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The Role and Determinants of Direct Foreign Investment in Egypt

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Despite of Egypt continuous economic concessions to attract more direct foreign investment (DFI) that is necessary for the breakthrough stage of the comprehensive economic reform since 1991, these investments are still small and inadequate. So, this study attempts to analyze the roles and main factors influencing foreign, especially Japanese direct investment. The corresponding examination includes the DFI share of the developing countries as well as Egypt, the advantages of DFI in Egypt respectively at the national and agricultural sector, reasons for the weak flow of DFI to Egypt, the eligibility of the Egyptian economy to attract foreign investment, the contribution of the DFI flow both in the total Egypt investment and in agricultural sector.

The main finding is that the amount of international, particularly Japanese DFI allocated to the developing countries including Egypt is very small, which are mainly concentrated on the developed countries. The principles factors governing the eligibility of the national economy to attract more DFI can be considered to be the percentage of exports value to the gross domestic product GDP, the growth rate of the GDP, the rate of investment returns, the percentage of public foreign debt to the GDP, payment balance deficit, monetary inflation rate. These indicators can be also used to reflect the real improvement in the performance of the Egyptian economy. However, the determinants for attracting more DFI to Egypt include public foreign debt, current and demand deposits, national savings, banking deposit assets, rate of interest, rate of discount, rate of exchange, and remittances. Several factors, such as the agricultural sector banking deposits, private agricultural investment, agricultural loans, the banking rate of interest, and the private capital reserve in the agricultural sector, seems to be related to attracting more agricultural DFI.

In the Egyptian economy and agricultural sector, the roles of DFI are as followings: 1) DFI accounts for 10% of the total national investment on average. 2) Agricultural DFI accounts for 6.5% of the total national agricultural investments. 3) DFI amounts to 11.4% of the national commercial balance. 4) Agricultural DFI amounts to 5.4% of the agricultural commercial balance. Those indicators reflect that the contribution of DFI to Egyptian economy and the national capital formation is very limited. However, the econometric analysis demonstrates a promising future.

INTRODUCTION AND RESEARCH PROBLEMS:

The main objective of this study is to investigate the determining factors that affect the contribution of the direct foreign investment (DFI) to the Egyptian economy, particularly in the agricultural sector. It provides stimulating debate for those who consider DFI as a panacea for solving the chronic problem of the Egyptian domestic resource deficit. However, situating Egypt at the center of the debate on economic reform makes this study a timely and significant addition to the literature of the management of eco-

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nomic crisis. The interest aroused is how Egypt takes further lenient steps to increase the share of DFI in the Egyptian economy. Historically speaking, Egypt's share of DFI didn't exceed 0.7% of the world direct investment in 1994, whereas it decreased to 0.42% in 1997. This alerts the public as well as scholars to the urgency of examining the situation to engender support for progressive flow of DFI to Egypt as a source of innovative technology. It also stimulates national capital formation that is necessary for filling gaps in domestic resources.

THE OBJECTIVES OF RESEARCH

As the purpose of this research is to empirically test the effects of economic reform policy on DFI flows in Egypt, the objectives are limited as follows.

1– Identifying the size of the total world direct investment and the Egyptian share from such investment.
2– Identifying the size of the total Japanese direct investment and the share of both Egypt and developing countries from such investment.
3– Recognizing the advantages of the Japanese direct investment in Egypt on both national and agricultural levels.
4– Detecting the factors affecting DFI in general and agricultural field in particular, and the ways how to attract such investments.
5– Charting reasons for weakness of the flow of DFI and methods of protection and recovery.
6– Assessing the Egyptian eligibility and needs for DFI on the light of estimating both domestic resources deficit and foreign trade deficit.

Determining the sort of relationship between domestic and foreign investment and whether such relationship is integrational, replaceable, or independent.

RESEARCH PROCEDURES

Descriptive and econometric analysis tools are used. These statistical analysis include: estimate the instability trends of DFI by calculating the proportional average derivation, explain sources of variation at the DFI in Egypt by using the stepwise multiple regression, forecast the expected size of DFI with the double vertical smoothing model; and employ econometric models to get indicators for the performance of the national economy and its viability to attract more DFI.

The study develops a number of indicators for both total and agricultural DFI in Egypt.

Data

The secondary sources of the research data are gathered from different documents, reports, and publication issued by different local and foreign authorities and bodies in Egypt, such as Ministry of Planning and International Cooperation, Ministry of Agricultural and Land Reclamation, the Central Authority for General Mobility and Census, the Egyptian Central Bank, Public Body for Investment and Free Zones. As well, some data are from the foreign authorities in Claude the world band fund and ONCTAD,

and the Japanese Ministry of Funding.

DISCUSSION OF THE RESULTS

The Size of the world foreign investment and Egypt's share

The DFI of the world amounts to 141.9 milliard U.S.$ in 1990 and increase to 349.2 milliard U.S.$ in 1996. Most of such investments concentrates on the developed countries, for example 82.3% of these investments were carried out in the developed countries in 1990. However in 1996 this percentage decreased to 59.6% for the developed countries. These was accompanied by an increase of investments toward the developing countries.

In Egypt, DFI increased from 217 million U.S $ in 1990 to 740 million U.S.$ in 1996. This small contribution of the world direct investment to Egypt is problematic on the light of Egyptian latest measures to improve the investment atmosphere. The developed countries that benefit from such investments have a relative advantage to produce according to the intention al criteria for both quality and price indices as well as they after a high rate of deposits relearns (see table 1.)

Table 1. Direct Foreign Investment in the Developed and Developing Countries in 1990–1996 (in billion U.S. dollars)

Years	World		Developed count's		Developing count's		Egypt	
	Value	%	Value	%	Value	%	Value	%
1990	141.93	100	116.74	82.25	24.74	17.43	0.217	0.70
1991	158.94	100	114.79	72.22	41.69	26.23	0.253	0.16
1992	173.74	100	119.69	68.88	49.63	28.56	0.459	0.29
1993	218.09	100	138.76	63.63	73.05	33.49	0.493	0.23
1994	238.74	100	142.39	59.84	90.46	37.40	0.126	0.53
1995	316.52	100	205.33	64.87	96.33	30.43	0.598	0.19
1996	349.23	100	208.27	59.62	128.74	36.86	0.740	0.21

Erf, Economic Trends in the MENA region 1998.

The structural analysis of DFI in the world, particularly in the developed countries from 1976 to 1996 showed that the U.S.A. ranked the first country as its percentage DFI amounts to 54%, then the U.K. with 14.5%, and Japan, and Germany, and Switzerland (See table 2).

The structural analysis of DFI in Egypt reflects the fact that the three main contributors to the Egyptian share of the DFI are the U.S.A., Europe, and Japan. As for the developing countries, it is observed that countries of Eastern Asia and Pacific Ocean as well as Latin American countries took hold of the major percentage of DFI (see table 3).

Table 2. Shares of DFI in the Developed countries in 1976–1996.

Countries	%	
U.S.A	54.00	1
U.K.	14.50	2
Japan	8.25	3
Germany	8.10	4
Switzerland	8.0	5
Rest of the world	7.25	6

Source: ONKTAD, Investment Report, 1998.

Table 3. Average Flow Ratios of DFI to the Developing Countries in 1992–1996.

Regions	East Asia	Latin America	East. Europe	Middle East and N.Africa	Rest of Africa	South Asia	Total
Average Flow Ratio	51.0	30.0	9.0	4.0	4.0	2.0	100

Source: ONKTAD, Investment Report, 1998.

The size of the Japanese contribution to the world and the Egyptian DFI

There is a notable fluctuation in the number of the Japanese projects spread all over the world from the least number 1598 projects in 1998 to the maximum number 6212 in 1989 (see table 4).

The Japanese DFI covers mainly North America, southern east of Asia, and Europe. The African quota from the Japanese direct investment is very low and only amounts to its 1.71%. Egypt's share from the Japanese DFI is 0.019% (see table 5).

Table 4. Size of Japanese Direct Investment in Egypt and selected Regions in 1998

Regions	Inv. Projects		Investment	
	Number	%	Value (Million Yens)	%
N. America	30818	35.44	394,456	44.58
Asia	28013	32.79	172,755	18.21
Europe	10694	12.29	183,833	19.38
S. America	9528	10.96	118,647	12.51
Australia	5209	5.99	51,084	5.385
Middle East and N. Africa	417	0.479	11,666	1.228
Rest of Africa	1779	2.046	16,169	1.704
Egypt	34	0.039	0,188	0.0192
World	86957	100	998,613	100

Ministry of Finance, Statistics, Monthly, Issue 0912–8040. 542, Japan, 1999.

Table 5. Size of Japanese Investment in the world in 1989–1998.

Years	Number of Inv. Projects	Value (in million Yens)
1989	6212	90,339
1990	5863	83,527
1991	4564	56,862
1992	3741	44,313
1993	3488	41,514
1994	2478	42,808
1995	2863	49,568
1996	2501	54,094
1997	2489	66,229
1998	1597	52,169
Average	3579	58,142

Source: Ministry of Finance, Statistics Monthly, ISSA, 912, 8040, 572, Japan, 1999.

Table 6. Domestic Resources and Foreign Trade Deficits in Egypt in 1981–1998.

Years	Domestic Res. Deficit	Saving/ Inv. Ratio	Foreign Trade Deficits
1981	(2667.0)	0.48	(1952.4)
1982	(3005.0)	0.51	(1392.2)
1983	(1910.6)	0.63	(1269.8)
1984	(2150.0)	0.58	(3924.4)
1985	(1925.0)	0.62	(4170.4)
1986	(4488.5)	0.41	(4924.4)
1987	(4239.6)	0.45	(5338.2)
1988	(4335.0)	0.50	(4373.4)
1989	(6917.0)	0.44	(5997.5)
1990	(9393.5)	0.35	(7991.8)
1991	(10049)	0.38	(12314.1)
1992	(11073)	0.58	(10889.0)
1993	(8144)	0.47	(17869.4)
1994	(7834)	0.74	(13451.6)
1995	(13109)	0.67	(17484.9)
1996	(13409)	0.68	(17085.9)
1997	(17656)	0.65	(20703.1)
1998	(21903)	0.63	(28178.10
Average	(8010.42)	0.541	(9961.7)

Source: CAPMAS, Stat., Year Book, Cairo June 1999.

Table 7. Averages and Coefficients of Variation of the Studied Independent and Dependent Variables.

Variable	Arithmetic Average (Million pounds)	C.V.
Direct Foreign Inv.	1496.14	58.702
Direct Agri foreign Inv.	191.26	137.780
Gross Domestic Savings	12729.06	95.585
Gross Investments.	20639.56	85.165
Remittances	14444.14	95.738
Agri. Inv.	2021.59	80.612
Agri. Private Inv.	915.38	85.982
Publi foreign debts	25600.98	47.621
Current and demand deposits	44906.76	89.019
Agri. Deposits in Banks	2624.79	88.929
Agri. Priv. Buis. Deposits in Banks	281.36	18.813
Agri. Deposits in Commercial Banks	595.69	80.652
Agri. Loans	1209.95	24.151
National Commercial Banks Deposits	76080.39	81.695
Agri. Deposits in Inv. Banks	19.79	72.144
Deposits in Inv. Banks	7725.56	77.967
Agri. Private Capital Investment	3171.23	93.003
Interest on Loans	14.47%	11.19
Interest on deposits	12. 39%	12.66
Discount Rate	14.69%	8.24
Exchange Rate	2.13	53.91
Inflation Rate	163.78	66.168
Degree of Market Risk	0.03	35.377
Agriculturalredit Deposit Ratio	145.74	50.842

Source: Stat, Results.

A LONGITUDINAL ANALYSIS FOR THE DEVELOPMENT OF DFI IN EGYPTIAN ECONOMY, PARTICULARLY IN THE AGRICULTURAL SECTOR

(a) The contribution of DFI in Egyptian economy: It fluctuates from a minimum size of 244.6 million L.E in 1983 to a maximum point of 3068.8 million L.E in 1990 during the period from 1981 to 1989. However, the period of the study witnessed a rapid increase with a growth rate of 10.89%. The annual average of such investment amounts to 1496.2 million L.E. The coefficient of instability amounts to 0.4, the figure that refers to the moderately high instability of DFI in Egypt (see table 8 , and Equation 1).

(b) The contribution of DFI in Egyptian Agriculture: It fluctuates from a minimum size of 0.91 million L.E in 1983 to a maximum point of 889.25 million L.E in 1998. The rate of growth in these investment amounts to 27.9% with an annual average of 1912.25 million L.E.. The coefficient of instability is 0.04, reflects a moderately high stability of DFI in Egyptian agriculture (see table 8, and equation 2).

Although Egypt undertakes a lot of measures to attract DFI, Egypt's share of these investments is still very low. This is due back to many reasons. Firstly, when the government sets the scenario for DFI, it doesn't channel these investments into the projects profitable for all people or achieving even economic development.

Table 8. General Trend Equations for the Studied Dependent and Independent Variables in

Equation	Variables	Model	B_0	B_1	T	R^2	F
1	Direct Foreign Inv.	DL.	6.0455	0.1089	4.596*	0.569	21.13*
2	Direct Agri. Foreign Inv.	DL.	1.1919	0.2798	4.087*	0.511	16.70*
3	Public foreign debts	DL.	9.443	0.0606	2.689*	0.311	7.23*
4	Gross Domestic Savings	DL	7.3062	0.1764	11.266*	0.888	126.93*
5	Current and demand deposits	linear	-23400	7190.19	13.754*	0.922	189.16*
6	Remittances	DL	7.231	0.1944	12.13*	0.902	147.14*
7	Deposits in Inv. Banks	linear	-2690	1096.37	16.456*	0.994	270.81*
8	Agri. Private Inv.	DL	4.522	0.1944	23.851*	0.973	258.85*
9	Agri. Loans	DL	6.7994	0.0279	2.454**	0.273	6.02**
10	Agri. Deposits in Inv. Banks	linear	-2690.0	1096.37	16.456*	0.944	270.81*
11	Agri. Private Capital	DL.	5.6718	0.2010	22.241*	0.969	494.66*
12	Interest on Loans	linear	11.9477	0.2657	7.212*	0.765	52.02*
13	Interest on Deposits	linear	9.8183	0.2636	8.466*	0.818	71.68*
14	Exchange Rate	linear	0.1888	0.2047	12.452*	0.906	155.04*
15	Discount Rate	linear	12.886	0.4904	6.1196*	0.701	37.45*
16	Rate of Market Risk	DL	-3.993	0.0373	2.598*	0.297	6.75*
17	Agri Deposits in Banks	DL	5.764	0.1797	43.384	0.992	1878.53*

* Significant at 1% ** Significant at 5% DL: double log.
Source: Stat, Results.

Secondly, although the majority of investment laws stress the incentives based on taxes exemptions to attract more DFI, these domestic taxes are still high compared with other countries. No real studies carry forward the exploration of the link between the creation of good atmosphere for DFI and the concomitant state legislation. This is clear that in some of laws regarding investment are confusing and inadequate. Middle east crisis is still the main concern for DFI countries. This is coupled with the encouraging financial policies adopted by the Eastern European states to attract more DFI. So, what is the way? our the research message is simple: confront the course of the history of the local economic pitfalls, look to the indigenous factors that prevent the effective implementation of economic reform program and promote diachronic studies to monitor type of progress.

MODELING THE EGYPTIAN ECONOMY NEEDS FOR DFI THROUGH USING BOTH THE DOMESTIC RESOURCE DEFICIT AND FOREIGN TRADE DEFICIT

As for the domestic resource deficit, it fluctuates from a minimum point of 1910 million L.E in 1983 and a maximum point of 17,656 million L.E in 1998. The growth rate of this deficit is 13.6% and the coefficient of instability is 0.3. The estimate of the dynamic rate of domestic savings coverage for the required investment fluctuate from a minimum ratio of 35% in 1990 to a maximum ratio of 74% in 1994. The domestic resource deficit can be approached through law channels, such as foreign funds and loans and DFI. If we elaborate on the Egyptian experience in foreign loans or funds, we will discover that they are related to complicated problems.

So, the Egyptian economy is in bad need for DFI. The estimate of the foreign trade deficit through the difference between the values of exports and imports indicates a severe deficit. It fluctuates between a minimum value of 1269.8 million L.E in 1983 and a maximum value of 28178.1 million L.E in 1998. It is worth mentioning that the domestic resource deficit results from the gap between savings and investment and can potentially be filled by utilizing foreign resources.

The model assumes equalizing this domestic resource deficit with foreign trade deficit. The mathematical formula is as follows:

$$I-S=M-X=F$$

Where,

I =the value of national investment

S =the value of national savings

M=the value of imported goods and services

X =the value of exported goods and services

F =the net value of DFI

The equation has several assumptions: Firstly, the domestic investments (I) within specific duration surpass the domestic savings (s), secondly, that domestic investment should be financed by the value of new flow of foreign capital, thirdly, that flow of foreign capital is calculated by subtracting the domestic imports of services and goods from the domestic exports of services and goods, last but not least, that the domestic resource deficit is equal to the foreign trade deficit at any previous period. However, two basic factors should underlie the trend to increase any investment, the first is the adoption of expansionary monetary policy as well as the liability of two forms of foreign capital i.e direct investment or loans, the second is the creation of good atmosphere for investment (see table No. 6).

THE DETERMINANTS OF THE GROSS DFI IN THE EGYPTIAN ECONOMY AND AGRICULTURE:

One of the most appealing features of quantitative analysis is the ability to understand factors affecting the DFI and its trends. The function of the total DFI consists of the gross direct investment as a dependent variable and several independent variables, such as public foreign debt, the rate of interest, gross domestic savings, surplus or deficit of payment balance, current and demand deposits, remittances, Gross investment., the gross investment of the previous year, Rate of market risk, Deposits on commercial banks, deposits in investment banks, Exchange rate, Discount rate, rate of monetary inflation (see table No. 7).

As for the function of the agricultural DFI, it consists of the agricultural DFI as a dependent variable and several independent variables, such as agricultural private investment, agricultural savings, agricultural private capital, agricultural deposits in banks, agricultural loans, rate of interest, degree of market risk ratio of credit to deposits, agricultural deposits in commercial banks, agricultural deposits in investment and business bank, exchange rate, and rate of monetary inflation.

A– Determinants of the total DFI in Egypt

As for the total DFI in Egypt, stepwise multiple regression analysis is used. The factors are divided into groups in order to get rid of multicollinearity between the independent variables. Regression results indicate that public foreign debt, current and demand deposits, gross domestic savings, degree of market risk, deposits in investment banks have a significant effect on the total DFI in Egypt. The effects of both market risk and deposits in investment bank are negative while other factors are positively correlated with DFI. Overall, the factors together explain 89.4% of the total variance of DFI in Egypt (see table No. 9). Rate of interest, Exchange rate and remittances have significant effect on the total DFI in Egypt, and explain 63% of the total variance of the value of total DFI in Egypt. Exchange rate explain 48% of the DFI. Results show that the best model for representing the interrelation between the dependent variable and the independent variables would be the semi–logarithmic model if we used the standard price index for

Table 9. Estimates of Determinants of total Direct Foreign Investments (Current Values) in Egypt.

F	R^{-2}	Regression Equations	No
29.609*	0.8938	Y_{11}=566.309+0.07065X1+0.0553X2+0.1025X3-4.0357X4-0.4571X5 (2.225)** (5.5668)* (6.8989)* (3.4949)* (-3.995)* (-4.3943)*	1
10.728*	0.6319	Y_{12}=9859.349-796.2661X6+1273.373X7+0.03076X8 (3.264)* (-3.153)* (4.0202)* (1.6484)***	2
16.958*	0.484	Y_{13}=-6127.1407+518.7864 X9 (-3.2992)* (4.118)*	3

* Significant at 1% ** Significant at 5%
Y_{11}, Y_{12}, Y_{13} Direct Foreign Inv.

X_1	Public Foreign Debts	X_2	Current and Demand Deposits
X_3	Gross Domestic savings	X_4	Rate of market Risk
X_5	Deposition Inv. Banks	X_6	Interest on Loans
X_7	Exchange Rate	X_8	Remittances
X_9	Discount Rate		

Source: Stat, Results.

Estimates of Determinants of total Direct Foreign

No	Model	Regression Equation					R^{-2}	F
1	Semi–Log.	Log Y11=	-4.864	+	0.3223 X6	+	0.653	17.003*
		0.5456 X7						
				(-5.543)*		(5.323)*		
		(3.285)*						

* Significant at 1% Prob. Level.

X_{11}	Real Direct foreign Inv.	X_7	Exchange Rate
X_6	Interest on deposits		

1996 and 1987 as a base year. The determinants of DFI in this case include both interest and exchange rates. These two variables have a positive significant effect and explain 69.3% of the variance in the total DFI. It may be specially interesting to the scholars in agricultural sector that public foreign debt, current and demand deposits, gross domestic savings, discount rate, exchange rate, and remittances are the determinants of the total DFI in Egypt. A complementary relationship exists between the total DFI and public foreign debt, current and demand deposits gross domestic savings, as well as remittances. It is such complimentary relationships that support the economic development. Trends of the complimentary relationship between the DFI and public foreign in the context of the Egyptian payment balance payment corroborates the findings that the DFI is essential for financing the chronic deficit in the commercial balance (see table No. 8).

This was detected clearly during the period of the study. At the same time, the inverse relationship between the DFI and market risk is a logical one. The study provides an important context for understanding the new Egyptian policies for releasing the exchange price to enhance a real increase in the DFI. The study by doing so raises questions and issues for broader econometric models. The practical implication suggests that instead of more taxes concessions to attract DFI, it is better to take into account the modeling of the dynamic relation among the determinants of the study. This is simply because the domestic investment is independent from DFI, and in that none of them could determine the path of the other.

b– Determinants of the Agricultural DFI in Egypt

Multiple stepwise regressions are used to identify the determinants of agricultural DFI in Egypt. We divide the research variables into groups. Group 1 includes interest on loans, banking deposits of agricultural business, and capital deposits in agricultural sector. It explains 97.8% of the total variance of the agricultural DFI. Results indicate the necessity of merging proportionally both domestic private investments in agriculture and

Table 10. Estimates of Determinants of Agricultural Direct Foreign Investment (Current Values) in Egyptian.

F	R^2	Regression Equations	No.
258.127*	0.978	Y_{21}=810.868–64.866 X_1–0.706 X_2+0.1193 X_3 (5.895)* (–6.9115)* (–2.797)* (19.0141)*	1
64.447*	0.918	Y_{22}=116.339 + 0.100596 X_4 – 0.2145 X_5 + 3.5585 X_6 (1.464)*** (11.272)* (–3.0579)* (–2.987)*	2
46.981*	0.73	Y_{23}= 73.4925 + 0.2892 X_7 (1.460)*** (6.8543)*	3

* Segnifieant at 1% Prob. Level.

Y_{21}, Y_{22}, Y_{23} Direct Agricultural. Foreign Inv.

X_1 : Interest on Deposits
X_2 : Agri. Priv. Buis. Deposits in Banks
X_3 : Agri. Private Investment.
X_4 : Agri. Deposits In. Banks
X_5 : Agri. Loans
X_6 : Agri. Deposits in Inv. Banks
X_7 : Private Agri. Inv.

foreign agricultural investment so as to raise the efficiency and growth rate of agricultural sector. The FDI exercises no competitive or replace effects on domestic private investment (see table No. 10).

PRINCIPLES MEASURING THE ABILITY OF THE NATIONAL ECONOMY TO ATTRACT MORE DFI:

1- *The ratio of the total value of exports to the gross domestic product (GDP)*: This ratio indicates the economic cosmopolitans of any country. The more the ratio between the values of exports to the GDP, the more efficient the economy to attract DFI and vice versa. During the economic restructuring reform in Egypt from 1992 to 1997, this ratio fluctuates with an average of 24%, economically speaking, this ratio is very low compared with other countries.

2- *The rate of the real growth of GDP*: As a result of policies for economic reform in Egypt, the gross domestic product rate of growth became more attractive for DFI which ranges from a minimum point of 4.4% in 1992 and 1993 to a maximum point of 5.3% in 1997 and 1998.

3- *The rate of investment returns*: Whenever this rate is high, there will be a good opportunity to attract more foreign investment. It is worth mentioning that the rate of investment return exceeds the interest rate. In 19920 through 1997 it amounts to 20%, it makes the Egyptian economy more lucrative for foreign investments.

4- *The deficit in public payment balance as a percentage of the gross domestic product*: when this percentage increases, the economic efficiency gets weaker and becomes unable to attract DFI, It is noticeable that this percentage decreases from 12.7% in 1991 to 0.9% in 1997. This indicates the improvement of the economy efficiency can attract more DFI.

5- *The public foreign debt as a percentage of the gross domestic product*: whenever the ratio of public foreign debt to the gross domestic product decreases, this will be indication of a healthy and efficient economy. This ratio decreases from 12.7% in 1991 to 0.9% in 1997, it reflects the efficiency of the Egyptian economic reform policy. At the same time, the interest rate for the debts decreased from 2.45 milliard U.S $ in 1992 to 1.7 milliard U.S $ in 1998. These are progressive indicators for the effective reform policy adopted by the Egyptian government (see table 11).

6- *The surplus deficit in payment balance of the state*: The more deficit in the payment balance of the state, the less attractive the economy will be for DFI. In the Egyptian case, the deficit recedes from 1.8 milliard L.E in 1991/1992 to 1.5 milliard L.E in 1997/98. This improvement in the payment balance reflects the eligibility of the national economy to attract more DFI as well as the efficiency of the economic restructuring policies in Egypt.

7- *Rate of monetary inflation*: If this rate increases, it will indicate the poor quality of the economic performance of the state and it will be one of threatening landmarks against the DFI. In 1996 the inflation rate was 7.3% and by 1998 it decreases to 3.7%. This emphasizes the ability of the Egyptian economy to attract more DFI.

8- *the international monetary reserves at the Egyptian central bank*: When the states' monetary reserves increases, the situation will be encouraging for more DFI. In

Table 11. Selected Indicators of the Direct Foreign Investment Absorptive Capacity of the Egyptian Economy During the Economic Reform Period.

Indicators \ Years	91/1992	92/1993	93/1994	94/1995	95/1996	96/1997	97/1998
Export/ GDP. Ratio	–	28.8	25.7	23.3	24.0	22.7	21.9
Real Growth Rate of GDP.	–	4.4	2.9	4.0	4.6	5.0	5.3
Rate of Returns to Investment	–	24	20	15	14	12	15
Gov. Budget Deficit /GDP. Ratio	-12.7	-3.1	-1.4	-0.5	0.3	0.1	-0.1
Foreign Public Debt./ GDP. Ratio	–	89.90	76.46	60.50	55.80	46.80	38.80
Value of Foreign Public Debt. (E.L. Billions)	35.57	35.20	30.28	30.89	32.97	31.04	28.77
Debt. Service (E.L Billions)	–	2.25	2.32	1.83	1.96	2.43	2.21
Dept. Service/Exports Ratio	23	14	19	16	13	16	16
Real Values of Balance of Payment Surplus or Deficit	1.8	1.9	1.5	1.4	1.3	12.4	1.5
Annual inflation Rate	–	–	–	–	7.3	6.2	3.8
International Reserves in the central Bank (E.L. Billions)	–	10.14	14.44	16.66	174.77	18.49	20.3

1- Ministry of Economy, Egypt, 1999.
2- ERF, Economic trend in the MENA region, 1998.
3- Central Bank of Egypt.

Egypt, this reserve increased from 10.138 milliard L.E in 1992 to 20.346 milliard L.E in 1997.

PARAMETERS FOR MEASURING THE DFI IN EGYPT

1- *The ratio of DFI to domestic investment*: During the study period, this ratio fluctuates from the least point of 2.16% in 1992 to the maximum point of 4.24% in 1998. This refers to the diminishing contribution of DFI (see table 12).
2- *The ratio between DFI and the total agricultural investment in Egypt*: The estimates of this ratio fluctuate during the period of the study with a minimum of 0.1% in 1983 to a maximum of 15.39% in 1998. This refers to the small contribution of DFI in developing and financing projects in agricultural sector. So, although Egypt offers increasing incentives to attract more DFI, these investment are still small and keeping back and forward, as a result, the DFI does not greatly affect the national formation of the Egyptian capital. This does not run parallel to the size of the offered concessions, guarantees, and tax exemptions to allure the direct foreign and Arab investment (see table 12).
3- *The ratio between the total DFI and the commercial balance scale*: This ratio fluctuates during the period of the study from a minimum of 3.9% in 1992 to a maximum of 21.5% in 1989. It amounts to 8.01% in 1998 (see table No. 12).
4- *The ratio of agricultural DFI to the agricultural commercial balance scale*: This ratio fluctuates from a minimum of 0.1% in 1990 to a maximum of 16.7% in 1998. Generally, the results point to a very limited ratio of both total and agriculture, DFI to the total agricultural commercial balance scale overall, this does not catch up with the

Table 12. Selected Indicators of DFI in Egyptian Economy and in the sector in 1981–1998.

Years	% of DFI in Gross Domestic Investment	% of Agri. DFI in Gross Domestic Agri. Inv.	% of DFI in the Balance of Trade.	% of Agri. DFI in the Agri. Balance of Trade.	% of Agri. DFI in the National DFI
1981	8.15	13.25	10.6	7.54	11.054
1982	9.64	6.92	14.3	4.44	5.217
1993	9.78	0.10	4.9	0.20	0.300
1984	7.86	2.84	7.6	1.95	3.779
1985	9.81	4.71	13.9	3.39	5.152
1986	14.66	0.92	18.6	0.70	0.633
1987	16.97	0.71	16.3	0.40	0.785
1988	18.08	0.49	12.6	0.30	0.351
1989	19.89	0.49	21.5	0.30	0.285
1990	21.16	0.21	17.2	0.10	0.117
1991	13.19	9.63	15.7	6.00	9.709
1992	2.16	9.83	3.09	9.80	14.675
1993	4.86	10.01	8.99	9.30	16.469
1994	7.68	7.23	12.41	6.20	8.889
1995	5.05	6.96	7.07	4.80	11.850
1996	4.54	12.15	5.99	10.90	24.930
1997	4.23	15.23	6.79	14.90	34.827
1998	4.24	15.39	8.01	16.7	35.991
Average	10.11	6.506	11.419	5.436	10.262

Sources: 1–Ministry of Economy, Public Authority of Inv. And Free Zones, 1999.
2–CAPMAS, Stat Year Book, Dune 1999.

people's great expectations in that the economic reform delivers less than its title promises. Anyhow, the first phases of economic restructuring teem up with many problems till it restores its stability. These factors will improve the climate of investment in Egypt (see table No. 12).

5– *The ratio between agricultural DFI and the total DFI*: This ratio fluctuates from a minimum levels during 1986–1990 to its maximum levels during 1996–1998 with an annual average of 10.3%. This naturally indicates that the instability and scarcity of agricultural DFI.

PREDICTING THE SIZE OF TOTAL AND AGRICULTURAL DFI

This research applies the double smoothing Algorithmic model to get a high degree of forecasting the DFI on both national level and the agricultural domestic product levels during the forth–coming years 2000 till 2005. The application of the model suggests that the DFI will increase from 2952.1 million L.E in year 2000 to 4155.769 million L.E by year 2005. As for the agricultural DFI, it is expected to reach 1212.99 million L.E in year 2000; this will increase to 2022.35 million L.E in year 2005. Meanwhile the ratio of agricultural DFI to the total DFI is expected to increase. This is due back to the economic reform and restructuring polices that create a good climate for investment in Egypt (see table No. 13).

Table 13. Expected Estimates of the National and Agri. DEI by Year 2005 (million Pounds)

Years	National DFI	Agricultural. DFI	% of Agricultural. DFI on the national DFI
2000	2952.097	1212.993	41.089
2001	3192.766	1374.864	43.062
2002	3433.435	1536.756	44.760
2003	3674.104	1698.607	46.232
2004	3914.773	1860.479	47.525
2005	4155.471	2022.350	48.667
Average	3553.769	1617.672	45.222

Source: Stat, Results.

Table 14. Distribution of Foreign Investments by Activities until 1998.

Activity or Sector	No. of Inv. Firms	Capital	Inv. Costs	Empolyment	Foreign Contribution	% of foreign contribution in Inv. Costs
Industry	1082	15369	30170	157742	7920	26.250
Agriculture	115	1313	3914	19833	683	17.450
Construction	94	2288	5045	33588	1260	24.970
Tourism	197	6265	12125	43458	3413	28.148
Finance	245	8473	8473	0000	3993	47.127
Services	180	1484	23.43	9212	691	29.49
Total	1863	35192	62070	263883	18001	
%	83.28	73.682	68.65	79.51	72.00	
Free Zones	374	12570	28340	67994	7000	
%	16.718	26.317	31.35	20.49	28.00	
Grand Total	2237	47762	90440	331827	25001	

Source: Ministry of Economy, Egypt, 1999.

Table 15. Relative Contribution or shares in Investment Firms, Capital by Region and Activity Until 1999.

Activity/ Sector	Total	Egyptian %	Arabs %	USA. %	EC. %	Others (including Japan)
Industry	31102	76	9	3	7	5
Agriculture	3665	83	12	1	3	1
Construction	6204	68	5	1	24	2
Tourism	24228	82	13	0	2	3
Finance	16678	73	15	1	6	5
Services	6394	88	5	1	2	4
Total	88271	78	11	1	6	4
Free Zones	18017	63	18	9	6	4
Grand Total	106288	75	12	3	6	4

Souces: Ministry of Economy, PAIFZ.

THE RELATIVE CONTRIBUTION OF DFI WITH SPECIAL REFERENCE TO THE JAPANESE INVESTMENT IN EGYPT:

The foreign investment focuses its activities on areas of funding, services, industry, and construction. The Egyptian national contribution in the implemented investment projects ranks highly as it amounts to 78% whereas Arab, European, Japanese, American

Table 16. Foreign Participation in Companies` Capital Till (30/6/1999) Value in Million L.E.

Country	No. of Companies	Capital (1)	Invest. Costs	Particip. (2)	(2:1) %
1- U.S.A.	223	8097	14333	2869	35%
2- Britain	186	7661	12690	2370	31%
3- Netherlands	53	5108	13044	1236	24%
4- Panama	55	3376	6731	1136	34%
5- Switzerland	95	3221	6751	1001	31%
6- France	93	3538	8026	703	20%
7- Germany	136	3319	4661	581	18%
8- Ireland	11	2080	5588	395	19%
9- Italy	99	1704	7313	360	21%
10- Luxembourg	36	2793	3204	267	10%
11- Belgium	18	795	2048	219	28%
12- Japan	16	1577	1846	199	13%
13- Korea	14	1552	2444	149	10%
14- Indonesia	3	359	971	137	38%
15- Sweden	22	278	711	105	38%
16- Iran	7	417	487	105	25%
17- Denmark	14	205	549	103	50%
18- Romania	5	243	243	102	42%
19- India	35	496	1182	83	17%
20- Canada	37	593	1071	59	10%
21- Cyprus	13	77	103	57	74%
22- China	16	310	806	50	16%
23- Greece	15	65	95	47	72%
24- Norway	7	67	192	45	67%
25- Spain	17	200	324	44	22%
26- Austria	8	142	391	36	25%
27- Malaysia	3	112	181	30	27%
28- Australia	7	64	92	24	38%
29- Poland	1	77	77	18	23%
30- Hong Kong	9	40	67	17	43%
31- Russia	8	18	38	11	61%
32- Finland	2	27	28	11	41%
33- Turkey	5	22	47	8	36%
34- Taiwan	5	14	15	5	36%
35- Singapore	2	13	29	3	23%
36- Portugal	1	30	36	1	3%
37- Others	91	4682	6559	720	15%
Total	1368	53372	102973	13306	13306

Ministry of Economy, Egypt, 1999.

Table 17. Size of Japanese Direct Investment in Egypt in 1981–1998.

Years	No. of Projects	Investment (Million Years)
1981	3	2
1982	2	8
1983	0	13
1984	5	2
1985	0	3
1986	1	7
1987	2	3
1988	1	1
1989	1	6
1990	0	0
1991	0	0
1992	0	0
1993	2	7
1994	0	8
1995	1	1
1996	1	1
1997	1	19
1998	0	0
Average	1	4.5

Source: Ministry of finance, Statistics Mouthy, ISSA, 0912–8040–452, Japan, 1999

contribution amount to 11%, 6%, 4% and 1% respectively. The Japanese investment contribution focuses on the project areas of funding, services, tourism, industry, construction, and agriculture. It fluctuates from a minimum point of one million Japanese yen and a maximum point of 19 million Japanese yen in 1997. These investments have stopped completely during 1990, 1991, 1992 and 1998. The average value of the Japanese investment in Egypt during the study period amounts to 4.5 million Japanese yen. Census showed that the Japanese investment focuses its activities in the southern eastern countries of Asia, North America, and Europe (see table 14, 15).

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