ERF WORKING PAPER SERIES

THE DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN THE KINGDOM OF SAUDI ARABIA

A-M. M. Abdel-Rahman

Working Paper 0238

As of August 1998, financial support towards the ERF Working Papers Series from the Commission of the European Communities (through the FEMISE Program) is gratefully acknowledged. The views expressed in the Working Papers are those of the authors and do not necessarily reflect the views of the European Commission.

ECONOMIC RESEARCH FORUM
منتدى البحوث الاقتصادية

7 Boulos Hanna St. Dokki, Cairo, Egypt
Tel: (202) 3370810 – (202) 7485553 – (202) 7602882
Fax: (202) 7616042. Email: erf@idsc.net.eg. Website: http://www.erf.org.eg

Abstract

This paper investigates the nature of FDI flows into the economy of the Kingdom of Saudi Arabia (KSA), its impacts and the various determinants, which govern its levels and performances. The paper discusses FDI in the KSA with respect to overall trends including stages, sources and their regional, sectoral and sub-sectoral distributions. Positive trends are observable in both contracted and actual FDI stocks with common jumps occurring in the early eighties because of the infusion of massive FDI into the petrochemicals sub-sector of the Kingdom. FDI in the KSA is seen to be predominantly of the Joint venture form while Greenfield investments are expected to accelerate after the imposition of a New Investment Law permitting these types of investments. Sectorally, the Manufacturing sector attracts the largest share of FDI flowing into the Kingdom. This is attributable to the fact that most of FDI tended to flow to the heavy Petrochemical industry comprising the majority's share of total foreign investments in the Kingdom's Manufacturing sector.

The paper then discusses the determinants of both contracted and actual FDI. The roles of market size, economic integration via international trade, wage rates, and country risk in attracting FDI to the KSA were investigated. Empirical methods used to gauge the issues include causality tests on FDI and other variables of the KSA economy plus conventional regression models on the determinants of FDI themselves. Results obtained on the empirical trials show that activity GDP levels affect FDI in its contracted and actual forms positively, significantly and in a robust fashion. Exports proved a significant negative determinant of the KSA's FDI. This was attributed to the fact FDI and exports - which are largely Oil in nature – may be viewed as substitutes from the host country perspective. Domestic investments proved to be negative determinants on the contracted FDI with the indication of a possible "crowding-out" effect in that regard. The socio-political risk variable were mostly significant, thus validating the conjecture that with lower risk, FDI tended to increase for the Kingdom

1. Introduction

The Kingdom of Saudi Arabia (KSA) possesses one of the largest economies in the Middle East and North Africa (MENA) region. Its Gross Domestic Product (GDP) reached 698.4 billion Saudi Riyals (SR) in the year 2001 and real GDP in 1999 prices was 640.4 billion up from 633 billion in 2000. The real GDP growth rate was 4.9 percent in the year 2000, and is estimated to be 1.20 percent in 2001. The major contributing sector is mining and quarrying with SR185.6 billion in 2001 where the highest contribution in that sector comes from crude petroleum and natural gas. The inflation rate calculated from the consumer price index was (–) 0.8 percent in the year 2000, and (-) 0.5 percent in 2001. The Current Account (CA) balance of the KSA was US$ (-) 6.8 billion for 1999 and was at a surplus in 2000 with US$ 7.0 billion. Merchandise exports were valued at US$ 69.5 billion in the year 2000 and were composed mainly of crude oil and petroleum products, whereas merchandise imports were US$ 33.4 billion and were composed mainly of industrial goods, metals, and food. The merchandise trade balance for the same year was valued at US$ 36.1 billion. Budget deficits, were continuous from the early eighties due to falling oil revenues and were at 11 percent of GDP in 1999. Accumulated government debt for the year 1999 was high and estimated at $139 billion, which constitutes about 115 percent of its GDP in 1999.

The KSA's economy is heavily dependent on oil with oil revenues making up around 90-95 percent of total KSA export earnings and around 35-40 percent of the country's GDP. Due to the sharp rise in oil revenues in 1974, the KSA's economy grew at a fast pace during the seventies and eighties. But higher oil prices led to development of more oil fields around the World, the development of other energy substitutes, and reduced global oil consumption. The result was a worldwide oil glut that started to form in the mid 1980s. The KSA oil production, which had increased to almost 10 million barrels per day during 1980-81, fell to a mere 2 million in 1985. Revenues dropped sharply and massive budgetary deficits ensued. Beginning in late 1997, the KSA again faced the challenge of low oil prices. Due to a combination of factors including the East Asian economic crises, and an increase in non-OPEC oil production, demand for oil slackened and pulled oil prices down by over one-third. The KSA was involved in a series of oil production curtailment agreements over 1998. This led to a sharp rebound in world oil prices by early 1999. The rebound improved the country's economic outlook, although the country continues to face both short and long-term pressures to liberalize and reform its economy. To achieve the desired liberalization and reform, the deployed mechanisms focused on privatization and investment promotion. Private investment was encouraged and the Kingdom turned to Foreign Direct Investment (FDI) as an appropriate vehicle that could revitalize its economy and diversify its productive base through its anticipated contributions to the manufacturing and other sectors and hence to production, income and employment[1].

This paper investigates the role played by FDI in the economy of the KSA. Section 2 of the paper discusses FDI in the KSA in terms of overall trends including stages, sources and their regional and sectoral distributions. Section 3 deals with the determinants of both contracted and actual FDI where the roles of market size, economic integration via international trade, wage rates, returns and country risk in attracting FDI are investigated. A final section of the paper then concludes and presents some policy recommendations.

2. Foreign Direct Investment in the KSA

This section focuses on the role basically played by FDI in the KSA economy. The section considers first the features that made the KSA economy particularly conducive to FDI inflows. Trends in FDI flows are then described and analyzed, and their impacts on the domestic economy of the KSA are treated in a final subsection of this part.

2.1. FDI and the KSA Economy

FDI is an important source of capital for growth in developing countries. It provides a package of new technologies, management techniques, finance and market access for the production of goods and services; and thus contributes significantly to raising total factor productivity in host countries in attaining their overall economic growth. FDI has positive impacts on domestic investments especially if theses flows are affected in industries with domestic forward and backward linkages. It also leads to improvements in quality of domestic production, increased competitiveness domestically and internationally, to increases in exports and improvements in the Balance of Payments (BP) of the host country.

Historically, FDI in the KSA contributed to oil explorations and refining and to the establishment of the oil and petrochemical conglomerates ARAMCO and the more recent Saudi Arabian Basic Industries Company (SABIC). It also contributed to the development of Infrastructure and the Banking industry.

The KSA possesses many economic and socio-political features that are conducive to FDI inflows. Among those are the following:

The country is particularly endowed with rich natural resources and cheap energy sources, which normally constitute important sources of competitive advantage in any economy. The KSA has 25 percent of the world hydrocarbon reserves and produces about 12 percent of total world Oil output. It also has the fourth largest natural gas reserves in the world. The abundance of these resources makes the

[1] On the role of FDI in diversifying the KSA economy, see Abdel-Rahman (2001).

country in possession of one of the cheapest energy sources in the world. The abundance of other mineral resources also allows the country comparative advantage in a number of mineral-based industries and adds to the overall attractiveness of the KSA economy in competing for FDI flows.

The conduct of economic activity in the Kingdom conforms to the requirement of a liberal economic environment and a free market premise. The consecutive development plans, have invariably emphasized commitment to a liberal economic system as the most appropriate institutional framework within which development objectives are to be achieved. The private sector is encouraged to assume an expanding role in the economy and large-scale corporations are on the verge of privatization. SABIC, Saudi Telecommunications Company (STC), Saudi Electricity Company (SEC), Saline Water Conservation Corporation (SWCC), and the Saudi Arabian Airlines (SAUDIA), are under the process of privatization, which will push the share of the private sector in the GDP to well over 60 percent.

FDI flows are also known to be quite sensitive to the overall socio-political environment in the host country. In this regard the KSA has enjoyed political and social stability since its unification some 70 years ago. The political system, the socio-political structure and the social fabric of the society have evolved from within, and the country has successfully withered the military and political threats from abroad.

In terms of macroeconomic stability, the Saudi economy displays a number of attractive derivers as well. Domestic monetary policy in the KSA is generally conservative and is targeted to ensure stable prices and peg the exchange rate. Inflation rates are low averaging only 0.6 percent during the period 1980-2000. The domestic currency is pegged at an exchange rate parity of 3.745 riyals for a dollar. Budget deficits as a ratio to GDP were brought down from as high as 25.3 percent in 1987 to as low as 2.9 percent in 1997 and a surplus of 6.4 percent of GDP was registered in 2000. The external balance has also shown signs of improvement during the same period. The trade balance of the country was always in the surplus and the CA registered slight surpluses in 1996 and 1997 and a more pronounced surplus in the year 2000, after an extended period of deficits starting in 1983.

Investment is encouraged and various incentives are provided to domestic and foreign investors. Taxes on profits were comparatively low and have been reduced further to 30 percent under a new investment law. Commodities imported for industrial production are exempted form duties. Loss making companies are tax-exempt until they improve their financial performance and bilateral agreements, to provide relief from double-taxation, are being signed with increasing number of countries.

The KSA has an adequate and modern infrastructure base. The Kingdom's telephone and communication, transportation, ports, airports, electricity, and water networks are among the best in the region. It has 25 major airports, 8 ports, over 45000 km of paved roads, more than 25000 mega watts of installed capacity of electric power generation and over 572 million gallons per day of desalinated water. The country has 8 industrial cities and there are plans for more. The industrial structure in the two cities of Jubail and Yanbu caters to the needs of production and service industries. A huge petrochemical base is established where global corporations have already invested SR167 billion. On the financial front, 10 commercial banks with 1196 branches provide modern banking services all over the country.

The KSA also enjoys a clear competitive advantage over other countries in the region in terms of the size of both the economy and the market. With total population estimated at 21.4 million in 1999, a population growth rate of the native-born Saudis amounting to 4 percent a year and per capita income of $6440, the Saudi economy possesses both a large and expanding market and strong purchasing power capabilities. The KSA, therefore, has the appropriate size and market features that are often cited among the most important factors behind the foreign investors' decision on location. Moreover, the Saudi market is destined to widen even further in the near future upon completion of the customs union agreement involving the imposition of a Common External Tariff (CET) rate between the GCC countries by 2004. Regional and international economic integration will also be further fostered by the conclusion of the Free Trade Agreement between the GCC and the European Union, and the anticipated KSA's accession to the WTO.

Legislatively, the KSA started its process of attracting FDI inflows by issuing the first Foreign Investment Law as early as 1956. This was followed by another Law in 1963 and a more comprehensive third Law issued in 1978, which included wide-ranging incentives for investment. To spur FDI further a new Foreign Investment Law was legislated and passed in the year 2000. The new law was enacted to provide the legal setting deemed a pre-requisite for attracting more FDI flows and a specialized investment institution – the Saudi Arabian General Investment Authority (SAGIA) - was set up to provide for the requirements that would permit an expanding flow of FDI into the Kingdom.

The new law stipulates that FDI may be either in facilities owned by a national and a foreign investor or facilities wholly owned by a foreign investor. A project licensed under this Act shall enjoy all the benefits, incentives and guarantees enjoyed by a national project according to regulations and directives. The foreign investor shall have the right to reallocate his share, as derived from the selling of equity, or from the liquidation surplus or profits generated by the facility, out of the Kingdom. The foreign facility shall be entitled to possess the required real

estates as might be reasonable for practicing the licensed activity as per the provisions for non-Saudi nationals real estate acquisition. Investments related to the foreign investor shall not be confiscated wholly or partially without a court order, and it may not be subject to expropriation wholly or partially except for public interest against an equitable compensation.

The law also states that foreign investment projects shall enjoy the benefits ensuing from agreements of avoiding double taxation and agreements of promotion and protection of investment that are signed by the KSA. Moreover, the foreign investment is entitled to transfer any required amounts to fulfill any contractual obligations in respect of the project and the shares may freely move among partners and others. The licensed entity is also entitled to sponsor the foreign investor and his non–Saudi staff and to obtain industrial loans in accordance with the provisions of the Industrial Development Fund (IDF). The losses incurred by the entity may be carried forward to the following years and will not be calculated at tax settlement of the years during which the entity reaps profits.

To qualify, the amount of capital invested should not be less than twenty five million SR for agricultural entities, not less than five million SR for industrial entities and not less than two million SR for other entities.

The fields of investment cover any investment activity whether permanent or temporary with the exception of the activities excluded under the Act. The list of economic sectors from which foreign investors will be excluded under the new law include oil exploration, drilling and production from the manufacturing sector. In services the list include insurance services; real estate investment in Makkah and Madina; recruitment and employment services including local recruitment offices; printing and publishing; distribution services, wholesale and retail trade, and commercial agencies; primary, secondary and adult education; telecommunications services; land and air transportation; transmission and distribution of electrical power, and pipeline services.

2.3. General trends in FDI in the KSA:

Table (1) provides data on contracted and actual – or realized – FDI inflows to the KSA. FDI data are obtained from the National Center of Economic and Financial Information (2002), UNCTAD and domestic KSA sources – in particular SAGIA. The data is provided for cumulative FDI for the period 1958-2000 and inflows are computed from the base. The relevant subsets of the database are used in the different parts of the paper.

Figure (1) illustrates the graphical performance of both contracted and realized FDI inflows through the sample period.

As can be seen from the data and figures, contracted FDI inflows (FDIINFC) had more pronounced fluctuations as compared to actual FDI (FDIINFA). A high peak of contracted FDI is detected in 1981 preceding the massive investments in the petrochemical industry and the establishment of the giant conglomerate SABIC that occurred in the early eighties. Another peak in both contracted and realized FDI inflows occurred in 1997. Actual inflows normally fell short of the contracted FDIs and were generally more stable since they were spread over a number of years. A slight upward trend in FDI inflows could also be observed to be occurring since 1984 possibly due to the liberalization and opening-up efforts of the country. Table (1b) provides the data on cumulative contracted and realized FDIs.

Figure (2) illustrates graphically the performance of both contracted (FDIC) and realized (FDIA) cumulative FDI through the sample period.

Positive trends are clearly seen in both series with the common jump that occurred in the early eighties because of the infusion of massive FDI into the petrochemicals sub-sector, and the gradual increase throughout the nineties with some acceleration towards the end of the period. The gap between the contracted and actual components seems to be widening, however, where the ratio of realized to contracted was 44 percent in 1975, 39 percent in 1980 and 34 percent by the year 2000. Since 1995 there has been another upsurge in FDI with an increasing trend both in absolute terms and as a ratio to GDP and gross domestic fixed capital formation (GDFCF). Indeed, as the Table (2) indicates, FDI inflows contributed a high 16.6 percent of GDFCF in the Kingdom by 1998.

Table (3) lists the ratio of KSA FDI inflows to the developing world, and the world FDIs respectively, where highest ratios are seen to have occurred during 1982 due to the above-mentioned factor.

During the period 1975 -1999, FDI flows into the GCC region averaged about 3.6 percent of total FDI in developing countries as a whole and about 1 percent of World FDI flows. In 1998, the KSA attracted $4.3 billion of FDI while the amount of FDI that went to Egypt, the second largest host in the region at the time, was about $1.5 billion only.

The fact that the Saudi economy continues to display features that are agreeable to FDI is also validated by its share in FDI relative to other countries in the region. Table (4) below shows FDI inflows to the GCC region disaggregated by country in million US$ for a selected number of years covering 1988-1999, where the KSA's share in FDI received by all GCC member countries was 74 percent in 1997, and 82 percent in 1998[2].

[2] World Investment Report 2001, UNCTAD

2.4. Types and Sources of FDI in the KSA Economy:

2.4.1. Types of FDI

FDI in the KSA mostly assumes one of three forms: Joint ventures, Greenfield investments, and investments related to the Offset Programs. Joint ventures were the predominant form prior to the New Investment Law and involved ventures jointly with KSA government institutions or KSA firms. Greenfield investments in new KSA production, and distribution facilities are relatively new, being spurred by the New Investment Law. Mergers and Acquisitions (M&A) by foreign companies are almost unknown. The New Investment Law is a case of an implicit preference of Greenfield investments to acquisitions since it is thought to lead to an increase in capacity and an intensification of competition.

Joint ventures – the predominant form – could, theoretically, be either Equity Joint Ventures (EJV) or Contractual Joint Ventures (CJV). EJVs are generally limited liability companies financed and run by participants who share both risk and profit. CJVs refer to the cooperation between two separate economic entities who reach agreement in a co-operative venture contract on such matters as the investment or conditions for cooperation, the distribution of earnings or profits, the sharing of risks and losses, the manner of operation and management and the ownership of the property upon termination of the venture. Of these two forms EJVs seem to be the predominant form in KSA's FDI, where the foreign side generally contributed equipment, industrial property rights including technology, and funds; while the Saudi counterpart contributed land, plant, equipment and the local component of currency and funds.

Offset programs, are a form of counter-trade used by developing countries in an effort to reduce the economic burden imposed by an underlying import contract. Offsets could be either direct or indirect where direct offsets involve activities related to the principal contract from a technical point 0f view with an overall effect of reducing the cost of purchase. In indirect Offsets the seller agrees to assist the importing country in its development or investments unrelated to the principal import contract. KSA was the first Gulf country to institute an Offset program, which was tied to its defense purchases. The Kingdom's first Offset program dates back to 1984 when the Peace Shield 1 Command and Control Program came to effect[3]. However, rather than merely reducing the cost of imports, Saudi Arabia evolved offset programs that focus more on developing and diversifying its national economy to ensure long term growth. Thus the programs adopted by the Kingdom were of the indirect Offset forms. By 1998 the Kingdom had 7 Offset programs, which were largely military related. Till 1996 defense contractors have incurred a total of US$ 4.4 billion of Offset obligations, but up to the end of 1996, these defense contractors had reportedly fulfilled only 10 percent of their obligations.

2.4.2. Country Sources of FDI

By the end of the sample period, the top 3 countries in terms of realized value of FDI to the KSA were the United States of America (USA), Japan and the United Kingdom. The USA was the leading source of FDI in the KSA both in terms of Contracted and Actual capital as seen in table (5).

As seen from the table, contracted and actual capital from the USA rose substantially during the period despite a widening gap between the two. However, the number of ventures witnessed less variation – a situation, which repeats itself for FDIs from other countries as well. Japan contracted capital witnessed a leap in 1995, which was translated into a leap of similar magnitude in the actual paid-up capital of the year 2000. The rest of FDI were mostly from countries of the European Union while inflows from other countries being GCC, Arab, Muslim or developing remained comparatively small in magnitude.

2.5. Distributions of FDI on the KSA Economy:

2.5.1. Sectoral distributions of FDI

As far as the sectoral distributions of FDI inflows in the KSA are concerned, the manufacturing sector alone has attracted the lion's share of foreign investments while the remaining part was distributed among construction and services, agriculture and mining[4] with a minimal share for the last two. The total number of FDI ventures was 1798 in the year 2000 with numbers in manufacturing being 981 and constituting 55 percent of the total. This is followed by construction numbering 394 – or 22 percent of the total – and services with 338 ventures and a percentage of 19 percent of the total. In terms of actual capital the figures translate to SR17209 million for manufacturing constituting a share of 76 percent of the SR27373 million total actual capital. This is followed by services with a SR4478 million actual capital amounting to a share of 20 percent of the total, and construction with SR861 million in actual capital or just 4 percent of the total. The large share attributable to manufacturing is due to the fact that most of foreign investment is concentrated in the heavy petrochemical industry with 129 firms in number comprising the majority's share of total foreign investments in the KSA manufacturing sector.

Shares of partner's Contracted and Actual capital in total finances stayed roughly the same and were highest for mining and construction respectively because of the relatively heavy foreign component in each.

[3] See the Economic Bureau (1998).

[4] Excluding oil activities.

2.5.2. Sub-sectoral distributions of FDI within the manufacturing sector

In terms of sub-sectors of manufacturing, the information of the Ministry of Industry and Electricity presented in Table (7) shows that the largest contribution of FDI total finance was in the chemicals and petroleum products sub-sector with a 74.8 percent share of FDI in total investments of that industry indicating a heavy concentration of FDI in that activity despite its low share in terms of number of factories to the total. This is followed by fabricated metal products and machinery with an FDI financing share of 28.6 percent; Nonmetallic products with a share of 25.3 percent; and paper, printing and publishing with a share in total financing of 24.5 percent as seen in the table:

There is also evidence of disproportionate small contributions of industries of high foreign investment concentrations to employment in the manufacturing sector overall. The chemicals and petroleum products industry absorbed almost 75 percent of the total foreign financing available to the manufacturing sector while contributing only 36 percent to total employment in that sector. On the other hand basic metal industries, which attracted a 3 percent share of manufacturing total FDI finances contributed a higher disproportionate 8 percent share to sectoral employment. Table (8) illustrates the distribution of domestic and foreign investment between the different manufacturing industries, which could reflect the ability of those industries to attract FDI:

Again the ratios are seen to tilt heavily towards the chemicals and petroleum products sub-sector since it absorbed 85.5 percent of total foreign finances. This is followed at a distance by fabricated metals and nonmetallic products with shares of 5 percent each. On the other hand 37.2 percent of total domestic finance was allocated to chemicals and petroleum products whereas the shares for the fabricated metals and nonmetallic products two sub-sectors were respectively 16.2 percent and 18.7 percent.

Inferences drawn from the above relate mainly to the disproportionate distributions of FDI between these industries and sub-sectors since despite the fact that the ratio of establishments with direct and indirect foreign investment is 14.3 percent only of the total number, their share in financing is more than half of total financing allocated to the manufacturing industries in the KSA. FDI is also seen to be heavily concentrated in the chemicals and petroleum products industries with a share of more than 85 percent of FDI inflows to the Kingdom. Fabricated metal provides the industry with the highest provisions for investment opportunities in view of the fact that 26 percent of the national establishments and 38 percent of the foreign establishments are in this sub-sector. Lastly, it could be clearly discerned that most of FDI flows were in capital-intensive industries and their contribution to employment within sectoral opportunities was generally minimal.

2.5.3. Regional distributions of FDI

Most FDI flowing to the KSA tended to concentrate in the three main economic regions of the Kingdom, which are the Eastern, Riyadh and Western regions respectively. The Eastern region possesses higher levels of activity because of the concentration of oil activities there and hence was more able to attract more funds, technology and high quality human resources than the rest of the country. The Eastern region has many advantages such as a better resource and industrial base, access to natural resources and raw materials, plus a convenient transport infrastructure in terms of roads, ports and airports which resulted in giant industries like ARAMCO and SABIC locating there. The industrial city of Jubail – a magnet for foreign investment – is also located there. The central region of Riyadh and the Western region containing the cluster of Jeddah, Makkah, Medinah and Taif cities provide market size factors that serve to attract FDI inflows to them.

3. Empirical Models of FDI in The KSA

This part of the study presents empirical models used to study causality flows from FDI to other important variables of the KSA economy and to gauge the determinants of FDI themselves.

3.1. Causality flows

In this section, we examine causality flows between FDI, output, exports, costs, and domestic investments in the KSA economy within the relevant sample periods. Causality flows are determined by application of Pair-wise Granger techniques to the respective variables. Data on the additional variables are obtained from Ministry of Planning (2001) sources and website.

3.1.1. Actual FDI and Output:

The relationship between actual FDI and output growth has been studied intensively in the literature. In the neo-classical growth models output growth is determined by the exogenous labor force growth and technological progress factors, whereas FDI would have short-run effects only. The endogenous growth theory strand, on the other hand, studies the channels through which FDI can result in long-run economic growth[5]. One channel emphasized by Dunning (1993), Blomstrom et. al. (1996) and Borensztein *et al.* (1998) *inter alia*, works through a 'catch-up' process in the level of technology, where FDI would result in capital accumulation in the host country, hence encouraging the incorporation of new inputs and foreign technologies in the production function of the economy. A second channel works through knowledge transfers where FDI augments the level of knowledge in the host country through labor training and skill acquisition and through the introduction of modern management practices

[5] See for example Grossman and Helpman (1991) and Barro and Sala-i-Martin (1995).

and organizational arrangements. This latter channel has been emphasized by de Mello (1997, 1999).

As far as causation between FDI and the relevant output variable is concerned, the directions may not be that clear-cut. The arguments above support an export-led economic growth hypothesis where FDI will result in export expansion and, hence, overall growth. But on the other hand it could be argued that activity in the economy as measured by output growth clearly affects FDI inflows through market size effects to that economy which would establish causation in the opposite direction. Empirical studies designed to detect the flow of causation between FDI and output growth are abound. Examples of these are de Mello (1997) and Ericsson and Irondoust (2001). Table (8.a) presents the results with respect to the KSA where causality flows are detected with respect to actual FDIs only, and output is measured by the KSA's real GDP variable.

The second column in the table contains the F-statistic of the Granger test and the last column the associated p-value. As can be seen from the table, the hypotheses that FDI inflows do not Granger-cause output (GDP) in the Saudi economy is accepted while that GDP does not Granger-cause FDI inflows is rejected at 5 percent level. Hence, it could be argued that while the KSA was successful in attracting FDI because of its overall economic performance, the FDI inflows may not as yet have impacted the KSA's economy in an appreciable way.

3.1.2. Actual FDI and Exports:

Inward FDI may increase host country productivity and exports and productivity growth in turn may affect exports positively. But exports could also be viewed as substitutes to FDI from a host country perspective, leading to a negative relationship between the two. Pfaffermay (1994) studied the relationship between FDI and export growth using Granger Causality techniques in the Austrian economy. Other studies included Aitken *et. al.* (1997) and Ericsson and Irandoust (2001) where results generally remained conflicting on the lines of causation. Table (8.b) below presents the results with respect to the KSA economy.

In this instance the hypotheses that FDI stocks do not Granger-cause exports (EXP) in the Saudi economy is accepted while that of the level of exports does not Granger-cause FDI stocks is rejected at 5 percent level. Additional validation of this causation will be obtained in the regressions of FDI determinants where the nature of relationship will also be established.

3.1.3. Actual FDI and Wages:

Apriori, the relationship between FDI and wages could flow either way since FDI could be discouraged by high wages in the host country. On the other hand, massive FDI inflows to the host country might result in higher wages through bidding for the available labor factor. Table (8.c) presents the results on the two variables where wages are measured by an index of real wages in this case.

The hypotheses that FDI inflows do not Granger-cause wages in the Saudi economy is accepted while that of wages not Granger-causing FDI inflows is rejected at 6 percent level. It could thus be stated that wages in the KSA tend to discourage FDI.

3.1.4. Actual FDI and Domestic Investment:

Early studies on the links between foreign direct investment FDI and domestic investment (DI) included van Loo (1977) on the Canadian economy. More recent studies include Aitken and Harrrison (1999) and Kokko (1996) *inter alia* where the issue has been treated mainly within the crowding-out/crowding-in context. Table (8.d) presents the causality results with respect to the KSA, where the hypotheses of no relationship between the two is accepted.

3.2. Determinants of KSA's FDI:

We proceed next to present the model explaining KSA FDI in terms of their various determinants[6]. Little systematic econometric work in this regard has been done for the KSA. In other studies conventional determinants of FDI inflows normally include variables related to the level and direction of activity in the host economy, the degree of macroeconomic stability and openness of the economy, plus the situation on its internal and external balances. Host country socio-political characteristics such as government stability, the legal system, and the extent of corruption, have also been suggested as explanations for differences in the extent of FDI inflows. An economy would entice more FDI inflows once it has implemented monetary and fiscal disciplines to control inflation and remove imbalances, liberalization reforms, and has promoted trade and provided the necessary institutional frameworks. In particular, the market size hypothesis stipulates that FDI is a function of the market size of the host. Davidson (1980), Moore (1998) and Braunerhjelm and Svensson (1996) suggest that the size of the country's market captures demand and scale effects. Bajo-Rubio and Sosvilla-Rivero (1994) and Loree and Guisinger (1995) argue that different types of FDI will be influenced to different degrees by the host market. Market-oriented FDI may be more concerned with the market size than export-oriented FDI. Two types of variables are often used as measures of market size either separately or jointly in empirical models, the GDP variable and its rate of growth where they are stipulated to have a positive relationship to FDI. The growth rate has an effect since if the host country market expands more rapidly than home country markets, the host country market becomes more attractive and home country's firms become more willing to enter the host country. Empirical support for this

[6] For models on determinants of FDI see for example Wang and Swain (1995), Chein-Hsun (1996).

hypothesis could be cited in Ajami and BarNiv (1984) and Grosse and Trevino (1996) *inter alia*. As far as the cost of borrowing variable is concerned a short-run interest rate is normally used to measure the effect. Aliber (1970) notes that if the cost of borrowing in the host country is higher, then foreign firms can have a cost advantage over their host country rivals and hence are in a better position to enter the host country market via FDI. However, the argument in this relies on an implicit assumption that foreign investors will raise all the funds they need in their overseas operations from abroad. This may be true for wholly owned subsidiaries but may be less so in explaining joint ventures where indigenous partners also contribute as in the KSA. In this latter instance an inverse relationship is expected. Wages are also an important part of total costs, the argument being that the lower the labor cost in the host country, the more attractive the host country to FDI. A negative relationship is expected in this count, where a lower wage rate will lead to higher inward FDI. Bilateral trade also plays an important role. For an individual firm, exports and FDI are the two alternative entry modes into a host country. At an aggregate level, the impact of bilateral trade on FDI is not clear-cut. FDI may be negatively related to host country exports in the short run as foreign entrants compete for exportable goods and services. Over the long run, however, a positive relationship between the two should materialize. Studies by Horst (1972) and Jeon (1992) indicate a negative relationship between imports and FDI in the host country because growing imports imply lower tariff/non-tariff trade barriers and therefore lead to a temporary fall in FDI. As far as country risk is concerned, internal political, economic, and social instability in the host country and the unfriendly attitude of the host country's government increases the uncertainty for potential investors, and will thereby have a negative impact on FDI inflows. Thus the higher the degree of country risk, the lower the flow of inward FDI.

An estimable FDI function could thus assume the following form:

$$FDI = f(\mathbf{X},\mathbf{Z})$$
$$= f(GDP, GRGDP, EXPO, IMPO, WAGE, RATE, DINV; \mathbf{Z})$$

where $\boldsymbol{X}$ is a vector of economic determinants which would include the level of GDP and its growth rate (GRGDP); exports (EXPO) and imports (IMPO) or other measures of the degree of openness of the economy; and domestic investment (DINV) reflecting the investment climate in the country. Other components of economic determinants include the wage rate (WAGE), and the return or cost of capital rate (RATE). $\boldsymbol{Z}$ is a vector of risk variables where risks are mainly sociological, and political. Risk is measured by assigning risk points to a pre-set group of factors, termed the socio-political risk components. The subcomponents in the case of the KSA include government stability (GOS), which is a measure both of the government's ability to carry out its declared programs, and its ability to stay in office; socio-economic conditions (SEC) which cover a broad spectrum of factors ranging from infant mortality to housing and generally measure the degree of public satisfaction with the government; the investment profile (IVP) which is a measure of the government's attitude to inward investment as determined by four sub-components: the risk to operations, taxation, repatriation, and labor costs, respectively; corruption (CORP), which is held to be a threat to foreign investment since it distorts the economic and financial environment, reduces the efficiency of government and business, and introduces an inherent instability into the political process; law and order(LOD) where the two are assessed separately, with the Law sub-component being an assessment of the strength and impartiality of the legal system, while the Order sub-component is an assessment of popular observance of the law; and bureaucracy quality (BUR) since the institutional strength and quality of the bureaucracy tends to minimize revisions of policy. The data on these variables were obtained from the International Country Risk Guide (ICRG) published by the PRS Group[7].

In our regressions we first used the individual risk components as regressors in combination with the various economic determinants but because of degrees of freedom problems, we resorted to use a composite risk rating regressor constructed from the individual components. The method of computing the composite socio-political risk ratings (*cpfr*) consists of simply summing the various political risk ratings where the highest overall rating indicates the lowest risk, and the lowest rating indicates the highest risk.

The above model was estimated by OLS where economic variables are taken in logarithmic forms and denoted by lower-case letters and the results are given in table (9) for contracted FDI (*fdic*):

$$fdic_t = ß_0 + ß_1 gdp_t + ß_2 grgdp_t + ß_3 expo_t + ß_4 impo_t + ß_5 wage_t + b_6 rate + b_7 dinv + ß_8 cpfr_t + e_t$$

where R^2 is the coefficient of determination, $\overline{R}^2$ is its adjusted version, $\hat{\sigma}$ is the standard error of the regression, d is the Durbin-Watson statistic and figures in parentheses are t-ratios while those in squared brackets are p-values.

The fit of the estimated equations was quite good. Results obtained were consistent and robust. Coefficients were mostly significant and possessed the expected signs and magnitudes. The activity level GDP variable had the expected positive and significant relationship to the level of contracted FDI variable. The response to GDP was clearly elastic with coefficients almost equal to 3. The GDP growth rate was an insignificant determinant. The trade variables exerted negative influences of contracted FDI, but imports were non-significant as

[7] For more on this, see the PRS (2000).

determinants. Exports had a consistent negative relationship throughout the trials. The elasticity coefficient on the exports was almost unitary. The result of a negative relationship between exports and FDI may seem contrary to the *a priori* expectations since it would imply a substitute relationship between the two from the host country perspective. But exports are mainly from oil in the case of the KSA and anecdotal evidence shows that when oil revenues were high in the Kingdom, there was less urge to attract FDI and vice versa. Wages had the expected negative effect on contracted FDI while the returns variable had the positive significant effect. Domestic investment – the measure for the overall investment climate in the Kingdom – proved to have a negative effect, suggesting that it might have captured 'crowding-out' effects[8] instead of the 'investment climate' factor it was intended to represent. The risk variable exerted its positive influence on FDI in an indication of the fact that the higher the score, the lower the risk and hence the higher the contracted FDI into the Kingdom.

Table (9b) lists results for contracted FDI in dynamic partial adjustment form.

$$fdic_t = ß_0 + ß_1 gdp_t + ß_2 grgdp_t + ß_3 expo_t + ß_4 impo_t + ß_5 wage_t + b_6 rate + b_7 dinv + ß_8 cpfr_t + ß_9 fdic_{t-i} + e_t$$

Results were largely similar in directions and magnitudes to those obtained under the previous static formulations. The GDP activity variable was significant, though with slightly lesser magnitudes as compared to the static forms throughout. The growth rate of GDP was again not a significant determinant of KSAs contracted FDI. Exports exerted their offsetting negative influence on intended FDI and imports were largely insignificant. Wages were negative and significant as expected. The short-run interest rate had the positive sign and was consistently significant. Domestic investments were negative in support of the indication that the "crowding-out" effect may have outweighed the "investment climate" one. Risks proved also to be significant determinants in dynamic form and the adjustment coefficients were also significant. Table (10a) lists results for actual FDI (*fdia*) in static form.

$$fdia_t = ß_0 + ß_1 gdp_t + ß_2 grgdp_t + ß_3 expo_t + ß_4 impo_t + ß_5 wage_t + b_6 rate + b_7 dinv + ß_8 cpfr_t + e_t$$

Results on actual, or realized, FDI were rather similar to those on the contracted FDI variable in terms of patterns of significance, directions and size of effects. The responses to the level GDP variable remained positive and significant and the response was indeed more elastic as compared to the case of the contracted measure suggesting that realizations of FDI may be accelerated during periods of high economic activity in the Kingdom. The trade variables exhibited the same type of behavior as in the contracted case with exports possessing a consistent negative and unitary-elastic relationship to actual FDI while imports were largely insignificant. Wages again had the expected negative effect on actual FDI though lower significance magnitudes. Returns retained their positive significant effect while domestic investment turned to be non-significant in this instance. Risk variables exerted their positive influence on actual FDI but with lower significance levels if compared to their contracted measure counterpart. Table (10b) lists results for actual FDI (*fdia*) in dynamic partial adjustment form.

$$fdia_t = ß_0 + ß_1 gdp_t + ß_2 grgdp_t + ß_3 expo_t + ß_4 impo_t + ß_5 wage_t + b_6 rate + b_7 dinv + ß_8 cpfr_t + ß_9 fdia_{t-i} + e_t$$

The fits of the individual equations remained good as judged by the relatively high R^2 and $\overline{R}^2$ measures.

Results were somewhat similar to those obtained for the contracted FDI case and the ones obtained under the previous static formulations, but with somewhat reduced magnitudes and significance levels. The GDP activity variable retained its significance while the growth rate of GDP stayed non-significant as a determinant of KSAs actual FDIs. Exports kept their offsetting negative influence on FDI and imports were again largely insignificant. A different result was obtained on wages where they turned out to be non-significant in the different trials attempted on this variable. The short-run interest rate kept its performance with the positive sign throughout and was consistently significant. Domestic investments were non-significant now and they are reported for only one trial in the table of results. Risks possessed their positive signs but lost their significance at the conventional levels. The dynamic adjustment terms were significant and at higher magnitudes as compared to the contracted FDI case.

In summary, it is seen that GDP levels *(gdp)* affected the FDI both in their contracted and actual forms positively, significantly and in a robust fashion through the alternative static and dynamic specifications attempted. The GDP growth rate *(grgdp)* exercised a positive – but largely insignificant – role on the FDI measure. Trade factors – exports and imports – were negative but had conflicting performances in terms of significance with the import variable being largely non-significant. Domestic investments proved to be negative determinants on the contracted FDI with the indication of a possible "crowding-out" effect in that regard. The socio-political risk variable *cpfr* proved a significant determinant for the attempted trials with the sole exception of the actual dynamic case. The lagged *fdi* variable was significant in the dynamic trials for both the contracted and actual FDIs.

[8] On the possible crowding-out effects between domestic investments and FDI, see Kokko (1996), Aitken and Harrison (1999), and UNCTAD (1999), *inter alia*. In the context of KSA, see Abdel-Rahman (2001).

Overall then, it could be argued that the determinants of FDI inflows to the KSA economy are economic and socio-political in nature and relate in particular to levels of activity in the economy plus variables relating to the cost-returns structures, foreign trade, and the macroeconomic climate in the country overall.

4. Conclusion

The Kingdom of Saudi Arabia (KSA) faces both short and long-term pressures to lessen its dependence on the major source of its income, which is oil, and to liberalize and reform its economy. To achieve the desired restructuring, liberalization and reform, the deployed mechanisms focused on privatization and investment promotion. Private investment was encouraged and the Kingdom turned to FDI as an appropriate vehicle that could revitalize the economy and diversify its productive base.

This paper investigated the nature of FDI flows to the economy of the KSA and the various determinants, which govern its performance. FDI in the KSA was discussed in terms of its overall trends including stages, sources and their regional and sectoral distributions. It was seen that the KSA possesses many economic and socio-political features that made its economy particularly conducive to FDI inflows. Among these endowments were the rich natural resources and cheap energy sources, the liberal economic environment and free market structure, and the remarkable stability in its overall socio-political environment.

Positive trends are observable in both contracted and actual FDI stocks with common jumps occurring in the early eighties because of the infusion of massive FDI into the petrochemicals sub-sector and a gradual increase throughout the nineties with some acceleration towards the end of the period.

FDI in the KSA was seen to be predominantly of the Joint venture forms while Greenfield investments are expected to accelerate after the imposition of a New Investment Law permitting these kinds of investments. The top 3 countries in terms of realized value of FDI to the KSA were the USA, Japan and the United Kingdom where the USA was by far the leading source of FDI both in terms of Contracted and Actual capital.

As for the sectoral distributions of FDI, it was seen that the manufacturing sector attracted the lion's share while the remaining part was distributed among construction and services. The large share attributable to manufacturing is due to the fact that most of foreign investment concentrated in the heavy petrochemical industry comprising the majority's share of total foreign investments in the KSA manufacturing sector. In terms of sub-sectors of manufacturing, the largest contribution of FDI total finance was in the chemicals and petroleum products sub-sector despite its noted low share in terms of number of factories to the total. There was also evidence of disproportionate small contributions of industries of high FDI concentrations to employment in the manufacturing sector overall.

The paper then focused on the determinants of both contracted and actual FDI. The roles of market size, economic integration via international trade, wage rates, and country risk in attracting FDI were investigated. Empirical methods used to gauge the issues were causality tests on FDI and other variables of the KSA economy plus conventional regression models on the determinants of FDI themselves.

Causality tests supported the rejection of various hypotheses including the rejection of the conjecture that GDP does not Granger-cause FDI inflows, and that the level of KSA exports does not Granger-cause FDI stocks.

As far as the regression determinants were concerned the results obtained showed that GDP levels affected the FDI both in their contracted and actual forms positively, significantly and in a robust fashion through the alternative specifications tried. The GDP growth rate exercised a positive – but largely insignificant – role on FDI. Exports and imports were negative but had conflicting performances in terms of significance with the export variable proving to be a significant negative determinant of KSA's FDI. This was attributable to the fact the host country may be viewing FDI and exports - mainly oil– as substitutes. Domestic investments proved to be negative determinants on the contracted FDI with the indication of a possible "crowding-out" effect in that regard. The socio-political risk variable proved mostly significant, thus validating the conjecture that with lower risk, FDI tended to increase for the Kingdom

Overall then, it could be argued that the determinants of FDI inflows to the KSA economy are economic and socio-political in nature and relate in particular to levels of activity in the economy plus variables relating to the cost-returns structures, degree of openness of the economy, and the macroeconomic environment in the country.

References

Abdel-Rahman, A-M. M. "Economic Diversification in the Kingdom of Saudi Arabia." Paper presented to the ESCWA meeting on "Diversification in the Arab World", Beirut, (2001).

Aitken, B. and A. E. Harrison, "Do Domestic Firms Benefit from Direct Foreign Investment" *American Economic Review*, (1999).

- , G. Hanson, and A. Harrison, ":Foreign Investment, Export Behavior and Spillovers" *Journal of International Economics*, 43(1997)103-32.

Ajami, R. A. and R. BarNiv, "Utilizing Economic Indicators in Explaining Foreign Investment in the U.S.", *Management International Review* 24,4(1984) 16-26.

Aliber, R. Z. "A Theory of Foreign Direct Investment", in C. Kindleberger (ed.) *The International Corporation*, MIT Press Cambridge, MA, 1970

Bajo-Rubio, O. and S. Sosvilla-Rivero, 'An Econometric Analysis of Foreign Direct Investment in Spain, 1964-1989' *Southern Economic Journal*, 61,1(1994) 104-20.

Barro, R. and X. Sala-i-Martin, "Economic Growth" McGraw-Hill, Cambridge. 1995.

Blomstrom, M, R. E. Lipsey and M. Zejan, "Is Foreign Investment the Key to Economic Growth?" *The Quarterly Journal of Economics* 111(1996) 269-76.

Borensztein, E., J. De Gregorio and J-W. Lee, "How does Foreign Direct Investment Affect Economic Growth?" *Journal of International Economics* 45(1998)115-35.

Braunerhjelm, P. and R. Svensson, "Host Country Characteristics and Agglomeration in Foreign Direct Investment", *Applied Economics*, 28(1996)833-40.

Chein-Hsun, Chen, "Regional Determinants of Foreign Direct Investment in Mainland China" *Journal of Economics* 23,2(1996).

Davidson, W. H. "The Location of Foreign Direct Investment Activity: Country Characteristics and Experience Effects", *Journal of International Business Studies*, 12(1980)9-22.

Dunning, J. H. *Multinational Enterprises and the Global Economy* Addison-Wesley, Reading. 1993.

Economic Bureau, 'The Saudi Economic Offset Program' *JIME Review*. Japan, 11,39(1998)49-102.

Ericsson, J. and M. Irandoust, "On the Causality Between Foreign Direct Investment and Output: A Comparative Study" *The International Trade Journal*, 15,1(2001)1-26.

ESCWA, "Statistical Abstract of the ESCWA Region", United Nations, 2000.

Faddli, A. M. *Model of Foreign Investment in Saudi Manufacturing Industry*. Unpublished M. Sc. Dissertation. King Saud University, Riyadh 2001.

Grosse, R. and L. J. Trevino, "Foreign Direct Investment in the United States: An Analysis by Country of Origin", *Journal of International Business Studies*, 27,1(1996)139-55.

Grossman, G. M. and E. Helpman, *Innovation and Growth in the Global Economy* MIT Press, Cambridge, MA. 1991.

Horst, T. 'The Industrial Composition of US Exports and Subsidiary Sales to the Canadian Market' *American Economic Review*, 62(1972)37-45.

Jeon, Y. D. "The Determinants of Korean Foreign Direct Investment in Manufacturing Industries", *Weltwirtschaftliches Archiv*, 128(1992)527-41.

Kokko, A. "Productivity Spillovers from Competition Between Local Firms and Foreign Affiliates" *Journal of International Development* 8(1996)517-30.

Loree, D. W. and S. E. Guisinger, "Policy and Non-Policy Determinants of US Equity Foreign Direct Investment", *Journal of International Business Studies*, 26,2(1995)281-300.

Markusen, J. R. and A. J. Venables, "Foreign Direct Investment as a Catalyst for Industrial Development" *European Economic Review* 43(1999)335-56.

de Mello, L. R. "Foreign Direct Investment in Developing Countries and Growth: A Selective Survey" *Journal of Development Studies* 34,1(1997)1-34.

"Foreign Direct Investment-led Growth: Evidence from Time Series and Panel Data" *Oxford Economic Papers* 51(1999)133-51.

Ministry of Industry and Electricity, *Statistical Bulletin*. Riyadh. 2000.

Ministry of Planning, "Achievements of the Development Plans", Kingdom of Saudi Arabia, (2001).

http://www.planning.gov.sa

Moore, M. O., "Determinants of German Manufacturing Direct Investment: 1980-1988," *Weltwirtschaftliches Archiv*, 129(1993)120-37.

Moosa, I. A. *Foreign Direct Investment: Theory, Evidence and Practice*, Palgrave, UK. 2002.

National Center for Economic and Financial Information, Annual Report. 2000.

Pfaffermay, M. 'Foreign Direct Investment and Exports: A Time Series Approach' *Applied Economics* 26(1994)337-51.

Political Risk Services (PRS), *Inter-Country Risk Guide*. 2000.

UNCTAD, *Foreign Direct Investment and the Challenge of Development*World Investment Report. United Nations. 1999.

van Loo, F. "The Effects of Foreign Direct Investment on Investment in Canada" *Review of Economics and Statistics* (1977)474-81.

Wang, Z. Q. and N. Swain, "The Determinants of Foreign Direct Investment in Transforming Economies: Empirical Evidence for Hungary and China" *Weltwirtschaftliches Archiv* 132,2(1995)359-82.

Wei, Y. and X. Liu *Foreign Direct Investment in China, Determinants and Im*pacts Edward Elgar, U.K. 2001.

Figure 1: FDI Inflows in the KSA

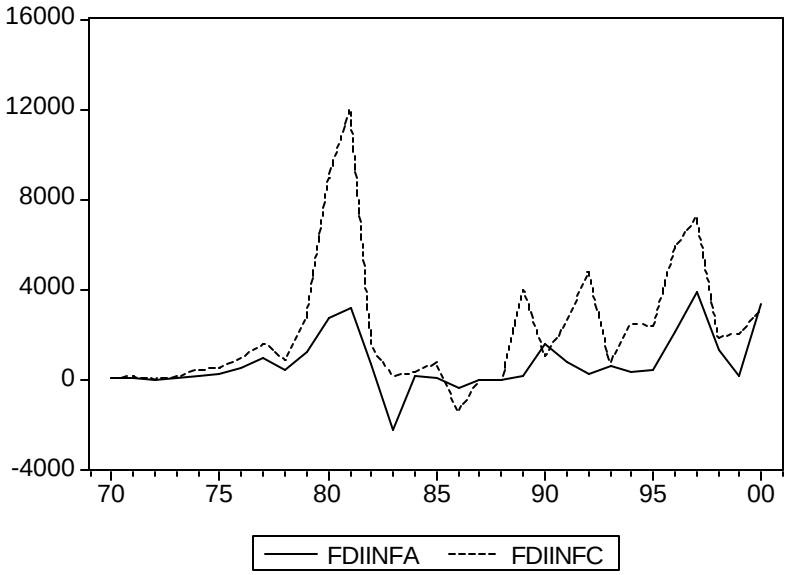

Figure 2: Cumulative FDI in the KSA

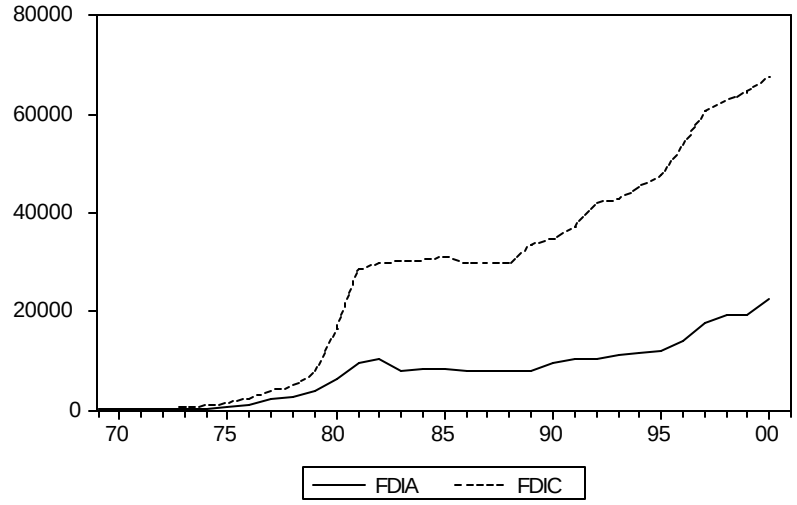

Table 1a: KSA FDI inflows (millions of SR)

Items	Contracted Capital Partner	Contracted Capital Saudi	Contracted Capital Total	No. of Ventures	Actual Capital partner	Saudi Actual Capital	Total Actual Capital
1959	0.55	0.54	1.09	6.00	0.55	0.54	1.09
1960	48.79	50.26	99.05	2.00	12.57	12.57	25.14
1965	8.09	0.00	8.09	3.00	8.09	0.00	8.09
1966	26.08	28.03	54.11	10.00	15.93	15.61	31.54
1967	3.11	0.14	3.25	2.00	0.79	0.14	0.93
1968	19.26	20.98	40.24	21.00	10.86	9.30	20.16
1969	3.01	2.88	5.89	5.00	3.01	2.88	5.89
1970	97.21	390.78	1737.99	19.00	41.96	71.29	425.75
1971	120.50	207.54	328.04	19.00	56.85	127.59	184.44
1972	13.63	8.16	21.79	12.00	11.04	6.97	18.01
1973	138.62	319.42	458.04	16.00	36.01	51.91	87.92
1974	438.51	573.43	1011.94	31.00	137.45	186.02	323.47
1975	506.60	815.27	1321.87	94.00	281.17	384.66	665.83
1976	955.02	1044.22	2000.24	146.00	534.36	709.54	1244.90
1977	1607.86	1797.65	3405.51	276.00	953.36	956.11	1909.47
1978	829.01	1089.49	1918.50	251.00	453.45	512.53	965.98
1979	2729.88	5824.31	8554.19	231.00	1194.92	2088.37	3283.29
1980	8933.61	9080.08	18013.69	241.00	2699.98	2631.42	5331.40
1981	12009.53	12524.68	24534.21	142.00	3177.34	3332.41	6509.75
1982	1455.73	2145.45	3601.18	144.00	690.23	834.10	1524.33
1983	178.05	2614.99	2793.04	77.00	-2211.34	-1646.70	-3858.04
1984	324.92	1116.77	1441.69	41.00	121.70	177.15	298.85
1985	741.41	2110.76	2852.17	-43.00	85.20	156.80	242.00
1986	-1464.27	-1269.83	-2722.20	-73.00	-414.10	766.49	355.36
1987	21.00	333.55	353.55	-202.00	-62.37	516.58	453.21
1988	-51.81	202.63	150.82	-81.00	5.08	265.39	270.47
1989	3996.05	3735.89	7730.04	-68.00	136.35	120.20	256.08
1990	1032.63	1150.59	2183.22	-70.00	1586.58	1581.51	3168.09
1991	2517.81	4394.93	6912.74	16.00	744.41	1031.60	1776.01
1992	4799.81	3893.48	7443.29	29.00	260.67	1054.15	1002.32
1993	772.29	2846.57	3618.86	46.00	605.76	1496.10	2101.86
1994	2485.33	4573.98	7059.31	17.00	318.02	1186.37	1504.39
1995	2381.20	2852.25	5223.45	38.00	449.21	871.47	1318.18
1996	5855.55	7917.02	13772.57	39.00	2076.09	3838.93	5915.02
1997	7227.84	9101.91	16329.75	50.00	3881.97	4664.65	8546.62
1998	1857.72	2207.23	4064.95	56.00	1283.15	1516.13	2799.28
1999	2041.26	1690.66	3731.92	109.00	200.58	-1406.27	-1205.69
2000	3118.93	3379.40	6579.33	135.00	3345.70	3982.19	7364.89

Notes: National Center for Financial and Economic Information (2002), Ministry of Finance and National Economy.
Source: Saudi Arabian General Investment Authority (SAGIA) (2002).

Table 1b: KSA Cumulative FDI (millions of SR)

Items	Contracted Capital Partner	Contracted Capital Saudi	Contracted Capital Total	No. Of Ventures	Actual Capital Partner	Saudi Actual Capital	Total Actual Capital
1958	0.95	0.45	1.40	3	0.95	0.45	1.40
1959	1.50	0.99	2.49	9	1.50	0.99	2.49
1960	50.29	51.25	101.54	11	14.07	13.56	27.63
1965	61.99	53.21	115.20	22	25.78	15.51	41.29
1966	88.07	81.24	169.31	32	41.70	31.13	72.83
1967	91.18	81.38	172.56	34	42.49	31.27	73.76
1968	110.44	102.36	212.80	55	53.35	40.57	93.92
1969	113.45	105.24	218.69	60	56.36	43.45	99.81
1970	210.66	496.02	1956.68	79	98.31	114.75	525.56
1971	331.16	703.56	2284.72	98	155.17	242.33	710.00
1972	344.79	711.72	2306.51	110	166.21	249.30	728.01
1973	483.40	1031.15	2764.55	126	202.22	301.21	815.93
1974	921.91	1604.58	3776.49	157	339.68	487.22	1139.40
1975	1428.51	2419.85	5098.36	251	620.85	871.88	1805.23
1976	2383.52	3464.08	7098.60	397	1155.21	1581.42	3050.13
1977	3991.38	5261.73	10504.11	673	2108.56	2537.54	4959.60
1978	4820.39	6351.22	12422.61	924	2562.01	3050.07	5925.58
1979	7550.28	12175.52	20976.80	1155	3756.93	5138.44	9208.87
1980	16483.88	21255.61	38990.49	1396	6456.91	7769.86	14540.27
1981	28493.41	33780.29	63524.70	1538	9634.25	11102.27	21050.02
1982	29949.14	35925.74	67125.88	1682	10324.48	11936.37	22574.35
1983	30127.19	38540.73	69918.92	1759	8113.14	10289.67	18716.31
1984	30452.11	39657.50	71360.61	1800	8234.83	10466.83	19015.16
1985	31193.52	41768.26	74212.78	1757	8320.03	10623.63	19257.16
1986	29729.24	40498.44	71490.58	1684	7905.93	11390.12	19612.52
1987	29750.24	40831.99	71844.13	1482	7843.57	11906.69	20065.73
1988	29698.43	41034.62	71994.95	1401	7848.65	12172.08	20336.20
1989	33694.48	44770.51	79724.99	1333	7985.00	12292.28	20592.28
1990	34727.11	45921.10	81908.21	1263	9571.58	13873.79	23760.37
1991	37244.92	50316.03	88820.95	1279	10315.99	14905.39	25536.38
1992	42044.72	54209.52	96264.24	1308	10576.66	15959.54	26538.70
1993	42817.02	57056.08	99883.10	1354	11182.42	17455.64	28640.56
1994	45302.34	61630.07	106942.41	1371	11500.44	18642.01	30144.95
1995	47683.54	64482.32	112165.86	1409	11949.65	19513.48	31463.13
1996	53539.09	72399.34	125938.43	1448	14025.73	23352.42	37378.15
1997	60766.93	81501.25	142268.18	1498	17907.70	28017.07	45924.77
1998	62624.65	83708.48	146333.13	1554	19190.85	29533.20	48724.05
1999	64665.91	85399.14	150065.05	1663	19391.43	28126.93	47518.36
2000	67784.84	88778.54	156644.38	1798	22737.13	32109.12	54883.25

Notes: National Center for Financial and Economic Information (2002), Ministry of Finance and National Economy.
Sources: Saudi Arabian General Investment Authority (SAGIA) (2002).

Table 2: Shares of FDI Inflows

Year	% FDI/GDFCF
1989-1994	2.1
1995	-7.5
1996	- 4.7
1997	11.1
1998	16.6
1999	-3.1

Notes: Figures for 1989-1994 are for annual averages.
Sources: UNCTAD – World Investment Report, 2001.

Table 3: Ratios of KSI FDI %

Year	KSA/Dev. Co.	KSA/World
	21.60	8.48
	47.74	25.30
	32.60	9.41
	4.25	1.08
	0.33	0.14
	1.70	0.64
	2.32	0.56

Table 4: GCC FDI Inflows (million US $)

	1989-1994	1995	1996	1997	1998	1999	2000
Bahrain	237	431	2048	329	180	448	500
Kuwait	-4	7	347	20	59	72	16
Oman	119	29	60	65	101	21	62
Qatar	48	94	339	418	347	144	303
KSA	502	-1877	-1129	3044	4289	-782	1000
UAE	90	399	301	232	253	-13	100

Notes: 1989-1994 are annual averages. The figure for the year 2000 is an estimate.
Sources: UNCTAD – World Investment Report, 2001.

Table 5: Country FDI

Foreign Partner	Items	1980	1985	1990	1995	2000
France	Contracted cap.	180	300	470	516	1031
	Paid cap	136	187	290	301	778
	No. Of Ventures	62	88	60	61	71
Germany	Contracted cap.	724	769	565	428	1151
	Paid cap	228	339	252	174	751
	No. Of Ventures	73	117	82	69	87
Japan	Contracted cap.	667	3106	3106	5800	8540
	Paid cap	254	293	828	822	2219
	No. Of Ventures	40	56	39	31	40
Taiwan	Contracted cap.	616	617	613	1418	1410
	Paid cap	192	193	149	150	146
	No. Of Ventures	8	8	6	7	5
United Kingdom	Contracted cap.	1104	1645	1160	1234	1637
	Paid cap	746	948	572	461	583
	No. Of Ventures	149	171	122	135	159
United States	Contracted cap.	7241	11032	17294	20823	30715
	Paid cap	2404	2652	3781	4573	8713
	No. Of Ventures	235	283	185	232	283

Table 6: Sectoral Distributions of FDI

Items	Contracted Capital Partner	Contracted Capital Total	%	No. Of Ventures	Actual Capital Partner	Total Actual Capital	%
			Agriculture				
1985	109.44	510.17	21.45	31	68.41	226.43	30.21
1990	89.58	258.00	34.72	16	48.91	131.65	37.15
1995	122.69	397.55	30.86	11	37.36	135.59	27.55
2000	209.18	572.75	36.52	12	79.40	220.65	35.99
			Construction				
1985	1545.97	2839.73	54.44	699	1547.23	2843.23	54.42
1990	878.37	1711.80	51.31	392	878.37	1711.80	51.31
1995	836.29	1606.05	52.07	377	836.29	1606.05	52.07
2000	863.76	1638.99	52.70	394	860.51	1635.74	52.61
			Manufacturing				
1985	27839.23	67238.02	41.40	566	5156.17	12882.35	40.03
1990	32090.78	75693.69	42.40	547	7124.57	17988.69	39.61
1995	43683.46	100840.66	43.32	687	8175.11	20699.44	39.49
2000	62004.41	140933.34	44.00	981	17208.63	39782.61	43.26
			Mining				
1985	81.19	141.47	57.39	52	81.19	141.47	57.39
1990	69.46	120.10	57.83	41	69.46	120.10	57.83
1995	93.97	168.88	55.64	67	93.97	168.88	55.64
2000	110.42	195.88	56.37	73	110.42	195.88	56.37
			Services				
1985	1617.69	3483.39	46.44	409	1467.03	3163.68	46.37
1990	1598.93	4124.62	38.77	267	1450.28	3808.13	38.08
1995	2947.13	9152.72	32.20	267	2806.92	8853.17	31.71
2000	4597.07	13303.42	34.56	338	4478.15	13048.37	34.32
			Total				
1985	31193.52	74212.78	42.03	1757	8320.03	19257.16	43.20
1990	34727.11	81908.21	42.40	1263	9571.58	23760.37	40.28
1995	47683.54	112165.86	42.51	1409	11949.65	31463.13	37.98
2000	67784.84	156644.38	43.27	1798	22737.13	54883.25	41.43

Table 7: Sub-Sectoral FDI distributions in the Manufacturing Sector

Activity	Factories		Total Financing		Employment	
	Total	%FDI	Total	%FDI	Total	%FDI
Food and Beverages	529	7.4	16918	19.3	43534	15.2
Textiles and Apparel	156	10.9	3785	11.5	18220	9.7
Wood Product and Furniture	155	12.9	2324	11	13058	10.4
Paper, Printing and Publishing	205	9.8	6116	24.5	16231	18
Chemicals and Petroleum Products	670	19.3	15146	74.8	71056	36.2
Nonmetallic (construction materials, etc..)	560	10.4	25671	25.3	49849	21.2
Basic Metal	11	18.2	3947	3.2	2817	7.7
Fabricated Metal	915	19.8	23221	28.6	81652	22.7
Other	79	10.1	1373	30.7	6902	11.1
Transport and Storage	20	-	208.2	-	630	-

Source: Ministry of Industry and Electricity (2000), Faddli (2001).

Table 8: Domestic and Foreign Investment Distributions in the Manufacturing Sector

Activity	% No of Factories		% Finance	
	Domestic	Foreign	Domestic	Foreign
Food and Beverages	17.34	8.2	13.3	2.5
Textiles and Apparel	4.9	3.6	3.3	0.3
Wood, Product and Furniture	4.8	4.2	2.0	0.2
Paper, Printing and Publishing	6.5	4.2	4.5	1.1
Chemicals and Petroleum Products	19.1	27.2	37.2	85.5
Nonmetallic (construction materials, etc..)	17.8	12.2	18.7	4.9
Basic Metal	0.3	0.4	3.7	0.1
Fabricated Metal	26.0	38.2	16.2	5.0
Other	2.5	1.7	0.9	0.3
Transport and Storage	0.7	-	0.2	-
Total	100	100	100	100

Source: Ministry of Industry and Electricity (2000), Faddli (2001).

Table 8.a: Pair-wise Granger Causality Tests Actual FDI and Output

Causality Flow	F-statistics	p-value
FDI ? GDP	0.018	0.896
GDP ? FDI	0.092	0.020

Note: * ? Does not Granger cause.

Table 8.b: Pair-wise Granger Causality Tests Actual FDI and Exports

Causality Flow	F-statistics	p-value
FDI ? *EXP*	1.150	0.333
EXP ? *FDI*	5.024	0.015

Note: * ? Does not Granger cause.

Table 8.c: Pair-wise Granger Causality Tests Actual FDI and Wages

Causality Flow	F-statistics	p-value
FDI ? *WAGE*	0.931	0.546
WAGE ? *FDI*	8.087	0.059

Note: * ? Does not Granger cause.

Table 8.d: Pair-wise Granger Causality Tests Actual FDI and Domestic Investment

Causality Flow	F-statistics	p-value
FDI ? *DI*	0.505	0.422
DI ? *FDI*	0.978	0.683

Note: * ? Does not Granger cause.

Table 9.a: Determinants of Contracted FDI Static Formulation

Variable	Coefficients			
C	-5.897	-6.329	-6.771	-13.155
gdp	2.855 (10.583)	2.901 (13.939)	2.953 (17.813)	2.937 (7.349)
grgdp	0.001 (0.308)	-	-	-
expo	−1.011 (−8.208)	−1.013 (−8.827)	−1.037 (−10.715)	−0.906 (−3.966)
impo	−0.059 (−0.528)	−0.040 (−0.460)	-	-
wage	−0.176 (−2.002)	−0.185 (−2.386)	−0.188 (−2.563)	−0.253 (−1.446)
rate	0.206 (4.495)	0.205 (4.814)	0.209 (5.213)	0.263 (2.785)
dinv	−0.600 (−4.376)	−0.615 (−5.121)	−0.644 (−6.656)	-
cpfr	0.015 (4.014)	0.015 (5.472)	0.015 (5.947)	0.007 (1.272)
R^2	0.990	0.990	0.990	0.933
$\overline{R}^2$	0.977	0.980	0.982	0.895
$\hat{\sigma}$	0.028	0.026	0.025	0.060
F	75.634 [0.000]	99.261 [0.000]	128.427 [0.000]	24.993 [0.000]
d	3.004	2.853	2.876	1.488

Table 9.b: Determinants of Contracted FDI (Dynamic Formulation)

Variable	Coefficients			
C	-6.005	-6.228	-6.147	-7.941
gdp	2.410 (8.347)	2.430 (9.790)	2.427 (10.619)	1.800 (4.963)
grgdp	0.001 (0.205)	-	-	-
expo	−0.898 (−8.322)	−0.898 (−9.080)	−0.895 (−10.101)	−0.676 (−4.601)
impo	−0.002 (−0.023)	0.008 (0.117)	-	-
wage	−0.158 (−2.298)	−0.162 (−2.714)	−0.162 (−2.926)	−0.157 (−1.467)
rate	0.173 (4.507)	0.173 (4.911)	0.172 (5.297)	0.151 (2.426)
dinv	−0.462 (−3.764)	−0.469 (−4.306)	−0.465 (−4.792)	-
cpfr	0.013 (4.067)	0.012 (5.656)	0.012 (6.103)	0.006 (2.070)
$fdic_{-1}$	0.235 (2.234)	0.236 (2.465)	0.233 (2.735)	0.508 (4.157)
R^2	0.995	0.995	0.995	0.979
$\overline{R}^2$	0.986	0.988	0.990	0.963
$\hat{\sigma}$	0.022	0.020	0.019	0.036
F	112.485 [0.000]	150.587 [0.000]	200.323 [0.000]	61.384 [0.000]
d	2.640	2.538	2.538	2.284

Table 10.a: Determinants of Actual FDI Static Formulation

Variable	Coefficients			
C	-12.714	-12.554	-18.276	-20.199
gdp	3.213 (4.741)	3.076 (5.320)	3.547 (6.359)	3.682 (7.840)
grgdp	0.011 (1.314)	0.012 (1.670)	-	-
expo	−1.066 (−3.447)	−1.009 (−3.757)	−0.967 (−3.269)	−1.015 (−3.782)
impo	−0.184 (−0.660)	−0.264 (−1.261)	−0.105 (−0.507)	-
wage	−0.336 (−1.524)	−0.331 (−1.591)	−0.445 (−2.053)	−0.461 (−2.242)
rate	0.404 (3.516)	0.409 (3.785)	0.412 (3.454)	0.427 (3.849)
dinv	−0.163 (−0.474)	-	-	-
cpfr	0.019 (2.024)	0.019 (2.100)	0.007 (1.155)	0.007 (1.151)
R^2	0.954	0.953	0.934	0.932
$\overline{R}^2$	0.894	0.906	0.884	0.894
$\hat{\sigma}$	0.071	0.067	0.074	0.071
F	15.721 [0.002]	20.168 [0.000]	18.848 [0.000]	24.596 [0.000]
d	2.520	2.508	1.710	1.940

Table 10.b: Determinants of actual FDI (Dynamic Formulation)

Variable	Coefficients			
C	-8.651	-9.195	-12.563	-15.289
gdp	2.110 (1.422)	2.284 (2.382)	2.402 (2.546)	2.728 (2.824)
grgdp	0.013 (1.449)	0.012 (1.658)	0.009 (1.392)	-
expo	−0.748 (−1.513)	−0.803 (−2.405)	−0.811 (−2.449)	−0.761 (−2.186)
impo	−0.233 (−0.798)	−0.205 (−0.946)	-	-
wage	−0.251 (−1.010)	−0.263 (−1.210)	−0.297 (−1.399)	−0.376 (−1.736)
rate	0.317 (2.019)	0.327 (2.447)	0.329 (2.482)	0.328 (2.345)
dinv	0.075 (0.165)	-	-	-
cpfr	0.017 (1.692)	0.018 (1.959)	0.014 (1.731)	0.006 (1.003)
$fdic_{-1}$	0.361 (0.840)	0.317 (1.032)	0.394 (1.342)	0.347 (1.126)
R^2	0.960	0.960	0.954	0.941
$\overline{R}^2$	0.888	0.906	0.908	0.897
$\hat{\sigma}$	0.073	0.066	0.066	0.070
F	13.368 [0.005]	17.945 [0.001]	20.690 [0.000]	21.316 [0.000]
d	2.320	2.324	2.310	2.009