

Foreign Direct Investment and LDCs Exports: Evidence from the MENA Region

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Abstract: This paper examines the effect of FDI activity on manufacturing exports in four MENA countries. The sensitivity of manufacturing exports and the share in manufacturing exports in total exports to two measures of FDI activity is tested. The findings of this analysis suggest that FDI activity may have a positive effect on the host country's manufacturing exports. The magnitude of the effect however is too small to generate any increase in the share of manufacturing exports in merchandise exports.

JEL classification: F1, F21, F31.

Key words: Foreign Direct Investment, Exports, and Developing Countries

I. Introduction:

Export led growth is increasingly becoming the officially announced development strategy in the MENA region as export promotion continues to receive great emphasis from policy makers in MENA countries. Over the last decade many countries in the region embarked upon bold plans to increase exports via creating an export friendly environment with major reforms in the legal, and tax system along with generous incentive structures for exporters. Foreign direct investment is sought to bring in capital, technology and expertise along with access to international markets. As the latest MENA Development Report of the World Bank puts it the region has been in “a state of transition” to a new development strategy based on investment and trade integration with the global markets.

The literature on FDI and growth has gone a long way to identify different channels through which FDI affects growth. For instance, Borensztein, Gregorio and Lee (1998) suggests that FDI enhances growth via increasing domestic capital formation, technology and improved productivity only if the host country has a threshold level of human capital. Balasubramanyam, Salisu and Sapsford (1996) asserts that endogenous growth theory provides a new conceptual framework to analyze the effect of FDI on growth through its effect on host countries exports. Indeed, Bhagwati (1978) points that volume and efficiency of FDI are more pronounced in export oriented host countries. Aitken, Hanson and Harrison (1997) examines the Mexican manufacturing firms and suggests that exports activities by multinational firms reduce export costs for domestic firms. Haddad and Harrison (1993) find some evidence for spillover on Moroccan firms. A developed country case study is introduced in Barry and Bradley (1997) who investigate the effect of FDI on the Irish economy and point to the hazards of neglecting domestic firms. With the exception of Haddad and Harrison (1993) and few other studies on FDI in the MENA region the literature remains proportional to the humble size of FDI activity in the region.

This paper investigates the effect of FDI on the export performance of four resource poor labor abundant host MENA countries: Egypt, Morocco, Tunisia, and Turkey whose declared strategy is based on export and FDI promotion and a greater trade and investment integration. This paper proceeds as follows: Section II explores trade and FDI reforms and analyzes trade and FDI figures. Section IV formally investigates the effect of FDI on exports and section V provides some concluding remarks.

II. FDI, Balance Of Payments, And LDCs Manufacturing Exports: A Literature Review

Perspectives on FDI and multinationals have shifted towards a more accommodating stance. This shift is supported by findings on MNCs contribution to growth, exports and balance of payments of the host country. Indeed, the increasing MNC contribution to host country's exports is one of the major reasons for that shift in perspective. This contribution has gained more support with the rise of export led growth as an alternative, and successful, industrialization strategy as demonstrated by the South East Asian experience.

If history is any guide, during the period of 1966-1974, local sales by majority owned US manufacturing foreign affiliates in LDCs constituted 90.5 percent of total sales with only less than 10 percent exported. Local sales represented 94 percent of total sales

in Latin America, 86 percent in the Middle East, and 75 percent in Asia. For all LDCs, the share of local sales declined slightly from 91.6 percent in 1966 to 89.4 percent in 1974. Over the same period, the share of US majority owned affiliates in manufactured exports averaged 9.2 percent. This share ranged from 23.1 percent in Latin America, 6.1 percent in Asia to 1.7 percent in Africa (Nayyar, 1978). This small contribution in exports represented the situation in the late 1960s and early 1970s and reflected the dominance of import substitution as the industrialization strategy in many developing countries. For the 1970s it was estimated that MNCs accounted for about 15 percent of total LDCs manufactured exports (Colman and Nixon, 1994).

The outcome of the inward-looking industrialization strategies was disappointing for many countries. Therefore, the outward-looking or export-oriented strategy was put into action in many developing countries, with East Asian economies playing the pioneering role. Indeed, Helleiner (1973) described the increasing role of MNCs in manufacturing exports by LDCs as "the beginning of an inevitable and important trend in the evolution of international trade and investments" (p.31). In this new trend, large MNCs moved increasingly toward knitting the less developed countries into their international activities as suppliers not merely of raw material, but also of particular manufactured products and processes. Manufactured exports, therefore, is seen as the "new frontier" of international business in the less developed countries. Helleiner (1973) underlines the importance of the process of component specialization as the chief, or at any rate the easiest, avenue for LDCs seeking to expand their manufactured exports given the limited and constrained opportunities for alternative foreign exchange earnings.

From 1970 to 1980, OECD imports of manufactured consumer goods increased in nominal value by 14.55 times. Total manufactured imports from developing countries increased 10.84 times. The most successful experience was in Hong Kong, Taiwan, and Korea who supplied some 72 percent of OECD imports of manufactured consumer goods from developing countries (Keesing, 1983).

UN (1992) shows a rising share of foreign affiliates in manufacturing exports from developing countries. This share ranges from 21.5 percent in Fiji to 85 percent in Singapore by mid 1980s. While this share is high in Asian countries (more than 50 percent in Malaysia, Sri Lanka and Philippines), it is, interestingly, high in Latin American countries that are known for their long history of import substitution industrialization (58% in Mexico, more than 25% in Argentina and Brazil). This share is also high in many other emerging economies marking the importance of MNCs in the manufactured exports of LDCs. The focus on exports is also reflected in the propensity to export, i.e. the share of exports in foreign firms' total sales.

UN (1998) estimates that the Japanese affiliates in Indonesia, Malaysia, Philippines and Thailand exported some 40 percent of their combined total manufactured sales in 1995. The share is slightly higher, 42 percent, for US majority owned affiliates. This share is 57 percent in Malaysia and Thailand, 40 percent in Philippines and only 4 percent in Korea.

Firms' export orientation reflects on their contribution to host country's balance of payments. Recent evidence from East Asian economies shows mixed but increasingly positive contribution. UN (1997) examines the BOP effect of FDI in Singapore, Malaysia, China, and Thailand in the first half of 1990s. BOP contribution is found positive in China, mixed in Malaysia, and negative in Thailand. Due to data limitations

the study could not determine the net BOP effect in Singapore. Fry (1996) examines the effects of FDI inflows on a group of six Asian economies (Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand). He examines five channels through which FDI activity may affect the balance of payments (savings, investments, exports, imports and economic growth), and finds a positive effect of FDI on the first four variables, with a lagged response for exports.

One should note that the above findings could not simply be generalized. The balance of payment effect of FDI activity varies across countries and depends on the purpose on investments, the nature of the activity, and the age of the project. In this sense, one may distinguish between market seeking FDI and efficiency seeking FDI. The former is likely to trigger more imports and the latter is likely to generate more exports. BOP effect of strategic FDI is likely to be ambiguous depending on the type of investment (Dunning 1993). At the early stages of a project's life more imports are expected, as it needs heavy machinery and equipment. Once the project is old enough to have created domestic linkages it may become less dependent on imported inputs. These linkages may vary across countries and across industries. Moreover, factors specific to the host country such as the importance of MNCs to the local economy, the country's stage of development, its size, resources, technological capabilities, are more likely to influence the extent and nature of external transaction of foreign affiliates (UN, 1997).

Yet, there are no solid grounds to make one believe that foreign firms contribute more or less to the balance of payment of the host country than domestic firms. Case studies comparing the export performance of local and foreign firms show a mixed pattern. For instance, Willmore (1986) finds foreign firms to be more export oriented than their matched Brazilian firms. Chen (1983) finds no difference in the export performance of Malaysian and foreign firms. Cohen (1975) finds foreign firms to be more export oriented in Korea, domestic firms are more export oriented in Singapore, and no difference in the export performance of foreign and domestic firms in Thailand.

Differences in export performance may reflect many other elements than nationality. Bernard and Jensen (1997) note that exporters usually have superior characteristics relative to non-exporting firms. Exporters are larger, more productive, more capital intensive, more technology intensive and pay higher wages. They examine the interaction between exporting and firms' performance. They find that good firms become exporters and future exporters already have most of the desirable performance characteristics. In addition, firms that become exporters grow faster in terms of employment and shipments than non-exporters. The major benefit of exports is the increased probability of survival. It is clear that foreign affiliates in LDCs are the forerunners in the exporting business by virtue of their superior technological capabilities and their access to international markets. Bernard and Wagner (1998) examine exit and entry into export markets by German firms. They find superior performance for German exporters compared to non-exporters. Aw, Chen and Roberts (1997) find superior performance of exporters in the Taiwanese manufacturing industries. This is less evident in South Korea as found by Aw, Chen and Roberts (1999).

Based on the findings of Bernard and Jensen, and others one is tempted to expect MNCs affiliates to contribute more in the exports of their host countries given their capital intensity and superior technological capabilities. Indeed, Aitken, Hanson and Harrison (1994) investigate export-spillovers generated by all exporting activities and by

exporting activities of MNCs affiliates in Mexico. Their empirical analysis lends support only to the latter form, i.e. export activities by MNCs affiliates. Hence, MNCs not only contribute directly to host countries' exports, they generate export spillovers and work as catalysts for exports as well.

III. FDI Reforms in MENA countries

Two major events have reshaped MENA countries attitude towards free trade and FDI: the debt crisis and the drain in commercial bank lending to developing countries and the success of export led growth experience in South East Asian economies in contrast with nationalist import substitution strategies that has been widely adopted in many MENA region with no significant achievements. It was only late in the 1980s when MENA countries started to act seriously to shift towards greater trade and FDI openness when declining oil revenues add more restraints for both oil exporting countries and non-oil labor exporting countries. MENA countries, particularly those in the sample have embarked upon major steps towards creating an environment conducive to FDI and exports.

Against this background and with an increasing competition for FDI MENA countries have accelerated the pace of FDI and trade liberalization. Reforms generally included new FDI legislations like in Morocco 1983 and in Egypt 1989. These legislations were overhauled in major revisions in 1988 and 1995 in Morocco and in 1997 in Egypt. Tunis and Turkey introduced new legislations to promote FDI in 1993 and in 1995. The spirit of most of these legislations is to do away with controls that limit FDI activities to certain sectors and to remove restrictions on repatriation. FDI agencies have been established to streamline procedures for FDI entrance. Automatic authorization is granted to activities in the positive as in Egypt while other countries enforce some screening processes to limit the effect on domestic firms. A major component of these legislations addressed property rights and stressed its protection. With the exception of Tunisia all countries in the sample impose no restrictions on imported materials.

Table 1 shows that the five countries in the sample managed to different degrees to attract FDI inflows. Egypt has been the main recipient of FDI in the region in the 1980s. Turkey emerged in the 1990s as a major attraction for FDI in the MENA region. Tunisia managed to maintain a sizeable flow of inbound while FDI inflows to Morocco came to almost a halt in 1997 with only 3.7m dollars of inflows.

>>table 1 here <<<

Egypt continues to be the largest host of FDI activity in the sample with a stock of 16.7bn of FDI in 1997, which is more than FDI stock in Turkey, Morocco and Tunisia combined. These three countries however, managed to increase it inbound FDI by two folds in the 1990s. Table 2 shows FDI stock for each country in the sample.

>>table 2 here <<<

Countries fortunes in manufacturing exports exhibit a different pattern. Turkey has the largest manufacturing exports size. Turkish manufacturing exports are more than triple the combined manufacturing exports of the four countries in the sample. The share of manufacturing exports is also the highest in Turkey, with a strong performance from

Tunisia whose manufacturing exports represented three quarters of its merchandise exports. Egypt is notably observed for its relatively poor exports performance. Nevertheless, the share of Egypt's manufacturing exports to its merchandises exports increased from some 10 percent in the 1980s to some 40 percent in 1997.

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IV. An Empirical Analysis

Methodology

As always the case with MENA research, the lack of firm or industry level data continues to present a formidable barrier to tackling important issues. We are eventually left with country level data that allows very few options in terms of model specifications and questions to be addressed. Against this background, and in order to investigate the effect of FDI on host country exports, a gravity equation specification is used to test the sensitivity of exports to FDI inflows. Gravity models are very common in studying bilateral trade and FDI. Examples of studies that used the gravity specification to model bilateral trade and FDI include Grubert and Mutti (1991) and Brainrad (1997). In this paper, exports are assumed to be correlated the involved countries' GDP, GDP per capita, distance, trade frictions and investment frictions. The empirical specification followed in this paper therefore is:

$$EXPORTS = f(RGDP, RWGDP, RGDP\text{CAP}, RWGDP\text{CAP}, FDI, AVGEDUC, RER) (1)$$

Where EXPORTS represent the host country's manufacturing exports. As an alternative measure of export performance, the share of manufacturing exports to total merchandise exports is also used as a dependent variable. RGDP and RGDP\text{CAP} represent real GDP and Real per capita GDP in the host country. RWGDP and RWGDP\text{CAP} are the real GDP and GDP per capita for the rest of the world. FDI is the variable of interest and it is measured by inbound FDI flows and FDI stock in the host country. The gravity model is augmented by some additional variables: AVGEDUC, RWAGE, and RER. AVGEDUC is a measure of skilled labor abundance, and RER is the real exchange rate. Skilled labor abundance is thought of as a catalyst agent for manufacturing exports. Indeed, Borensztein et al (1998) find skilled labor abundance to be crucial for FDI to be conducive for growth. Real wage in manufacturing is a proxy for host country's competitiveness.

Data

Empirical FDI research has always encountered data difficulties. This becomes more evident for developing countries, and particularly MENA countries. Country level data spanning up to 23 years, from 1975 to 1997 is obtained for four countries in the region: Egypt, Morocco, Tunisia and Turkey. Data on manufacturing exports, real GDP, real per capita GDP, real exchange rates are obtained from the World Bank's World Development Indicators CD ROM. Rest of the world GDP is the world GDP minus the perspective country's GDP. Similarly the rest of the world per capita GDP is obtained by dividing GDP for the rest of the world by the rest of the world population, that is, the world population net of perspective country's population. Data on FDI inflows is obtained from the International Financial Statistics CD ROM. Data on FDI and manufacturing exports are converted into real dollars using the world GDP deflator obtained from the World

Development Indicator CD Rom. Skilled labor abundance is captured by the average years of education for population at the age of 25 and above. This data is obtained from Barro and Lee (1996). It is available for every five years, with linear interpolation by author for in-between year.

Initial results

Two measures of FDI activity and two measures of manufacturing exports performance are utilized. Table 4 presents pooled OLS estimates for the above specification. Columns 1 and 2 summarize the results obtained for manufacturing exports and columns 3 and 4 summarize the results for manufacturing exports share in merchandise exports. Data seems to fit the model reasonable well with an R squared of as high as 0.9. Variables are often significant with the expected sign. FDI inflows have a positive and statistically significant effect on manufacturing exports. The magnitude of the coefficient suggests that a \$1m of FDI inflows increase manufacturing exports by some \$117. The effect of FDI stock on manufacturing exports, however is insignificant. The effect of both FDI inflows and stock on the share of manufacturing exports in merchandise exports is statistically insignificant as shown in columns 3 and 4. Note that the coefficient on the LOGREX, which is the log of the real exchange rate is unexpectedly insignificant in the four regressions, while the effect of skilled labor abundance, measured by AVGEDUC is only significant in column 4. This lends support to the inclusion of this control variable as the share of manufacturing exports is positively affected by higher skilled labor abundance rates.

>>table 4 here <<<

Unexpected signs, as in the LOGREX variable point to the need to control for the unobserved country pair fixed effects that could have biased the results. This may be particularly true as distance, which is an original control variable in the gravity specification, is omitted because the rest of the world is the trading partner in our sample. In the pooled estimates these unobserved country pair effects or individual effects are assumed to be uncorrelated with other regressors, which may not be the case and therefore OLS estimates are biased. The fixed effects formulation introduces country dummy variables that allow different intercepts for each country. In doing so it drops all time invariant effects, whether observed or unobserved, and yields unbiased estimates of the coefficients on other explanatory variables. The fixed effects estimates are therefore robust to the omission of any relevant time invariant regressor, like distance.

Table 5 presents the results obtained after controlling for the fixed effects. Now both FDI inflows and FDI stock have a positive and statistically significant effect on manufacturing exports. The magnitude of the coefficient suggests that a \$1m of FDI inflows or FDI stock may increase manufacturing exports by \$122 or \$22 respectively. This magnitude may explain the insignificant effect on the share of manufacturing exports in merchandise exports remains insignificant, columns 3 and 4. Note that the coefficient on the log of real exchange rate is now positive and statistically significant. As the exchange rate is defined as local currency units per a US dollar, currency depreciation appears as an increase in the exchange rate. Interestingly, the effect of currency depreciation on manufacturing exports substantially exceeds that of FDI

inflows. As shown in table 5, 1 percent depreciation in the local currency increases manufacturing exports by some \$6-10m as in columns 1 and 2.

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Another way of dealing with potential pooling bias is to run the above regression on a country-by-country basis. Of course this is carried out at the expense of degrees of freedom but it still helps examine the effect of FDI activity in every country in the sample. Table 6 summarizes the results obtained for Egypt. Coefficients on both FDI inflows and FDI stock are both positive and statistically significant as shown in columns 1 and 2. The magnitude of these coefficients is smaller than in the whole sample regressions. In Turkey, table 7, only FDI Stock has a positive and significant effect as shown in column 2. A similar result is obtained in Tunisia regression as in table 8. Results for Morocco, table 9, show a positive effect of FDI inflows on the share of manufacturing exports but the effect of FDI stock is negative.

V. Conclusion

Over the last two decades MENA countries have pursued a new development strategy that places great emphasis on exports and FDI. The latter is sought as a new engine of growth that brings in capital, technology, expertise and access to international markets. Many countries in the region have supported their competition for FDI by major revisions of FDI laws and regulation and incentives along with broader economy wide reform packages. The literature on FDI and growth identifies several vehicles through which FDI may enhance growth. Superior export performance and spillover on domestic exporting firms became evident by many studies. The literature on FDI in MENA region is hampered by the lack of data and by the humble size of FDI activity in the region compared to other parts of the world. This paper examines the effect of two measures of FDI activity, FDI sock and inflows on manufacturing exports in four MENA countries. The main findings of this investigation suggest that FDI activity may have a positive effect on manufacturing exports. This magnitude of the effect, however, is too small to generate any significant increase in the share of manufacturing exports in total merchandise exports. The effect of FDI inflows on manufacturing exports largely falls short of the effect of mere currency depreciation which points to the need for MENA countries to effectively qualitatively and quantitatively revise FDI inflows and FDI policies.

On a final note, country level data may hide a lot of sector specific and firm specific aspects of FDI activities and the nature of its interaction with domestic firms. With the lack of disaggregated data research on FDI will continue to be kept at a bay with no much investigation to be done with country level data.

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Table 1. FDI inflows, US\$ millions

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Egypt	548.3	1178	734	253	459	493	1256	598	636	890.6
Morocco	89.42	20	165	317.5	422	491	550.9	92.39	76.4	3.57
Tunisia	234.6	108	76.3	125.5	526	562	432	264.3	238	339.1
Turkey	18	99	684	810	844	636	608	885	722	805

Source: World Development Report

Table 2. FDI Stock, US\$ millions

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Egypt	2257	5699	11039	11391	11751	12244	13500	14734	15624	16700
Morocco	189	441	917	1297	1660	2182	2702	3032	3386	4465
Tunisia	781	1822	2193	2318	2844	3140	3838	4120	4340	4680
Turkey	107	360	1320	1402	2974	3637	4218	5103	5825	6630

Table 3. Manufacturing, Exports US\$ Millions

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Egypt	333	185	1096	1132	1077	1021	1366	1391	1118	1575
Morocco	565	875	2211	2322	2191	2097	2158	2425	2385	2309
Tunisia	797	724	2417	2547	2943	2857	3475	4346	4403	4335
Turkey	782	4854	8796	8939	10497	11028	13134	16060	17000	19658

Source: World Development Indicators CD ROM

Table 4. Manufacturing Exports Share in Merchandise Exports, %

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Egypt	10.9	10.1	42.5	30.7	35.3	32.9	39.3	40.4	31.6	40.3
Morocco	23.5	40.5	52.3	54.2	55.1	56.8	53.5	51.4	50.3	49.4
Tunisia	35.7	44.5	69.1	68.9	72.9	75.1	75.8	79.4	79.8	78.0
Turkey	26.9	61.0	67.9	65.8	71.3	71.8	72.5	74.4	73.8	74.9

Chart 1. Egypt: FDI Inflows

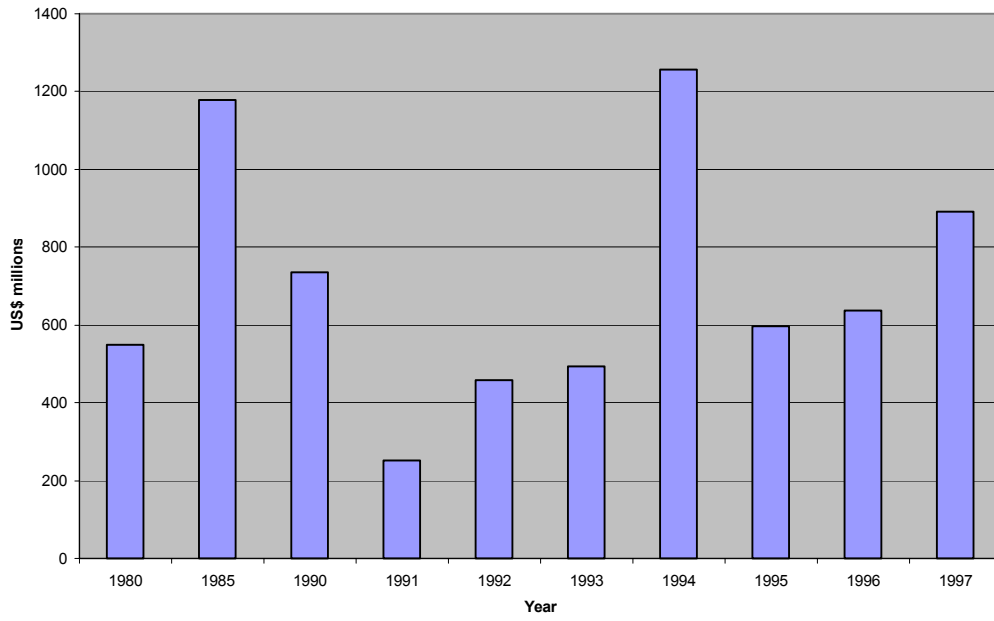


Chart 2. Turkey: FDI inflows

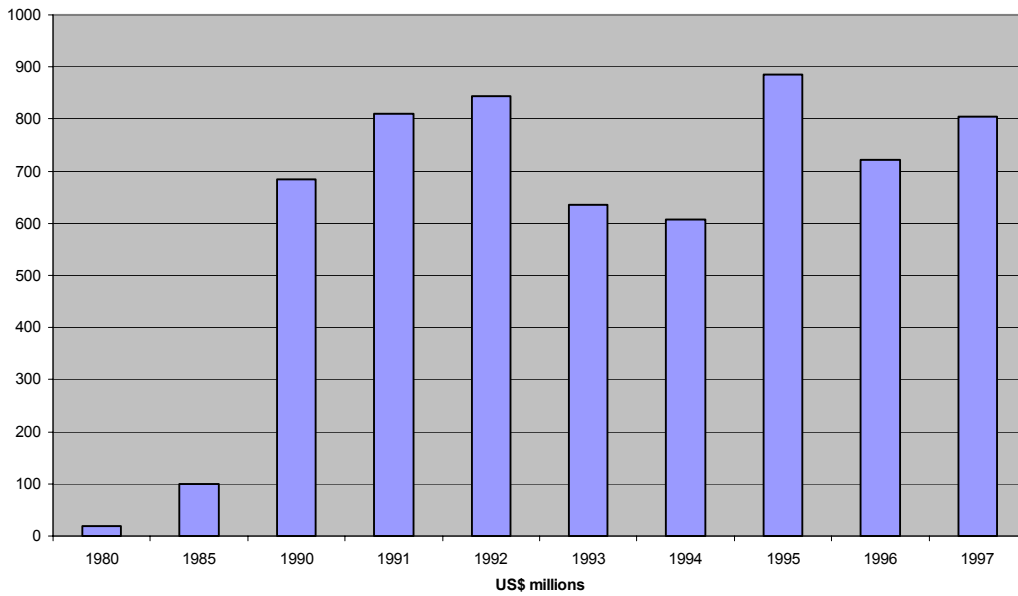


Chart 3. Tunisia: FDI inflows

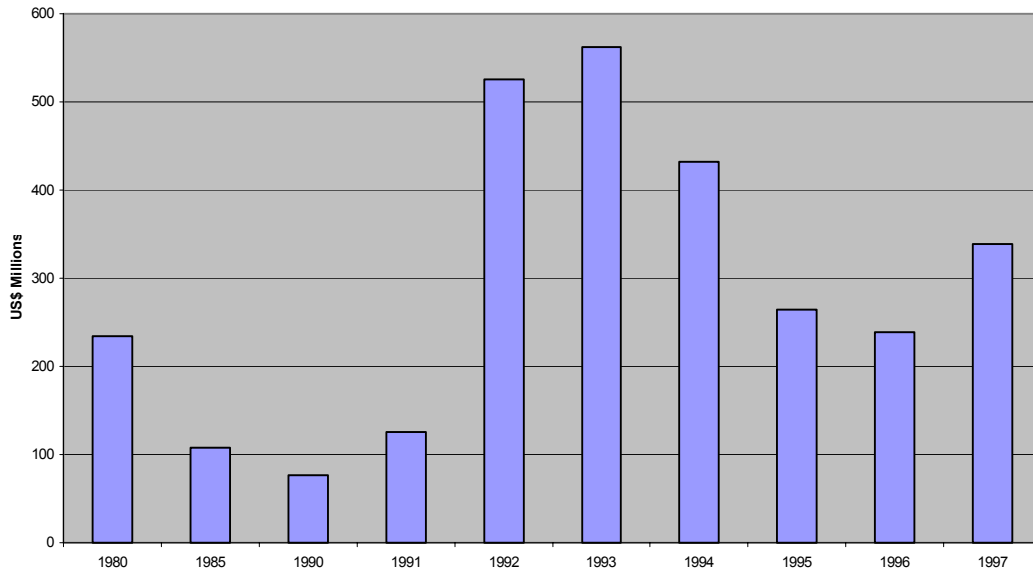
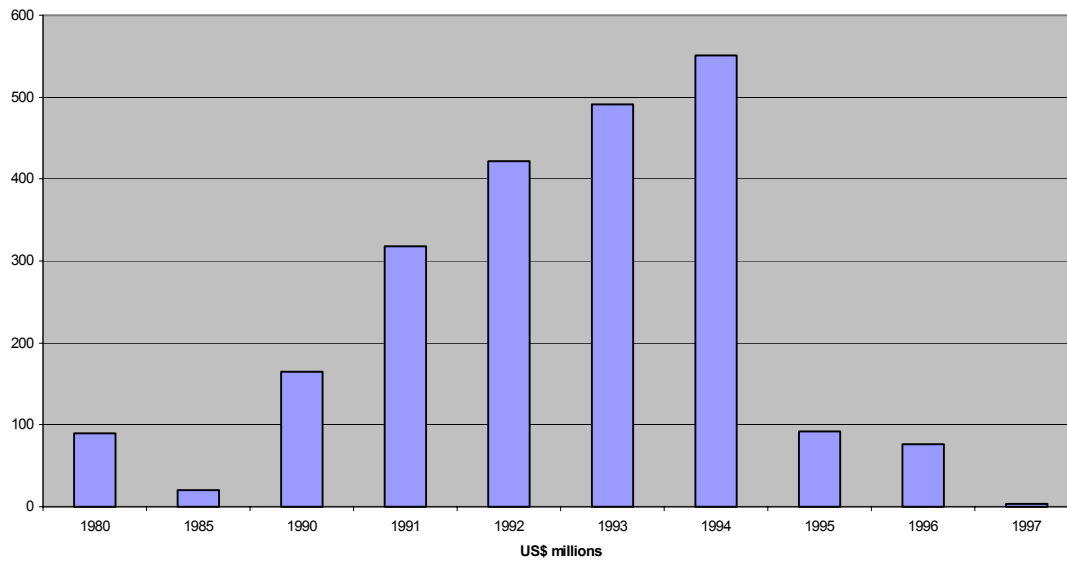


Chart 4. Morocco: FDI Inflows



Manufacturing Exports Share in Merchandise Exports

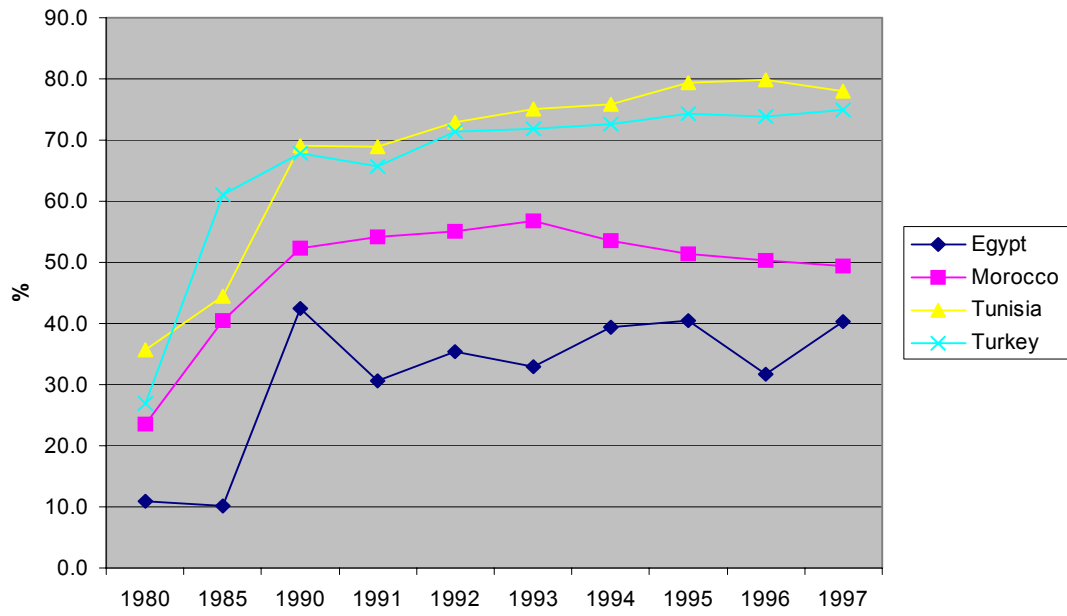


Table 4. OLS Estimates of the Effect of FDI on Manufacturing Exports

Variables	Dependent Variable – Manufacturing Exports		Dependent Variable – Manufacturing Exports Share	
	RGDP	1.5***	1.96***	-1.01e-10**
	.51	.59	4.86e-11	3.80e-11
RGDPCAP	1.02e+08***	9.12e+07***	48446***	.015***
	2.13e+07	2.65e+07	.002	.002
RWGDPCAP	.02	.05***	-1.63e-12	-6.82e-12***
	.01	.01	1.01e-12	1.20e-12
RWGDP	-2.26e+08***	-4.04e+08***	.01**	.049***
	8.09e+07	1.23e+08	.006	.007
LOGREX	-2.04e+10	-2.95e+10	1.36	5.19***
	1.26e+10	1.50e+11	1.42	1.16
FDI INFLOWS	1.17e+02*		-.012	
	6.13e+01		.007	
FDI STOCK		-8.92		.001
		13.96		.001
AVEDUC	2.61e+08	-3.01e+09	-.11	.99
	6.35e+09	7.18e+09	.94	.50**
R Squared	0.867	0.878	0.91	0.96
F- Test	23.50***	21.77	71.11	168.65
Number of observations	66	54	66	66

- Robust standard errors are in parentheses with ***, ** and * denote 1, 5, and 10 percent significance levels.
- Constant Suppressed.

Table 5. Fixed Effects Estimates of the Effect of FDI on Manufacturing Exports

Variables	Dependent Variable – Manufacturing Exports		Dependent Variable – Manufacturing Exports Share	
	RGDP	-.29	-1.20**	-1.20e-10**
	.40	.598	6.10e-11	5.83e-11
RGDPCAP	1.07e+08***	1.47e+08***	.01**	.007**
	2.79e+07	3.96e+07	.004	.003
RWGDPCAP	.032***	.007	-1.35e-12	-5.34e-12***
	.007	.014	1.19e-12	1.44e-12
RWGDP	-2.81e+08***	-1.39e+08	.0137*	.044***
	5.11e+07	9.05e+07	.007	.008
LOGREX	5.92e+10***	9.82e+10***	3.29	3.42
	1.46e+10	2.11e+10	2.21	2.05
FDI INFLOWS	1.22e+02*		-.009	
	6.63e+01		.010	
FDI STOCK		2.17e+01*		-.00002
		1.13e+01		.001
AVEDUC	-4.67e+09	-1.05e+10	-.28	.84***
	7.21e+09	7.92e+09	1.09	.07
R Squared	0.91	0.90	0.91	0.92
F- Test	82.53***	60.63**	52.00***	72.06***
Number of observations	66	54	66	54

- Robust standard errors are in parentheses with ***, ** and * denote 1, 5, and 10 percent significance levels.

Table 6. OLS Estimates of the Effect of FDI on Manufacturing Exports -Egypt

Variables	Dependent Variable – Manufacturing Exports		Dependent Variable – Manufacturing Exports Share	
	RGDP	-.8313	-2.26	1.21e-08*
	3.45	3.495	7.30e-09	4.29e-09
RGDPCAP	2.82e+07	8.98e+07	-.4511255	-.27*
	1.21e+08	1.31e+08	.277	.153
RWGDP	.0163	.02050	-8.36e-11	-6.48e-11**
	.0266	.022	5.63e-11	3.10e-11
RWGDP CAP	-8.14e+07	-9.84e+07	.380	.30**
	1.15e+08	9.59e+07	.252	.1336
LOGREX	4.08e+09	7.97e+08	.690	-.678
	4.98e+09	3.93e+09	6.41	3.45
FDI INFLOWS	2.94e+01***		-.0010	
	8.39		.013	-.0008
FDI STOCK		4.379556 ***		.0008
		1.628569		
AVEDUC	-2.33e+09	1.36e+09	-10.779***	1.369
		7.60e+09	3.511	5.044
R Squared	0.94	0.93	0.72	0.92
F- Test	74.86***	72.17	3.68*	3.25*
Number of observations	21	18	21	18

- Robust standard errors are in parentheses with ***, ** and * denote 1, 5, and 10 percent significance levels.
- Constant Suppressed.

Table 7. OLS Estimates of the Effect of FDI on Manufacturing Exports –Turkey

Variables	Dependent Variable – Manufacturing Exports		Dependent Variable – Manufacturing Exports Share	
	RGDP	17.20	-3.72	-3.58e-09***
	13.82	20.82	9.87e-10	2.45e-09
RGDPCAP	-9.34e+08	2.75e+08	.2197***	.066
	7.89e+08	1.21e+09	.0574	.141
RWGDPCAP	6.05e+08	3.77e+08	-.17890***	.023
	8.01e+08	1.28e+09	.0646	.178
LOGREX	7.23e+10*	1.15e+11***	13.25***	23.039***
	4.24e+10	3.71e+10	2.948	6.967
FDI INFLOWS	2.60e+02		.0087	
	3.45e+02		.0134	
FDI STOCK		2.45e+02***		-.009
		7.74e+01		.0074
AVEDUC	2.56e+10	4.92e+08	-.0003	.224
	1.71e+10	1.20e+10	.647	.942
R Squared	0.96	0.987	0.97	0.97
F- Test	127.79***	149.79***	36.18***	27.91***
Number of observations	23	18	23	18

- Robust standard errors are in parentheses with ***, ** and * denote 1, 5, and 10 percent significance levels.
- Constant Suppressed.

Table 8. OLS Estimates of the Effect of FDI on Manufacturing Exports –Tunisia

Variables	Dependent Variable – Manufacturing Exports		Dependent Variable – Manufacturing Exports Share	
RGDP	16.01	15.23	1.44e-08 ***	2.33e-08***
	20.04	22.00	4.40e-09	4.37e-09
RGDPCAP	-8.00e+07	-1.38e+08	-.1346433***	-.213***
	1.50e+08	1.93e+08	.036	.039
RWGDPCAP	.0003	.0034	-1.84e-11***	-2.74e-11***
	.02970	.0253	5.83e-12	5.39e-12
RWGDP	-3.80e+07	-2.36e+07	.116***	.162***
	1.46e+08	1.33e+08	.029	.029
LOGREX	2.74e+09	2.53e+10**	2.65	4.08**
	1.70e+10	1.15e+10	3.75	1.635
FDI INFLOWS	-1.76e+01		.0087	
	1.50e+02		.0163	
FDI STOCK		4.80e+01***		-.00147
		1.05e+01		.0037
AVEDUC	-2.67e+09	1.08e+09	1.522***	1.721***
	3.97e+09	1.96e+09	.3912	.4606
R Squared	0.96	0.99	0.985	0.992
F- Test	930.01***	721.44***	14.64***	18.27***
Number of observations	22	18	22	18

- Robust standard errors are in parentheses with ***, ** and * denote 1, 5, and 10 percent significance levels.
- Constant Suppressed.

Table 9. OLS Estimates of the Effect of FDI on Manufacturing Exports –Morocco

Variables	Dependent Variable – Manufacturing Exports		Dependent Variable – Manufacturing Exports Share	
	RGDP	-16.32	-10.39	1.79e-09
	13.70	13.06	3.32e-09	3.01e-09
RGDPCAP	4.02e+08	2.84e+08	-.0424	-.001
	3.52e+08	3.29e+08	.082	.076
RWGDP	.061	.032	-7.81e-12	1.13e-12
	.041	.038	9.89e-12	8.58e-12
RWGDP CAP	-3.31e+08	-1.85e+08	.0462	-.0060
	2.35e+08	2.08e+08	.0533	.047
LOGREX	2.53e+10*	3.85e+10**	24.08***	27.18***
	1.33e+10	1.51e+10	5.48	5.66
FDI INFLOWS	4.91e+01		.021*	
	3.17e+01		.012	
FDI STOCK		2.94e+01*		-.0087***
		1.62e+01		.0029
R Squared	0.95	0.95	0.97	0.958
F- Test	217.80***	118.00***	31.41	23.08
Number of observations	22	18	22	18

- Robust standard errors are in parentheses with ***, ** and * denote 1, 5, and 10 percent significance levels.
- Constant Suppressed

Table 10. Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
RGDP	92	9.2E+10	9.05E+10	7.5E+09	4.05E+11
RGDPCAP	92	2712.826	1346.594	540	6350
Manufacturing exports share	92	43.38147	19.75204	8.1369	79.813
Manufacturing exports	92	2.57E+11	3.79E+11	1.7E+10	1.97E+12
FDI INFLOWS	88	350.071	355.9488	0.55	1256
FDI STOCK	72	3661.569	4186.052	107	16700
AVGEDUC	69	6.446377	2.457018	3.1	12.7
RWGDP	92	2.21E+13	9.57E+12	8.3E+12	3.88E+13
RWGDPCAP	92	4352.021	1475.657	2056.87	6715.856
LOGREX	92	2.188796	3.241333	-0.94161	12.23371