors on the FDI.

Theoretical studies on FDI have led to a better understanding of the economic mechanism and the behavior of economic agents. There are many theories concerning the FDI and its role in economy, which can be categorized in to four; these are production cycle of the FDI theory, the exchange rates on imperfect capital markets, the internalization theory and the eclectic paradigm theory. Denisia (2010).

Alfaro, Chanda, Ozcan and Sayek (2003) examined the various links among FDI, financial markets, and economic growth using cross-country data between 1975-1995. They found that; the FDI can contribute to the economic growth. Meanwhile, the financial system of the economy also influences on the linkage between FDI and economic growth. In other words, if there is stability financial system in the economy, the economic growth will be contributed by the FDI effectively and efficiently. from the host countries perspective, the benefits of the FDI are utilization of the resources, introduction of new process to the domestic market, learning by observing, networks, training of the labor force etc. finally they suggested to obtain stability financial system through the better monetary and fiscal policy to attract the FDI, generally stability financial system contributes to the prosperity of the economy in terms of quality of the people in the country.

Tim Bu and Milner (2008) study the Foreign Direct Investment into Developing Countries. The results shows that international trade agreements and preferential trade agreements have great impact or influence on the FDI inflows in the developing countries, thus joining with international trade agreements induce to attract the FDI, which in turn enhance the economic growth level of the developing countries.

Khaliq and Noy (2007) found that, at the aggregate level, FDI is observed to have a positive effect on economic growth. However, positive effect has not been found in the separate context across the sectors. Some sectors show the positive impact of FDI, while mining and quarrying exhibit negative impact of FDI inflows on the growth.

In relation to FDI and employment opportunities, Andersen and Hainaut (1998) look for evidence regarding the precise relationship between FDI outflows and employment in the source industrial countries. The results indicate only limited evidence that FDI outflows lead to job losses in the source countries. While it is true that domestic investment tends to decline in response to FDI outflows, emerging market economies receive only a small, though growing, and share of global outflows. More over it shows that high labour

costs encourage outflows and the exchange rate movements may exacerbate such effects. However, prior trade patterns, IT-related investments and the scope for cross-border mergers and acquisitions are the principal determinants of FDI flows. Moreover, there is clear evidence that, by improving distribution and sales channels, FDI outflows complement rather than substitute for exports and thus help protect rather than destroy jobs in the source countries.

Furthermore, the findings of study done in Japan on the impact of FDI on unemployment by Palat (2011) shows that Japan experienced considerably lower levels of inward FDI compared to other developed countries. Furthermore the rate of unemployment in Japan was relatively low which is caused by a specific attitude of the active population of Japan towards employment issues. The findings indicate clear existence of correlation between FDI and unemployment.

Regarding with economic growth and unemployment in Arab countries, Habees and Abu-Rumman (2012) the finding draw attention to the relationship between unemployment and economic growth, this reveals the valuable opportunities for developing the economy. It is recommended to separate policies of support growth and policies of reduction unemployment rates, as growth policies dependent on government spending, while the second ones on encouraging investment to create job opportunities.

Shaari, et al (2012) examines the impact of FDI on the unemployment rate and economic growth in Malaysia from 1980 to 2010 by using ordinary least squares method to analyze the data. The findings indicate that FDI assist reduce the unemployment rate and increased the gross domestic product (GDP). That is 1% increase in FDI caused a decrease of 0.009% in unemployment and an increase of 1.219% in GDP. These findings are highly important in policy formulation and implementation so that government should be concerned about FDI, which can benefit the Malaysian economy. In addition, FDI can also create more domestic jobs and intensify the economic growth of the country.

In the contrary, Velnampy, et al (2013) found that there is no significant impact of FDI on the economic growth, which is in lowest level. In contrast, it found that, in the Sri Lankan, there is a long run equilibrium relationship between FDI and economic growth rate. Moreover there is a significant impact of economic growth on the unemployment. In contrast, in the long term view, there is no long term relationship between economic growth and unemployment. Furthermore, in the FDI and unemployment context, significant impact has not been found. Nevertheless, in the long term view, FDI has the significant relationship with unemployment.

Balcerzak and Żurek (2011) devoted to the influence of FDI on labour markets. The interdependencies between FDI and unemployment were econometrically analyzed in Poland. VAR methodology was utilized based on aggregate quarterly data for period 1995-2009. The finding proved interdependencies between FDI and employment in Poland. FDI impulse leads to decreasing of unemployment rate. However, the positive influence of FDI on Polish labour market tend be rather short term. It can suggest that

government policies designed for encouraging FDI investment should be reformed in order to make conditions for positive long term influence of foreign capital inflow on Polish labour market.

Stamatiou and Dritsakis (2014) studied the relationship between unemployment rate, FDI and economic growth in Greece using annual time series data for the period 1970 to 2012. The results confirm a long run relationship among the examined variables. The VECM Granger causality results indicated both in the short run and in the long run a strong unidirectional causality between economic development and foreign direct investments with direction from economic development to foreign direct investments. These results offer new perspectives and insight for new policies for sustainable economic development, increasing investments and reducing unemployment.

Jayaraman and Singh (2007) investigated the relationship between FDI, employment and GDP for Fiji using data for the period 1970-2003. The result shows that there is a long run unidirectional casual relationship between FDI and employment with direction from FDI to employment. In addition, in a short run unidirectional casual relationship between FDI and GDP with direction from FDI to GDP.

Aktar and Ozturk (2011) examined the relationship between FDI, exports, unemployment and GDP for Turkey for the period of 2000-2007. The results of the study showed that FDI does not help in reducing unemployment. They found that variations in GDP do not reduce the unemployment rate either. Variations in exports have a positive but insignificant effect on GDP.

Habib and Sarwar (2013) examined the relationship between FDI, growth and employment for Pakistan over the period 1970-2011. They found that FDI and economic growth have a positive impact on employment level.

Lin and Wang (2004) focused on the correlation between capital outflow and unemployment in G-7 countries, and comprise the most capital outflow countries in the world (G-7 countries) using annual data from 1981 to 2002, results shows that FDI is negatively correlate with the unemployment rate in all G-7 countries.

Schemerer (2012) proposed a simple multi-industry trade model with search frictions in the labor market. The derived FDI and unemployment nexus is tested using macroeconomic data from 20 Organization for Economic Co-operation and Development countries on unemployment, FDI, and labor market institutions. The data used for observing the 20 countries for the period of 1980–2003. The results explained that the model in the net-FDI is associated with lower rates of aggregate unemployment.

Mpanju (2012) analyzed the impact of FDI inflows on employment generation in Tanzania for the period of 1990–2008. The results indicated that a strong positive relationship exists between the FDI inflows on employment generation; denote that FDI has a significant impact on the pattern of employment opportunities.

Nucu (2011) shows that FDI inflows can create new jobs and is capable of accessing modern technologies, resulting in

positive effects on the balance of payments. FDI is also a catalyst for economic development in Central and Eastern European countries. The study revealed a direct link between FDI and GDP, and an inverse link between FDI and unemployment rate.

Chaudhuri and Banerjee (2010) examined the impact of FDI on agricultural land in a developing economy using a three-sector general equilibrium model with the simultaneous unemployment for both skilled and unskilled labor. The results proved that FDI in agriculture can escalate social welfare. Furthermore, FDI can alleviate the unemployment problem in each type of labor. The results remain the subject of debate as to whether focus on the agriculture, secondary, or services sector would lead to better economic growth and to reduce poverty in the developing country.

Ismail and Latif (2009) examine various interrelationships among FDI, exports, unemployment, and GDP for the period of January, 2000 to April 2007 in Turkey. The findings indicate that FDI is unable to reduce the unemployment rate in the country. Variations in exports have a positive impact on GDP, even though such impact is considered insignificant. In addition, the result does not support the export-led economic growth model, and finally economic growth is not the solution for the unemployment problem in Turkey.

Hisarciklilar et al. (2010) explain how FDI inflows might affect sectoral employment in the Turkish economy, using a sample belonging to 19 sectors for the period of 2000–2007. The findings indicate that a negative relationship exists between FDI inflows and employment. Employment is considered as a function of lagged employment, current and lagged values of FDI inflows, and real wages. Results indicate that FDI inflows still have a negative impact on employment level.

Vacaflares (2011) examined the effect of FDI on employment generation for a group of Latin American countries for the period 1980–2006. Annual data during the stated period were collected from 12 Latin American countries. The findings indicate that FDI has a positive significant effect on employment generation in the 12 countries, with the obvious effect of increase in male labor force. The positive impact is important for developing countries with low inflation, other than only for the latter period of the sample. This means that only countries with a high level of informality and those attracting low average inflows of FDI harvest the benefit.

Bayar (2014) fined that there have been significant increases in trade volume and FDI flows in the world in parallel with globalization since 1980s. examining the relationship between unemployment, economic growth, export and foreign direct investment inflows in Turkey during the period of 2000: Q1-2013: Q3 demonstrate that there is long run relationship among unemployment, economic growth, export and foreign direct investment inflows. Moreover empirical findings confirm that there was a negative relationship between unemployment and economic growth, export, while there was a positive relationship between unemployment and foreign direct investment inflows.

Ball et al. (2013) tested the validity of Okun law using the data of the US as of 1948 and the data of 20 developed countries as of 1980 and found that Okun law was strong and stable relationship in most of the countries, However there are sometimes deviations from Okun law, but these deviations were generally small in size and short lived.

The relationship between unemployment and real GDP per capita in the developed countries (the US, France, Australia, the United Kingdom, Canada and Spain) during the period of 1985-2010, was investigated by Kitov (2011) he confirm that Okun law predicted the changes in unemployment rate substantially correct for the developed countries.

Mucuk, and Demirsel (2013) investigated the relationship between foreign direct investment and unemployment for 7 developing countries, namely Argentina, Chile, Colombia, Philippines, Thailand, Turkey and Uruguay by using the panel data analysis for the period 1981 to 2009m result for all countries show that foreign direct investment and unemployment move together in the long run but although foreign direct investment increases unemployment in Turkey and Argentina, it reduces unemployment in Thailand. However, causality tests only express that there is a relationship from foreign direct investment to unemployment in the long run.

Craigwell (2006) examined the relationship between employment and foreign direct investment for 20 English and Dutch Speaking Caribbean Countries for the period 1990-2000. He found that an increase in FDI in the entire sample of Caribbean countries leads to an approximate one-to-one increase in employment.

Massoud (2008) studied the direct effects of FDI inflows to Egypt throughout the period 1974-2005. The results show that there is the effect of FDI on the demand for labour; where aggregate FDI had an insignificant effect on the demand for labour, except when it interacted with the size of the technology gap, then aggregate FDI had a negative effect impact on the demand for labour. Greenfield and manufacturing FDI had a positive effect when they interacted with the level of human capital and exports, while mergers and acquisitions, agriculture and services FDI had negative direct effect and insignificant interactive effects.

Ajaga and Nunnekamp (2008) investigated the long-run relationships between inward FDI and economic outcomes in terms of value added and employment at the level of US states and found a fairly strong evidence of favorable FDI effects on output and employment at the level of US states. At the same time, feedback effects play an important role.

Lipsey et. al (2010) examined the employment growth in Indonesia in a large panel of plants between 1975 and 2005, and especially in plants taken over by foreign owners from domestic ones. Employment growth is relatively high in foreign-owned establishments, although foreign firms own relatively large domestic plants, which in general grow more slowly than smaller plants. For plants that change the nationality of ownership during our period, they found a strong effect of shifts from domestic to foreign ownership in raising the growth rate of employment, but no significant

effects of shifts from foreign to domestic ownership.

Zeb Fu & Sundas (2014) investigate the effect of FDI on Pakistan's economic growth during 1972–2012. Besides FDI, three other variables such as trade openness, political instability and terrorist attacks are also used in this study. Least square method has been applied to check the effect of these variables on GDP of Pakistan. The results show that FDI has positive significant effect on economic growth of Pakistan.

Bekhet and Al-Smadi (2015) evaluate the long-run and short-run relationships among foreign direct investment (FDI) inflows and their determinants in Jordan for the period 1978–2012. The results identify that there are long-run and short-run relationships among FDI and its determinants. The Granger causality test recommends a deferent causal relationship among FDI and their determinants.

AL - Sarairoh (2014) investigates the relationship between the rates of unemployment in Jordan, the economic growth rate, foreign labor force, and government expenditure. The study found significant negative correlation coefficient between unemployment rate and migration labor force, and positive significant correlation coefficient with government expenditure. There is significant prediction relationship between unemployment as dependent variable and government expenditure rate as explanatory variable FDI is often seen as a significant factor of economic development in developing countries.

Louzi et al. (2011) studied the effect of foreign direct investment on Jordanian economy during the period 1990–2009. The study showed that foreign direct investment does not impact economic growth in Jordan while domestic investment and trade liberalization have positive effect on GDP growth rate.

3. GDP Growth in Jordan

The main variables used in this study are shown in annex (1) and figures A1, A2, A3 in annex (2).

Considering that the Jordanian economy is open economy and reach and affected with the surrounding economic and political environments in neighboring countries and the usability of the region; therefore the GDP is fluctuated from year to year depending on these circumstances prevailing in the region.

Figure A1 and annex (1) demonstrate the trend of the GDP in Jordan, it is noticed that the Jordanian GDP shows a growth rate of about 4.3% during the period 1989-2014 with maximum rate of growth of 14.4% in the year 1992 with respective of the year 1991; whereas the minimum of the change in the GDP was (-10.73) in the year 1989 in which Jordan witness the financial and economics crisis and the exchange rate of the Jordanian Diner dropped to reach the minimum rate in according to US\$. in that year Jordan adopted the economic and financial adjustment program in collaboration with the IMF and the World Bank and support from the International Community to recover the economy. It is worth to mention that the study over the period after

implementing that economic program.

the years 196-2007 shows rapid increase in the GDP of Jordan, and steady increase during the period 2004-2007 as a result of the economic adjustment program and the prevailing condition in the region. despite the prevailing unstable conditions in the region the GDP After 2007 started to decrease reaching (2.3%) change in 2010m and then increase in slightly rate tile 2014 this due to the governmental policies implemented and the Arab aid to Jordan especially the gulf donation to jordan.

4. Investment Climate in Jordan

4.1. Investment Enabling Environment

There are several different investment incentive regimes in Jordan designed to make the country an attractive location for manufacturing and service centers. On the top of them is the Investment Promotion Law No. (16) and its related amendments for the year 2000. The law gives foreign and national investors similar and equal treatment include the full ownership of the non-Jordanian investors, in addition to many exemptions such as income tax, customs fees for imported fixed assets and spare parts and social services tax exemption depends on sectors and the size of the projects and re-export or sell the exempted fixed assets. The law gives the Non-Jordanian technicians and administrators working in any project the ability to transfer their salaries and remuneration abroad. moreover the law permit the permissible to expropriate any project or to subject it to any measures that may lead to expropriation unless such expropriation shall be by way of compulsory purchase for the purpose of the public interest, and in return for just compensation to be paid to the investor. The compensation paid to a non-Jordanian investor in such case shall be in a convertible currency. Investment disputes between an investor of foreign capital and Jordanian government agencies shall be settled amicably. If no amicable settlement can be reached within a period not exceeding six months, either party may resort to litigation or may refer the dispute to the International Center for the Settlement of Investment Disputes (ICSID).

4.2. Development and Free Zones

As part of Jordan's efforts to foster economic development and enhance its investment climate, the government has created geographically demarcated industrial estates, free zones, and special economic zones. The semi-governmental Jordan Industrial Estates Corporation (JIEC) currently owns six public industrial estates in Irbid, Karak, Aqaba, Amman, Ma'an and Muwaqar. There are also several privately-run industrial areas in Jordan, including al-Mushatta, al-Tajamouat, al-Dulayl, Cyber City, al-Qastal, Jordan Gateway, and al-Hallabat. These estates provide basic infrastructure networks for a wide variety of manufacturing activities, reducing the cost of utilities and providing cost-effective land and factory buildings. Investors in the estates also receive various exemptions, including a two-year exemption on

income and social services taxes, total exemptions from building and land taxes, and exemptions or reductions on most municipalities' fees.

4.3. Foreign Direct Investment Trends in Jordan

Foreign direct investment flows to Jordan fluctuated from year to years, reaching the maximum in 2006 with a total amount of (3.54) million JD as shown in annex 1 and figure A3 in annex 2. After that the FDI inflow was decrease to reach (1.8) millions JD in 2013. Out of 21 Arab countries Jordan is in the 13 position in most of the years during the period 2000-2013, and reach a ninth position in 2013.

Jordan obsessed around 3-4% of the total FDI to Arab countries, whereas the FDI to Jordan is around only 0.2% of the total FDI to developing countries and less than 0.1% of the total world FDI. Those numbers indicated that FDI to Jordan is very poor in related to the incentives that the government gives to FDI and the reliable investment climate in Jordan.

5. Unemployment in Jordan

The mutually poverty and unemployment continue to be in the top of priorities in Jordan. in this regards the government issued the national employment strategy 2011-2020, one of the milestone policy is to directing investment policies and active labor market policies towards employment of Jordanians this done through Creating investment patterns leading to the growth of high added value sectors, higher wages, and increasing employment of Jordanian labor (males and females) and Increasing the contribution of capital and current expenditures in sustainable economic Development and creation of jobs in the public sector.

Jordan is facing a growing problem of unemployment starting of 1989 were the rate of unemployment jump from 8.8% in 1988 to 10.3% in 1989 and to 16.8% in 1990 and reach 19.8% in 1993. The official figures show that unemployment in Jordan range from about the rate of 13%-15% during last two decades (see annex 1). The female unemployment is almost double that of male, reaching about 25.8% in 2005, after on until 2010, were this percentage started to decrease to settled around 21% during that five years as shown in annex 1. Whereas the percentage of unemployment among males are around 10-11% during the last ten years.

However, official figures shows that the percentage of unemployment is differ from governorate to another and from one group of age to another were most of the unemployment is in the youth group, and it is more in high educated persons.

Although there are stability in figure of unemployment during the last five years, inducted the unemployment show a tendency to be worsened given that Jordanian society is very young with more than 45% of the Jordanians are in the age group of less than 18 years, which expected ton entry to the labour market in near future. Studies and official reports of

department of statistics attribute unemployment to internal and external reasons. On the domestic front, the behavioral patterns that drive young people to abstain from work in certain professions, education system and outputs as well as the structural imbalances in labour markets are the main causes of unemployment. On the external level, the economic recession inherent political instability over the past three decades, as well as coercive migrations from neighboring Arab countries is one main the factors responsible for the existence of deflationary gaps and the accompanying unemployment rates above the ordinary.

Despite some limited recent decline in the unemployment rate, it is still considered a major problem waste of resources and a significant economic burden in addition to the social burdens. It is worth mentioning that the official figures shows the problem is less than its true size appears due to count the coverage of unemployment disguised deployed in some economic sectors, and because of the partial temporary employment situations not covered in official figures.

Annex (1) and figure 2A shows that unemployment rates are higher for females to males in terms of which amounted to about 21.9% for females compared to about 11.9% for males on average during the period 2000-2013.

The table also indicates that the unemployment rate for males increased from 12.3% in 2000 to reach the highest incidence in 2002 and then began to decline to settle around 10% during the period 2007 to 2013, and reach its minimum rate in 2008.

As for the rate of unemployment among women was stable around 21% during the period 2000 to 2002, and then declined to reach 16.5% in 2003, then it took to rise gradually to a maximum value and amounting to 25.6% in 2007 and dropped to 21.7% in 2010.

It is worth noting that these figures are based on surveys of employment and unemployment are different from those of the general population surveys, which may indicate that the unemployment problem may be greater than reflected in official figures based on surveys of unemployment.

The high local unemployment rates have was accompanied by an increase in the numbers of foreign workers, which clearly refers to the phenomenon of bringing foreign workers replace local employment, and influenced by the problem of unemployment in Jordan dimensions of structural and behavioral unemployment.

The percentage of economically active is 40% of people aged 15–64 years. The total the unemployment rate estimated to be 18% in rural areas and 13% urban areas. Sixty per cent of jobseekers are under the age of 25.

Unemployment among young women is nearly three times that of their male counterparts.

67% of young women jobseekers have an intermediate diploma or higher-level qualification.

About 56 per cent of the unemployed, particularly young men, have not completed secondary education. Yet attaining a higher (tertiary) level of education is no guarantee of finding work. Forty per cent of those with an undergraduate degree are unemployed.

Figures in annex (1) and figure A2 show that the unemployment rate stated to dramatically increase after 1989 to reach 16.8% and 18.8% in 1990 and 1991 respectively, while it reach it peak in 1993. This repaid increase is as a result of great economic crisis that prevail in Jordan in 1989 which negatively impact all aspects in Jordan in particularly the unemployment. After that the unemployment rate stated to decreased and fluctuated from year to year to settle around 13% in the recent years as a result of the practical and intensive economic adjustment process adopted by Jordan in collaboration with the World Bank (WB), the international monetary fund (IMF), and support from the International Community. However the prevailing political and economics situation in the area have very sever impacts on the Jordanian economics and unemployment especially the huge and successive immigrations waves that come to Jordan during the last two decades.

6. Methodology

This study employs empirical analysis to examine the impact of foreign direct investment (FDI) on the unemployment rate (UR) and economic growth (EG) in Jordan for the period 1998-2014. Ordinary least square (OLS) regressions were used to analysis the annual data on foreign direct investment, total unemployment and real gross domestic product.

Time serious data on the FDI, economic growth and unemployment from the year 1994 to 2014 was collected from different resources such as department of statistics, and the central bank of Jordan data base.

Three models was used in this study, the first model, FDI is considered as the independent variable and EG is the dependent variable. While In second model, EG is used as the independent variable and UR is used as the dependent variable and in the third model the independent variable is FDI and UR dependent variable.

1. The first Model measure the impact of FDI on Economic growth that is Economic growth is a function of the foreign direct investment

$$\ln EG_t = \beta_0 + \beta_1 \ln FDI_t + \varepsilon_t \quad (1)$$

2. The second Model measures the impact of economic growth on the unemployment that is Unemployment is a function of the economic growth

$$\ln UEt = \beta_0 + \beta_1 \ln EG_t + \varepsilon_t \quad (2)$$

3. the third Model measure the impact of FDI on the unemployment that is Unemployment is a function of the foreign direct investment

$$\ln UR_t = \beta_0 + \beta_1 \ln FDI_t + \varepsilon_t \quad (3)$$

Where

β_0 = Intercept

β_1 = slope (measure the impact of the dependent variable on the independent variable)

EG t = Real Gross Domestic Production in the period t.

FDI t = Foreign Direct Investment in period t.

UR t = Unemployment Rate in period t.

ε_i = Random Error

Based on the equations above, the positive sign of FDI coefficient represents a positive effect of FDI on total unemployment and economic growth. A rise in FDI will cause the total unemployment to decrease.

Non-stationary time series data leads to spurious regression (Gujarati, 2003; Trung & Vinh, 2011; Shaari, Hong & Shukeri, 2012). Therefore, the first step in constructing a time series data is to determine the non-stationary property of each variable. Many statistical methods are used to conclude the data series is not stationary for all variables used in all models. In this study, Augmented Dickey Fuller (ADF) unit root test (ADF – fisher chi square and ADF

choi Z – stat) is applied which is the most popular test. If the test shows the significant level in terms of p value, it will be concluded that the variable series is stationary. It means that, the data are not in the position of unit root. In contrast, if the stationary test is not in the significant level in terms of p value, it will be statistically explained that the variable series is non-stationary and has a unit root test (Gujarati, 2003; Trung & Vinh, 2011; Shaari, Hong & Shukeri, 2012).

Table (1) presents the results of the ADF unit root test for the three models used in the study. The information in the tables indicates the Augmented Dickey Fuller statistics (ADF – fisher chi square and ADF choi Z – stat) are significant at the level ($P < 0.05$).

Therefore, no unit root in the data series and the variable series is stationary and does not have a unit root test.

Table 1. Augmented Dickey-Fuller Unit Root Test Results.

Method		First model	second model	third model
ADF - Fisher Chi-square	Statistic	21.94	20.11	20.91
	Prob.	0.0002	0.0006	0.0002
ADF - Choi Z-stat	Statistic	-3.71	-3.35	-3.72
	Prob.	0.0001	0.0003	0.0001

7. Result and Discussion

7.1. Models Estimation

Table (2) show the summarized the results of the regression analysis of the three models used in this study. the table shows the values (F) that test the overall significance of the regression model and its significance, the values of Coefficient of determination (R^2) which measure of proportion of the variance of dependent variable about its mean that is explained by predictor variables or the independents variable (Velnampy, 2008) that how much the model explain of total variation and the parameters of the model (β) of the independent variables and the values of (t) for each parameter of these parameters which measure the impact of the independent variable on the dependent variable that is the amount of the change in the independent variable resulted from one unit change in the dependent variable. Durbin-Watson is used to test for autocorrelation, which is a statistic that indicates the likelihood that the deviation (error) values for the regression have a first-order autoregression component; the regression models assume that the error deviations are uncorrelated.

Table 2. The result of the three models of the study.

		model one	model two	model three
Constant	Vale	5169.148	17.441	15.094
	T	10.271	18025	29.9
	Sig	0.000	0.000	0.000
B	Vale	1.644	0.0001	0.001
	T	4.528	-3.417	-2.24
	Sig	0.000	0.002	0.034
R		0.461	0.327	0.173
F		20.5	11.675	5.031

	model one	model two	model three
Sig	0.000	0.002	0.034

7.2. The Impact of the FDI on Economic Growth

According to the result of regression analysis for the first model, that represent the impact of the FDI on the GDP in Jordan. The regression model explain 46.3% of the variance in the dependent variable (GDP), it means that, economic growth is mainly contributed by other factors significantly. Furthermore, the value of ($F = 20.5$; $P < 0.05$) means that the overall linear model is significant and suitable to measure the impacts of the FDI on the GDP in Jordan during the study period. the value of Durbin-Watson test is (1.73) and it is close to 2.0 is consistent with no autocorrelation in the model, while a number closer to 0 means there is, probably, serial correlation, So that there is no autocorrelation between the variables which have been used in this model.

The values the FDI coefficient ($\beta = 1.644$) and the values of ($t = 4.528$) measure the impact of the independent variable (FDI) on the dependent variable (GDP), any amount of change in one unit of the independent variable (million JD increase of FDI for example) caused in the dependent variable to increase by (1.644) million JD in GDP.

Based on the above result of first model the null hypothesis is rejected and the alternate hypothesis is accepted that is there is positive impact of FDI on economic growth in Jordan.

7.3. The Impact of the Economic Growth on Unemployment

According to the result of regression analysis for the

second model which represent the impact of the GDP on the unemployment rate in Jordan shown in annex (1), The regression model explain 32.7% of the variance in the dependent variable (unemployment), it means that, there are other factors rather than economic growth influence the unemployment in Jordan, some of those factors are explained in this research when we discuss the unemployment in this research. Moreover, the value of ($F=11.675$; $P < 0.05$) means that the overall linear model is significant and suitable to measure the impacts of the economic growth on the unemployment rate in Jordan during the study period. The value of Durbin-Watson test is (1.83) and it is close to 2.0 is consistent with no autocorrelation in the model, while a number closer to 0 means there is, probably, serial correlation, So that there is no autocorrelation between the variables which have been used in this model.

The values the economic growth coefficient ($\beta=0.0001$) and the values of ($t=-3.417$) measure the impact of the independent variable (economic growth) on the dependent variable unemployment rate, any amount of change in one unit of the independent variable GDP caused in the dependent variable unemployment rate to decrease by (0.0001) in Jordan. That is the economic growth has negative impact on the unemployment rate and this impact of GDP is very small due to the impact of other factors mentioned in this study that affect the unemployment in Jordan.

Depending on the above results, the null hypothesis is rejected and the alternate hypothesis is accepted that there is negative impact of economic growth on the unemployment in Jordan.

7.4. The Impact of the FDI on the Unemployment Rate

According to the result of regression analysis for the third model, that represents the impact of the FDI on the unemployment in Jordan. The regression model explain 17.3% of the variance in the dependent variable unemployment in Jordan, it means that, FDI is contribute to decrease the unemployment rate but there are many other factors that highly impact the unemployment rate in Jordan significantly. In addition, the value of ($F= 5.031$; $P < 0.05$) means that the overall linear model is significant and suitable to measure the impacts of the FDI on the unemployment in Jordan during the study period. the value of Durbin-Watson test is (1.79) and it is close to 2.0 is consistent with no autocorrelation in the model, while a number closer to 0 means there is, probably, autocorrelation, So that there is no autocorrelation between the variables which have been used in this model.

The values the FDI coefficient ($\beta=0.001$) and the values of ($t=-2.24$) measure the impact of the independent variable (FDI) on the dependent variable (unemployment rate), any amount of change in one unit of the independent variable

(million JD increase of FDI for example) caused in the dependent variable (unemployment rate) to decrease by (0.001) in Jordan.

Based on the above result of third model the null hypothesis is rejected and the alternate hypothesis is accepted that there are negative impact of FDI on unemployment rate in Jordan, that is attract and increase the FDI coming to Jordan will decrease the unemployment rate in Jordan but it is not the main factors to decrease the unemployment rate in Jordan.

This can be done through attract local, regional and international investment, and poverty alleviation according to the word best practices in consistence with decent work and human dignity conditions. In this regard it is important to give Jordanian labour force and in different sectors. Both FDI and domestic investment are important and complement each other. But FDI, especially regional FDI, makes Jordan vulnerable to oil price volatility. Stimulating domestic investment would enhance the resilience of the economy. This requires leveling the playing field between Jordanian SME investments and FDIs such that the incentives are not linked to the nationality of the investor but to the investments' contribution to growth and employment (ministry of planning, 2014).

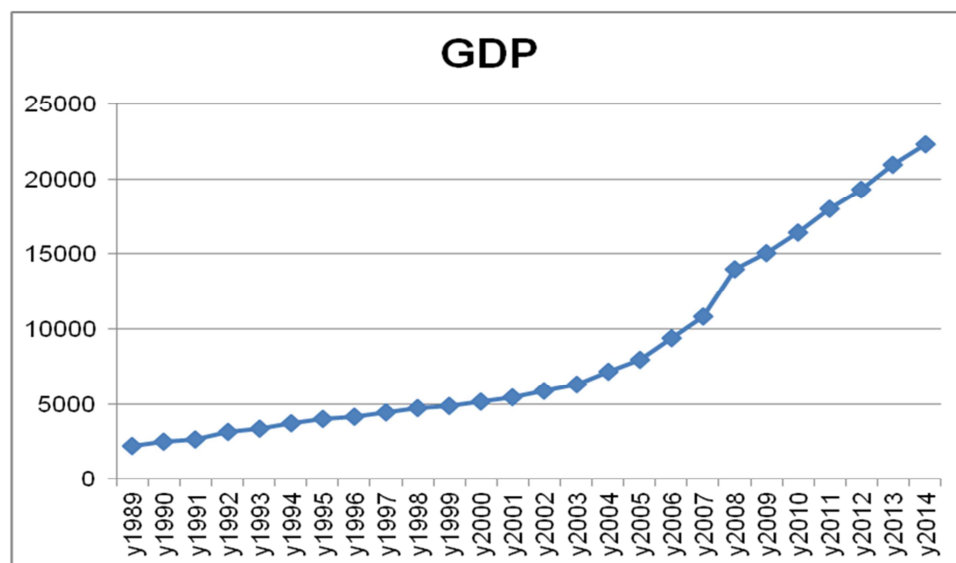
8. Conclusion and Recommendation

This paper aims to examine the impact of FDI on the unemployment rate and economic growth in Jordan by using empirical analysis. The ordinary least squares (OLS) method was applied, and examined the impact of FDI on the unemployment rate and real GDP. Depending the overall findings of the study, it can be concluded that, there is significant impact of FDI on the economic growth in Jordan, but the FDI is not the main factor that influence the economic growth in Jordan and there are other factors that have impacts on the economic growth in Jordan. In addition the economic growth and creating economic growth and development in Jordan will decrease the rate of the unemployment in Jordan. However, the FDI negatively impact the unemployment rate in Jordan but it is not the main factor to solve the problem of unemployment in Jordan.

The findings in our study are highly important in policy implementation. The government should be concerned about FDI, which could benefit the Jordanian economy. FDI can create more jobs and can intensify economic growth. Productivity of high qualified Jordanian human capital can also be enhanced and modernization can be pursued through FDI. However, fluctuations in exchange rate, inflation, and political instability can also hinder FDI. The government should play an important role in controlling these problems to maintain and strengthen FDI in the country. Allowing massive FDI can also cause a number of problems.

Annex (1)*Table A1. The data of the study.*

year	GDP	Unemployment rate	FDI	FDI % of GDP	GrGDP	GDP \$
1989	3428.7	10.28	-1.4	0.0	-10.73	5993.2
1990	3419.3	16.80	37.7	0.9	-0.27	5168.2
1991	3474.3	18.80	-11.9	-0.3	1.61	5113.0
1992	3967.3	17.60	40.7	0.8	14.35	5844.6
1993	4151.1	19.60	-33.6	-0.6	4.48	5999.6
1994	4358.1	15.80	2.9	0.0	4.99	6245.5
1995	4627.7	15.40	13.3	0.2	6.19	6612.5
1996	4724.3	13.10	15.5	0.2	2.08	6672.7
1997	4880.5	14.40	360.9	5.0	3.31	6893.4
1998	5027.5	13.50	310.0	3.9	3.01	7101.0
1999	5198	14.38	156.4	1.9	3.39	7341.8
2000	5418.7	13.71	913.3	10.8	4.25	7653.5
2001	5704.2	14.69	273.6	3.0	5.27	8056.8
2002	6034.2	15.33	238.2	2.5	5.78	8522.9
2003	6285.2	14.44	547.0	5.4	4.16	8877.4
2004	6823.7	14.70	936.8	8.2	8.57	9635.1
2005	7379.6	14.84	1984.5	15.8	8.15	10423.2
2006	7976.9	14.06	3544.0	23.5	8.09	11266.8
2007	8629	13.10	2622.1	15.3	8.18	12187.9
2008	9253.1	12.65	2826.3	12.9	7.22	13065.4
2009	9759.9	12.94	2413.1	10.1	5.49	13781.0
2010	9985.5	12.50	1651.0	6.2	2.31	14099.5
2011	10243.8	12.16	1474.0	5.1	2.59	14464.2
2012	10515.3	12.89	1497.0	4.5	2.65	14847.6
2013	10812.8	12.60	1798.0	0.0	2.83	15267.7
2014	11137.18	12.87	0.0	0.0	3.20	15725.7
max	11137.2	19.6	3544.0	23.5	14.4	15725.7
Min.	3419.3	10.3	-33.6	-0.6	-10.7	5113.0
average	6662.1	14.4	908.1	5.2	4.3	9494.6

Annex (2) Figures of the Study*Figure A1. The development of Jordanian GDP 1989-2014.*

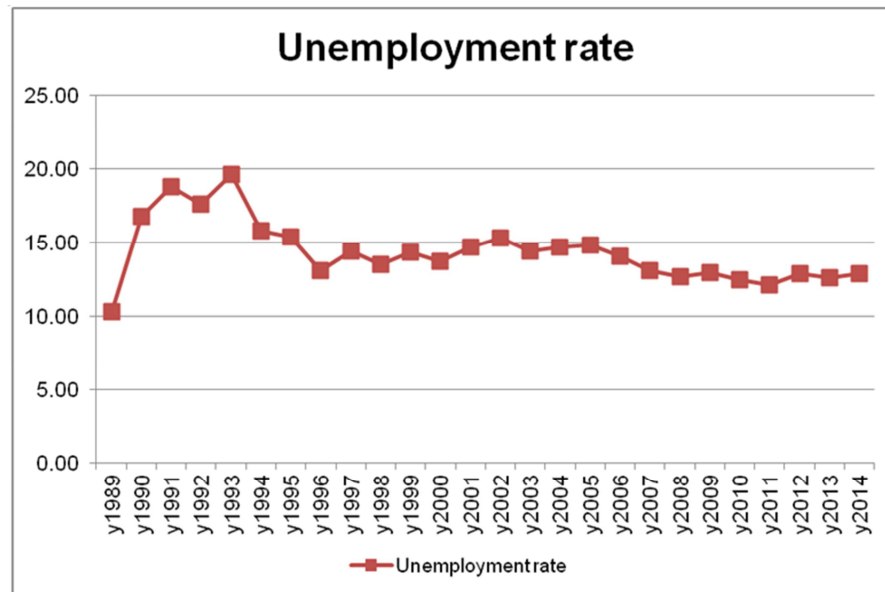


Figure A2. The development of unemployment rate in Jordan 1989-2014.

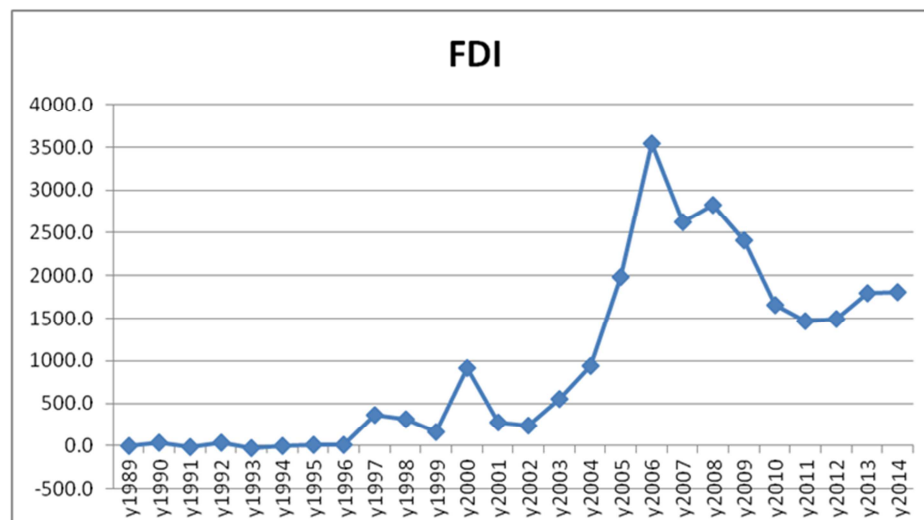


Figure A3. The development of Jordanian FDI 1989-2014.

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