Mobilizing International Capital for Arab Economic Development: With Special Reference to the Role of FDI

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Abstract

The purpose of the paper is to study the extent and potential significance of foreign direct investment (FDI) in the economic development of the Arab countries. The paper will first highlight the importance of international capital and financial flows in the developing countries, with a special emphasis on the position of such flows, especially FDI, in the Arab world. This will be followed by an analysis of: 1) the financing needs of Arab countries as determined by the projected future size of the savings-investment gap; 2) the determinants of FDI in the Arab countries, based on an eclectic model of economic and political factors; and 3) the effect of FDI on Arab technological development and total factor productivity (TFP). The paper will conclude with policy recommendations and suggestions.

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I. Introduction

By and large, the Arab economy does not constitute a homogenous entity since its various economies have different structures and resource endowments. For instance, the economies of the Gulf Cooperation Council (GCC) have a combined population of no more than 28 million and the share of the hydrocarbons sector in their GDP exceeds 38% (in addition to having close to 45% and 15% of the world's total oil and gas reserves respectively); whereas the Moroccan economy alone has a population of more than 30 million and the share of the hydrocarbons sector in its GDP does not account for more than 3%[1]. Yet, despite these structural differences, Arab economies remain tied together through a web of intra-regional flows in trade, labor remittances, and financial and development aid, the result of which is that the Arab economy still displays a reasonable degree of similar performance among its various economies. Hence, one is not guilty of over-generalization if one sometimes speaks of the Arab economy in the aggregate.

This aggregate Arab economy had a lot to cheer about in terms of its social development in the last three decades. From 1970 to 1998, life expectancy at birth increased from 52 to 68 years; secondary-school net enrollment ratios rose from 35% to 66%; and the Gini coefficient

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1 GCC countries are: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates (UAE).

declined from 0.42 to 0.38[2]. Also, up until 1985, the economy's performance was no less impressive: Arab per-capita GDP grew at an average annual rate of 3.4%, and the Arab world as a result was able to rise to a middle-income status. But from 1985 onwards, GDP per-capita declined by about 1.5% annually, and the achieved social advances were not enough to reverse that trend. Also, paralleling those movements in per-capita GDP in each sub-period were changes in investment and net capital flows: between 1970-85, as a % of GDP, Arab investment and net capital flows averaged 26.5 and –10.5 (net creditor) respectively; whereas since 1985, the corresponding figures averaged 21.5 and 3.5 (net debtor). And it is no coincidence that during the first half of the period the Arab (oil) terms of trade more than tripled, whereas in the second half of the period they were almost halved (the recent increase in the price, not withstanding). To a large extent, then, the Arab economy was still following the roller-coaster ride of the price of oil.

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[2] The Gini coefficient provides a summary measure of the degree of inequality (0 = no inequality, 1 = complete inequality), and it reflects the percentage shares of income accruing to segments of the population ranked by income levels. One of the reasons behind the reduction in the Gini coefficient, however, is the fall in per-capita income of the GCC countries after the collapse of the price of oil in the mid 1980s. Also, a standard measure of welfare is the human development index (HDI) which is a composite index of life expectancy at birth, adult literacy rates, and per-capita GDP. In 1997, the HDI for the Arab, developing, and developed countries were, respectively, 0.626, 0.637, and 0.919. For more on human resource development in the Arab world, see Karam (2000).

That is not to say that there were no attempts at adjustment. During the second half of the period, most Arab countries worked at restoring macroeconomic stability, and at restructuring their economies to allow markets and the private sector to have more say in better allocating resources and in generating more income. As important, there were attempts at diversifying their economies and at reducing their reliance on traditional resource-based exports, such that by 1998 the share of manufactured exports in total merchandise exports more than doubled to reach 17%. But this accomplishment is still modest, when one compares it with the developing countries' share of 68% and when one considers that the Arab world's share of total manufacturing value added in technology goods is only 4% that of the developing world.

At the same time, the high population growth rates of the past means that Arab labor force will grow by more than 3% in the coming 15 years, so more and better investment is required to get this larger labor force employed and to enable it to produce goods of value. But more quantity and better quality investment needs more foreign capital to be attracted so as to complement available domestic capital. In this respect, the Arab world received in the 1990s an average of $ 10 billion only in net capital inflows at a time when the developing world received twenty times as much. Capital inflows are, however, a mixed blessing. On the one hand, they could destabilize the macroeconomic conditions of a country by worsening its competitiveness, increasing its exposure to external stocks, and reducing its ability to pursue an independent monetary policy. On the other hand, they could discipline

capital markets by forcing reforms and regulations to the financial sector; and, more crucially for our purpose, they could augment investible resources and provide a vehicle for investors to pool risk. This is particularly the case of foreign direct investment (FDI), which not only brings in greenfield investments and helps restructure privatized industries, but also facilitates technology transfer and upgrading. Thus the need for FDI mobilization in the Arab world.

The purpose of this paper is to analyze aspects and issues relating to the mobilization of international capital for Arab economic development, with a special reference to the role of FDI. In section II, we present a description of the types and size of net capital inflows to both the developing and Arab world, and study the changes in the composition of these flows and the factors driving these changes over the last two decades. Section III provides a simple, open-economy income determination framework to highlight the significance of capital flows to the real economy, and to calculate the size of the savings-investment gap in the Arab world and the limited role that FDI has played in filling this gap. Using a framework that utilizes the concept of the incremental capital-output ratio, section III also presents projections of the size of the savings-investment gap for the year 2015 based on two scenarios: scenario one, assumes the same average GDP growth rate as the one that prevailed over the 1987-98 period; and scenario two, assumes a GDP growth rate of 7% needed to absorb the increase in the labor force. Section IV concentrates on the global distribution of FDI and the position of the Arab countries in this

distribution. It shows that most of the FDI in developed countries is market seeking whereas FDI in developing countries is mostly efficiency seeking. In section V, we study the economic and political determinants of FDI in the Arab world, and the analysis reveals that Arab prospects lie in attracting efficiency-seeking FDI and that economic diversification is one of the best means to attract this type of FDI. We also undertake a small digression, comparing China's FDI experience -- the most studied country when it comes to FDI -- with that of the Arab world and indicating the importance of cultural affinity in attracting FDI. Section VI extends the growth-accounting model to investigate the interesting possibility of technological spillovers from FDI and whether the latter has improved investment efficiency through total factor productivity in the Arab countries. The results we obtain are negative, partly because so far FDI in the Arab countries has not been geared to competitive export markets and partly because the technology gap between FDI and the domestic economy has been small. Lastly, section VII concludes the paper by emphasizing the need to improve the investment environment in the Arab countries, not only to attract more FDI but also to invigorate domestic investment. In this respect, priority should be given to real sector reforms that aim at diversifying the economic base and upgrading the quality of human resources.

II. International Capital and Financial Flows to Developing and Arab Countries: Trends and Composition

It is widely accepted that international capital flows to the developing countries took an impressive increase in the early 1990s[3]. Initially, such an increase was surprising, coming as it were on the heels of the debt crisis that rocked the developing world in the 1980s. But it did not take long for the surprise to fade away and give rise to an additional consensus on the causes behind these large inflows: on the "push" side, it was lower interest rates in the developed countries in the early 1990s as well as the reduction in communication and transaction costs; and on the "pull" side, it was better macroeconomic policies and fundamentals in reforming developing countries[4]. A look at the numbers can give us a quantitative feel of the nature of this increase and its later developments. As table (1) shows, between 1980-89 (the dates marking roughly the beginning and the end of the debt crisis) international capital flows, as measured by aggregate net resource inflows (gross inflows minus amortization or principal repayments), did stay the same at $ 82.6 billion, but by 1994 they had

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3 See Goldstein (1995) and Lopez-Mejia (1999) for a survey of the issues surrounding capital flows to developing countries in the 1990s.

4 One can not forget political factors. Prominent among them is the end of the cold war that firmed developing countries' embrace of global capital markets. It is useful to keep in mind that better macroeconomic policies are not the sine qua non for large capital inflows. For example, Turkey and Brazil received sizeable inflows in the mid 1990s without much progress on such policies, whereas the Arab countries received very little capital inflows from the mid 1990s and on despite their good macroeconomic conditions.

increased 2.7 times to reach $ 220.4 billion. However, although there were noticeable increases thereafter, they were disrupted yet again by another (Asian) crisis in 1997-98 such that by 1999 capital flows totaled $ 290.7 billion only. As a result, these flows seemed to have peaked in 1997 and their rapid *acceleration* seemed to have ended in 1994 (the largest increase was in 1992-93 at 45.3%). More important, and perhaps more puzzling, is that the surge in capital flows was not accompanied by a corresponding surge in growth rates: the average annual growth rate of real GDP for the developing countries was 3.5% between 1990-98, slightly higher than the rate of 3.2% in the 1980s[5]! That could mean, among other things, that different regions were affected differently by these flows due to differences in the flows' *components* and *uses*, a point that we will revisit below.

But what are these flows and what are their components? The flows comprise two sources, official and private. Official flows are loans from multilateral organisations and loans and grants from bilateral sources. Private flows are composed of foreign direct investment (including equity capital, reinvested earnings, and intra-firm loans), portfolio investment in equity and bonds, commercial bank lending, and other, mostly trade-related lending. Table (1) lists the behavior of these components as a percentage of aggregate net resource flows, and it reveals some interesting results: flows have become predominantly private (averaging more than 80% in the 1990s); FDI have become the

[5] This explains why the ratio of private capital flows to GDP in developing countries averaged 1.2% in the 1980s whereas it stood at 3.8% in 1998.

favourite mode of investment followed by portfolio investment (which was close to zero in the 1970s and 1980s) thus implying, to a large extent, a transfer of risk from debtor to creditor; and bank lending, after shrinking to 1.6% in the aftermath of the debt crisis in the 1980s, recovered to 15% in 1997 to be "burned" again in the wake of the Asian crisis (falling to –3.9% in 1999). In other words, what distinguishes capital flows to developing countries in the 1990s is that more of these resources are from and going to the private sector and predominantly are in the form of equity capital. In addition, it is interesting to note some of the macroeconomic features of these flows. Unlike long-term bank loans and FDI, portfolio investments can be reversed in a short time. When capital inflows of this type have found their way into the banking system and have pushed up domestic expenditures, their reversal can engender a crisis in the domestic economy through a decrease in asset prices, jump in interest rates, and devaluation of the currency. And if the financial system is characterized by weak banks with poor regulations and supervision, then riskier and reckless lending can exacerbate the crisis by creating liquidity (and solvency) problems in the banking system, as Asia discovered to its dismay in 1997-98[6]. These problems, of course, come on top of the initial effects that large capital inflows can cause such as overvalued exchange rates and trade and current account

[6] If domestic and foreign assets are not perfect substitutes, however, then portfolio investors will refrain from selling when stock prices are low so as to avoid capital losses. In this case the amplitude of the crisis will be a lot less. For more on this point, see Carbo and Hernandez (1996).

deficits[7]. The point is that, when it comes to the role of capital flows in financing growth, attention should be placed on *managing* as well as *attracting* these flows[8].

The question of attracting capital flows brings us to the Arab countries. What is truly unfortunate about the Arab world is the extent to which it has stayed outside the surge of capital flows going to developing countries. At a time when capital flows in the latter increased from $82.6 billion to $290.7 billion between 1989-99 (Asian crisis and all), capital flows to the Arab countries showed no trend at all, as can be seen from table (2). They averaged close to 2.5% of total developing countries' flows during the same period -- against a share of GDP of 8% -- and never exceeded $13 billion. And as table (3) shows, this

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7 If the country follows a flexible exchange rate system, then capital inflows will appreciate the nominal exchange rate; and if it follows a fixed system, then monetization of the foreign exchange inflows will increase the price level. Either way, the real exchange rate will increase for a given foreign price level.

8 Managing capital inflows is one of the hotly debated areas in international economic policy today. Although there is agreement on the need to strengthen regulation and supervision of individual country's financial system, disagreements are voiced however on three main issues. These are: first, whether a lender of last resort should be part of the global financial architecture; second, whether capital account liberalization should be curtailed or slowed down; and, third, which exchange rate system is most conducive to economic growth and absorbing of external shocks. It is interesting to note here that, besides the echo from the financial crises in emerging markets, the slow down of capital inflows to developing countries after 1998 has something to do with booming capital markets in developed countries. Investors in the latter countries now prefer to keep their money home, and the high-risk high-return investments in high-tech start-ups seem to be substituting for the high risk-return portfolios in emerging markets. See, Lopez-Mejia (1999) and Eichengreen and Mussa (1998).

contrasts unfavorably with other regions in the developing world, notably East Asia and Latin America -- and increasingly Central Europe -- which attracted more than 75% of total developing countries' capital flows. As a result, Latin America's increasing attraction of these flows (it only received 11% of total flows in 1989) helped increase its productive capacity and its GDP growth rate to 3.6% between 1990-98 from a rate of 1.7% in the previous decade, whereas East Asia's -- especially FDI in China -- use of these flows helped its rate of GDP growth of 8% that was achieved in the 1980s to be maintained in the 1990s as well.

Although the Arab world managed to grow at an annual real GDP rate of 3% between 1990-98, and managed to evade the Asian crisis because it avoided portfolio investments, its growth performance had a lot to do with the strength of the oil price in the 1990s. Also, in terms of GDP per capita, the Arab world grew hardly at all (its average annual population growth rate was 2.8%). In this respect, enhancing per-capita growth benefits from enhanced capital inflows to finance an aging infrastructure, to bring in new projects and technology so as to diversify the productive structure, and to raise social capital for a young and rapidly growing population and labor force (the Arab world's dependency ratio was 0.7 in the 1990s). There are some positive signs, however. As table (2) and chart (1) show, there seems to be an increasing reliance on private capital flows (away from official flows of concessional and non-concessional loans, and grants) and more of these flows seem to be coming in the form of FDI. But,

needless to say, more flows *have* to be attracted. We will have more to say about what determines these flows and how they can be attracted in the context of FDI in section V.

III. International Capital and Financial Flows: Significance to the Real Economy and Financing the Savings-Investment Gap in the Arab Countries

A. Resource Gap

The importance of net resource flows to the Arab world can succinctly be shown using the concept of the resource gap. As is well known, the supply of resources in an economy at a given period of time is equal to GDP plus imports, which in equilibrium is equal to or claimed by domestic absorption A and exports X. Domestic absorption, in turn, is the sum of private and public consumption C and investment I. Hence:

(1) $$GDP + M = C + I + X$$

Since domestic savings are domestic resources not consumed (GDP – C), (1) can be expressed as:

(2) $$I = S + (M - X)$$

Equation (2) is the basic relation which shows that domestic investment is partly financed from domestic savings and partly from the excess of M over X. The latter constitutes the resource gap that

needs to be financed from foreign sources. Notice that the resource gap can arise from either a higher I for given S, or a lower S (higher C) for given I -- alternatively, foreign resources can be used either to boost investment or consumption.

To investigate the size and variation of the resource gap for the Arab world, and its position vis-à-vis the rest of the world, tables (4), (5), and (6) present respectively the ratios (% of GDP) of domestic savings, investment, and resource gap for the Arab countries, divided into GCC and non-GCC countries, and for the developing countries and the world. Two interesting patterns can be deduced from the tables (see also charts (2), (3), and (4)). First, as expected, among the Arab countries the GCC with their higher per-capita GDP enjoy a resource surplus whereas the non-GCC have a resource gap. But, buoyed by their increase in per-capita income and macroeconomic reforms, the non-GCC countries' savings ratio has been increasing and in the process helping to narrow its and the Arab countries' resource gap[9]. Second, not only the Arab world has a larger resource gap than that of

[9] The standard deviation of the savings ratio of the non-GCC group followed a declining trend from a high of 19.6 in 1989 to a low of 10.7 in 1998. In general, and according to World Bank (1999), the determinants of the savings ratio (and their effects) are: per-capita income (positive); GDP growth (positive); fiscal policy (ambigious); pension reform (ambigious); financial liberalization (ambigious); external borrowing (negative); foreign aid (negative); dependency ratio (negative); and uncertainty (positive). Also, for the effect of financial liberalization on savings in the North-African Arab countries, see Jbili, et.al (1997); and for the distinction between capacity to save (which depends on per-capita GDP) and the willingness to save (which depends on macroeconomic and policy variables), see Hussien and Thirlwall (1999).

the developing countries, but its propensity to save and invest is between 5-6% less than that of the latter and 1-2% less than that of the world. In other words, the Arab world relies *more* on foreign savings to finance a *smaller* level of domestic investment. It is not surprising, then, that at such relatively low ratios of savings and investments, Arab per-capita GDP has been stagnant, if not decreasing.

B. Growth Targets and Investment

Given the lackluster growth performance depicted above, it is worthwhile then to consider the viability and requirements of higher future growth targets for the Arab countries. A simple framework to use for the purpose is the one that involves the incremental capital-output ratio (ICOR). The latter gives the change in capital K needed to produce one unit of GDP:

$$\text{ICOR} = \frac{dK}{dGDP} \tag{3}$$

Divide (3) by GDP, and since dK = I, we get:

$$\text{ICOR} = \frac{i}{g}$$

$$i = \text{ICOR}.g \tag{4}$$

where i is the investment ratio and g is the growth rate of GDP. Equation (4) will be utilized to generate, for given ICOR, the desired i that is needed to achieve the target g upto year 2015.

To calculate i, we first have to determine ICOR and specify g. Regarding ICOR, we are going to use the historical (over the 1987-98 period) and the adjusted (accounting for non-oil GDP only) ICOR as calculated from equation (3) for the Arab countries and the GCC respectively. As a result, their corresponding values would be 4.5 and 4.35. For the non-GCC, we are going to adopt the estimate by Dhonte, et. al (2000) of 4.25 for the projected ICOR upto year 2015 (a lower ICOR because of the greater incentive and capability by non-GCC countries to improve their investment efficiency, given their lower per-capita GDP and their better reform record). As to g, we have two scenarios. Scenario one assumes that the average annual growth rates over the 1987-98 period will be maintained till year 2015, with population growing at the annual rate of 2%. These growth rates for GDP expressed in US$ are 5% for the Arab countries, 6.1% for GCC, and 5.4% for non-GCC. Scenario two assumes a growth rate of 7% for all three groups, with the same rate for population growth as scenario one. A target growth rate of 7% is what is needed to absorb the increase in the labor force, which is estimated to grow at 3% over the projected period[10]. Table (7) gives a summary profile of the two

[10] This relation assumes that participation rates stay constant and unemployment rates do not decline. For more on the relation between labor force and GDP growth, see Dhonte, et. al (2000) and Dervis and Shafik (1998).

scenarios with the corresponding figures for i and per-capita GDP for all three groups.

What about savings? We expect the savings ratio to increase with the rise in per-capita GDP, and Appendix II provides a regression equation that captures this effect. Accordingly, table (8) records the projected ratios for savings, investment, and the gap between them over the 1998-2015 period. The gap is especially wide for the non-GCC countries but it is not dissimilar to the gap they experienced in the late 1980s to mid 1990s. In fact, as charts (5) and (6) show, under scenario one both Arab and non-GCC countries could average a gap of $ 15 billion and GCC countries an average surplus of $ 6 billion; wheras under scenario two, the corresponding averages are a gap of $70, $32, and $9 billion respectively. There are three reservations that can be made regarding the projections in table (8). First, they naturally depend on the validity of the specified assumptions. Second, and according to the Feldstein-Horioka hypothesis (1980), resource gaps usually start to narrow in the medium run because of the resulting changes in macroeconomic conditions and the imperfect mobility of capital. Third, and most important, where would the sources of financing come from? As we saw in table (2), most of the financing can only come from private sources, including FDI and portfolio investments. But these are inflows that are driven by economic fundamentals and -- especially in the context of portfolio investment -- require proper institutional and regulatory frameworks for their effects not to be disruptive.

C. Financing

To better appreciate the financing of the savings-investment gap in the Arab world, we need to revisit the simple open-economy income determination model introduced earlier. Specifically, since net external financing is undertaken through the capital and financial accounts of the balance of payments, and since the movement of these assets or resources involve the payment of interest and/or profits, equation (1) has to be adjusted to account for these factor or resource payments. Adding the latter to equation (1) transforms GDP to GNP (Gross National Product) and the trade balance to the current account balance, CAB. As a result, equation (2) now reads:

$$(5) \qquad I_n = S_n - CAB$$

where I_n and S_n are national investment and savings respectively. Equation (5) is the familiar but fundamental relation that ties the source of financing of national investment to national savings and to net external financing that is equal in magnitude to the CA deficit. Net external financing can come from: unrequited transfers; borrowing; FDI; and foreign portfolio investment. The sum of these sources constitute the capital and financial account balance, KAB. If KAB exceeds the current account deficit then the country will accumulate international reserves R, and if the reverse case holds then the country will draw down its stock of R. Hence, balance of payments

equilibrium implies that the sum of the current and capital accounts and the change in international reserves Δ R be zero:

$$CAB + KAB + \Delta R = 0 \qquad (6)$$

Note that, for equation (6) to hold, an increase in reserves is recorded as *negative* Δ R whereas a decrease in reserves as *positive* Δ R[11].

The significance of the basic relation (6) can be seen from tables (9) and (10), which contain for the Arab and developing countries respectively the data of the variables in equations (5) and (6) as a percentage of GDP. Three important findings can be detected from these tables. First, given that Arab investment ratios remained steady at about 21% and the savings ratios fluctuated between 22.47% and 17.67%, it seemed that, in comparison with developing countries, more of Arab net external funds were going towards the financing of consumption rather than investment[12]. This of course denied the Arab economy the opportunity to use more of its external funds to enhance capital formation and growth. Second, the Arab world had to rely more often than the developing countries on its reserves (positive Δ R/

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[11] Theoretically, under a purely flexible exchange rate system the balance of payments will balance without any change in the central bank's international reserves. However, a purely flexible exchange rate system is rarely adopted in the real world today.

[12] Of course, one could argue that, without net external financing, investment would have declined below 21%. But the counter argument to this point is that if savings had stayed the same, then net external financing would have funded more investments.

GDP) to fill the gap between its savings and investment ratios. This means that foreign savings were less accommodating in financing current account deficits in the Arab countries than elsewhere in the developing world[13]. Third, at least up until 1997, developing countries were receiving much more net FDI (inflows minus outflows) as a percentage of GDP than the Arab countries. More important, net FDI seemed to be financing a larger fraction of CA deficits (and/or contributing more to international reserves) in the developing than the Arab countries.

In sum, the relation between capital flows and the real economy in the Arab world seems to be a tenuous one. And it is against this background that more FDI appears to be increasingly needed in the Arab countries facing external imbalances and stagnant investment.

IV. Foreign Direct Investment: Importance, Global Distribution, and Position in the Arab Countries

The above emphasis on FDI is well founded because of the important role that FDI can potentially play in the economy. Although FDI inflows are largely autonomous, in the sense that they least accommodate current account financing requirements, they are however the least volatile of capital flows and, more important, can

[13] Fry (1993) found that in developing countries portfolio investments are the least accommodating, followed by FDI, and short-and long-term bank loans.

have direct and indirect effects on economic growth. The stability of FDI stems from the fact that direct investors have a longer-term view of the market thus making them more resistant to herd behavior, and from the sheer difficulty of liquidating assets at short notice. The direct effect on growth arises from higher capital formation, and the effect is more significant if FDI is *complemented with human capital*[14]. There is a concern that FDI might crowd out domestic investment --in the sense of reducing the latter, not total investment -- but the bulk of the evidence does not support this view, especially when FDI is engaged in a new production activity that would not have taken place domestically at all[15]. The indirect effect is less straightforward, and it emanates from the efficiency gains that are generally associated with the technology transfer and competition that FDI generates. The evidence so far seems to support the presence of this effect in East

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[14] Borensztein et.al (1998) found that FDI's positive impact on growth starts to occur at a human capital threshold of 0.52 years of adult secondary school education. An example of the latter is as follows. If 10% of the population above 25 years of age has ever attended secondary school and if, out of this group, only 75% completed secondary school (6 years) with the remaining going only through the first cycle (3 years), then secondary school attainment is: 0.1 (3 X 0.25 + 6 X 0.75) + 0.9 X 0 = 0.52.

[15] The reason that crowding out occurs is that borrowing by foreign affiliates from domestic capital markets (which on average constitutes close to 40% of all capital raised by affiliates) increases domestic interest rates and, as a result, reduces domestic investment. As to the evidence, UNCTAD (1999) found that FDI can have all three effects on domestic investment: neutral, crowding-in, and crowding-out, with the latter occurring in some countries of sub-saharan Africa and Latin America. Borensztein et.al (1998) found a crowding-in effect for a group of 69 developing countries but the result is not robust to model specification; whereas Lucas (1993) found the same effect for the East-Asian economies, possibly due to the restraints put on foreign equity participation.

Asia and parts of Eastern Europe, and we will explore whether it prevails in the Arab countries in section VI of the paper[16]. Also, FDI is always associated with increased trade: exports increase because foreign affiliates of multinationals are more knowledgeable than local firms in serving foreign markets, and imports increase because of more capital-goods imports that are needed for production by the affiliates and because of FDI-induced growth in income (the increase in imports will be less, and the savings in foreign exchange will be more, if some of the FDI activities are import substituting)[17]. As a result, although FDI makes more foreign exchange available in the short run, its medium-to long-run impact on the current account (and its consequent role as a source of relief for foreign exchange shortages) is ambiguous, given the increase in both imports and exports in addition to the repatriation of profits[18].

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16 For a survey of the issues surrounding the effect of FDI on investment efficiency, see De Mello (1997); for the evidence on Asia, see Chuang and Lin (1999) and Sjoholm (1999); and for the evidence on Czech Republic, see Djankov and Hoekman (2000).

17 For the developing countries as a whole, exports and imports increased at an annual rate of 9% each in the 1990s, thus keeping the developing counties' share in world trade at about 32%.

18 Theoretically, the effect of FDI on the balance of payments is negative because the net present value of the project in terms of repatriated foreign exchange has to be positive for the project to be undertaken in the first place. But this notion does not take into account the export and import side effects of FDI. For a general discussion of the impact of FDI on the current account see Graham (1995), and for a technical discussion see Fry et.al (1995).

As to the determinants of FDI, perhaps the most comprehensive framework is the one that combines three sets of advantages: ownership-specific competitive advantages (brand name, patent, or knowledge of technology or marketing); locational advantages (large markets, lower costs of resources, or superior infrastructure); and internationalization advantages (commercial benefits accruing from an FDI or intra-firm activity rather than an arm's-length or licensing relationship)[19]. It is the second set of advantages that depends strictly on host country policies, institutions, and economic conditions; and once the policy environment and business facilitation institutions become enabling, it is economic factors that dominate the determinants of FDI[20]. These economic determinants divide FDI into two broad categories: market-seeking FDI, which is tariff-jumping investment and investment driven by larger markets or regional trading areas; and efficiency-seeking FDI, which can take the form of export-platform investment (in final goods) and investment in internationally integrated industries (in components and intermediate goods). It is important to keep this division in mind for the following analysis on the position of FDI at the global and Arab levels, which we turn to next.

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19 For more on this framework, see Dunning (1993) and UNCTAD (1998).

20 Host country determinants can be grouped into: policy framework, which captures tax, tariff, and social policies; business facilitation framework, which relates to investment incentives, administrative efficiency, and after-investment services; and economic determinants, which depend mostly on market size and cost of resources. For further elaboration, see section V.

The picture that emerges from table (11) and chart (7) show that FDI, for the most part, remains a developed countries' affair: the share of FDI inflows going to developed countries peaked at 79% in the run-up to the EU project in 1992, and then it declined thereafter to reach 59% in 1997, but rose again to more than 70% after the Asian crisis. In the case of FDI outflows, the dominance of the developed world is even more prominent, since it still constitutes close to 88% of total outflows (EU 56%; USA 25%; and Japan 7%). The developing countries' share of FDI inflows, naturally, mirrored that of the developed countries, but its average was higher by at least 8% in the 1990s than it was in the 1980s; and, as we saw in table (1), more of the capital flows to developing countries are now coming as FDI. But the distribution of FDI in the developing world, paralleling the distribution of other capital flows, remains extremely uneven, with East Asia (China alone absorbs close to 26% of all developing countries' FDI inflows) and Latin America, and increasingly Eastern Europe, taking the lion's share. Also, one interesting difference between the developed and developing countries is that the ratio of FDI inflows to GDP remained constant in the 1990s at 0.9% for the former but increased from 0.8% to 1.9% for the latter. This indicates, as we will argue in more details below, that market size is not an important determinant of FDI in developing countries, since FDI grew faster than GDP there; whereas in the developed countries it is, especially given their comparable labor and other resource costs. Another interesting difference between FDI to developed and developing countries is its sectoral distribution: as we

can see from table (12), 55% of FDI to developed countries is in services and 35% is in manufacturing, whereas the reverse is true for the developing countries. This difference is of course explained by the relatively larger share of services (manufacturing) in the GDP of developed (developing) countries.

In relation to the Arab world, its very low share of global FDI inflows (at an average of 1% in the 1990s against a share of world GDP of 2%) masks some noticeable differences among its countries. As table (13) shows, FDI is mainly concentrated in six of the Arab countries: Egypt, Jordan, Morocco, Oman, Saudi Arabia, and Tunisia[21]. It is mostly undertaken in the oil sector (Oman), petrochemicals (Saudi Arabia), manufacturing, especially textiles, metals, and minerals (all other four countries), and tourism (especially Egypt)[22]. Also, the ratio of the stock of FDI inflows to GDP in all six countries is comparable to that of the developing countries at 16.5%, with FDI in Morocco and Tunisia starting to act as an export platform to the EU with whom both countries have a free trade agreement[23].

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21 This mirrors the concentration of more than 55% of FDI inflows to the developing world in five countries: China, Brazil, Mexico, Singapore, and Indonesia. Note that Yemen also has a high ratio of FDI stock to GDP, but the inflow of FDI to Yemen has been erratic, tied entirely to the fortunes of the oil and gas sectors. Also, the ratio is overvalued due to the relatively small Yemeni GDP, which in 1998 was about $ 5 billion.

22 The new Saudi investment law that was approved in mid 2000 will allow foreign investments in the oil sector, and full foreign ownership of investments in some sectors; see Gavin (2000).

23 As part of the Mediterranean initiative, free trade agreements were signed between the EU and each of Tunisia and Morocco in 1995.

It is the function and purpose of FDI that is very important in understanding the dearth of FDI activities in the Arab world. As table (14) reveals, the big three direct investors, USA, EU, and Japan, carry out most of their investments in *their large markets*: this means for the USA, it is EU and Canada; for the EU, it is USA and EU; and for Japan, it is EU and USA. Hence, FDI by these investors is *market seeking*, and, as important, is becoming increasingly *horizontal* specializing in mostly differentiated services products[24]. However, if we adjust for market size, we see that the investment pattern of the big triad investors changes, since investment is now closer to home: USA in Mexico and South America; EU in Eastern Europe; and Japan in East Asia. What is also interesting is that most of this investment is *efficiency seeking and vertical*, specializing in products that are at different stages of the production process, thus constituting "inter-process" trade, and in final products that are for export destinations in regional markets[25]. And here lies the dilemma of the Arab countries. On the one hand, the Arab market is neither deep nor big to attract market-seeking FDI: its GDP per capita is $2400 for a population of 270 million, and its market does not yet constitute a full-fledged free

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[24] For more on this evidence, see Wheeler and Mody (1992) and Shatz and Venables (forthcoming).

[25] On more of "inter-process" trade, see Athukorala and Menon (1997).

trade area[26]. On the other hand, the Arab market is disjointed from the production chain of major direct investors. This is because Arab labor is neither cheap (for example, labor cost adjusted to productivity is 30% higher in Egypt than in either Poland or China) nor highly skilled (the average number of secondary school years for an Arab adult is 0.48, against a threshold of 0.52 that is considered necessary for FDI to start having a significant and meaningful impact on growth and productivity). The viable option then for the near future is for the Arab world to act as an export platform for low-to medium-technology goods. In this regard, FDI can also help in lifting the production capabilities of Arab exporters and integrating them faster to global production networks[27]. The rewards could be immense. As table (15) shows, countries in the developing world, especially in East Asia, who have a strong FDI presence tend to also have a strong manufacturing base and exports performance, not to mention GDP per-capita growth rates of 5% and higher--something that even the Arab countries with the largest FDI inflows have yet to match. The interesting question is why?

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[26] In this context, the decision in 1997 to form an Arab Free Trade Area (AFTA), starting in 1998 and to be completed in 2007, is a welcome incentive for more FDI besides more Arab economic cooperation.

[27] For more on the competitive position of Egypt, Jordan, and Tunisia, see Sadik (1999).

V. Determinants of FDI in the Arab Countries: The Influence of Economic and Political Factors

Before we answer the question raised at the end of section IV, it is congenial to study the determinants of FDI and their variation among the Arab countries. We will do that by analyzing the locational or host-country variables highlighted above. To elaborate, the locational variables embody a tripartite structure that involves the following determinants. First, policy-related determinants, which deal with policies affecting economic, social, and political stability, trade taxes, privatization, and standards of treatment of foreign companies. Second, economic determinants, which focus on resource endowments, market size, cost and productivity of labor and other input, and quality of infrastructure[28]. The relative importance of the various economic determinants will depend on the motives behind FDI, whether it is efficiency seeking, market seeking, resource seeking, or strategic-asset seeking. Third, business facilitation activities, which relate to investment incentives, post-investment services, administrative efficiency, social amenities (educational and recreational), and subjective proximity (familiarity to language and culture)[29]. Surely,

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[28] For a survey of the economic and political determinants of FDI, see Schneider and Fry (1985), Amirahmadi and Wu (1994), and UNCTAD (1998).

[29] A survey of foreign investors in Africa reported in UNCTAD (1999) listed the factors that have a positive impact on FDI as: profitability of investment; regulatory and legal framework; political and economic outlook; access to regional markets; trade and tax policies; and availability of low-cost labor.

this structure involves an exhaustive list, and one has to be selective in identifying the most prominent determinants, and this is what we intend to do below in the context of the Arab countries[30]. Two relevant points are worth keeping in mind, however. First, investment incentives make economic sense when FDI generates positive externalities (more about this point in Section VI), but competitive bidding for "FDI tournaments" can lead to incentive levels that are not economically justifiable and that have to be balanced against the trade-related investment measures (TRIMS) permissible under WTO rules[31]. So, Arab countries who are members of the WTO have to take this into consideration when devising incentive packages[32]. Second, the

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Whereas a survey of foreign investors in Eastern Europe reported in UNCTAD (1998) listed: labor costs and skills; integration prospects; macroeconomic stability; currency convertibility; and subjective proximity to investors.

30 The empirical evidence is not easy to interpret because of differing methodologies, time periods, investor nationalities, level of location (regional vs sub-national vs national), and type of industry (manufacturing, service, and primary).

31 Incentives could be: fiscal (tax holidays, import duty exemptions); financial (subsidized credit, equity participation); low-cost infrastructure; preferential government contracts and treatment on foreign exchange; and granting of monopoly rights and protection from import competition. These incentives are regulated by WTO rules under Agreement on Subsidies and Countervailing Measures. In return for these incentives, governments usually place performance requirements on foreign investors relating to local content, export performance, and requirements on foreign exchange repatriation and surrender. Also, in counterpoint, these requirements are regulated by WTO rules under TRIMS. However, TRIMS apply to most goods *only*, not to services, agriculture, civil aircraft, or textiles. For more on these points, see Brewer and Young (1997).

32 Currently, there are thirteen Arab countries that are either members or have applied for membership at WTO: Algeria, Bahrain, Egypt, Jordan, Kuwait, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Sudan, UAE, and Tunisia.

reduction in transportation costs and trade barriers is increasing market access and access to global production networks for centralized locations within the triad (especially EU and US), thus encouraging within the latter FDI of *both* the efficiency-and market-seeking types. As a result, the competition for FDI outside the triad, including the Arab world, is bound to become keener.

Given the potential for increased competitive bidding for FDI, it becomes even more important to understand the determinants of FDI in the Arab world. The determinants that we selected are the ones that, naturally, provided the best explanatory power, and whose data are available. Before we discuss them in some details, a note on the variables that we could not include and on those that we omitted is appropriate. We could not include wages adjusted to productivity because there are no data available for most of the Arab countries, although this variable has proven to be important in other regions[33]. We also could not include an index of corruption or administrative efficiency for the same reason. Transparency International provides a corruption index for four Arab countries only, and they are (on a scale of 0 = most corrupt, and 10 = least corrupt): Tunisia, 5; Jordan, 4.7;

[33] For evidence on the negative relation between adjusted wages and FDI in East- and South East-Asia, see Lucas (1993); and on the evidence in China, see Liu, et.al (1997).

Morocco, 3.7; and Egypt, 2.9[34]. What is interesting is that these are the four countries who have received most of the FDI in the Arab world in the last decade; so either corruption in the Arab context is not harmful to FDI -- it "greases" the wheels of commerce -- or, had it been less pervasive, the FDI in these countries would have been larger[35]. This ambiguity, however, underlines the need for more research to be done on the economic (and civic) impact of institutions in the Arab world and the extent to which they are investment (un)friendly. Lastly, we did not *include* tax rates because high tax rates can be avoided through transfer pricing and deduction of tax payments by foreign affiliates from the tax liabilities of parent firms in the home country; and because most of the empirical evidence shows that tax rates become inimical to FDI when they are at 40% or higher -- and in none of the Arab countries such high rates exist[36].

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[34] On the issues surrounding the question of corruption, see Tanzi (1998); and the role of institutions in growth, see the survey by Aron (2000).

[35] Transparency International bases its scores on perceptions of the degree of corruption as seen by business people, risk analysts, and the general public. These perceptions are recorded in surveys, and for a country to have a score it must have undergone at least three surveys; for more on the corruption index, see the site *www transparency. de.* As to the effect of corruption on FDI, most of the evidence points to a negative effect; see, Gastanaga, et. al (1998) and Wei (2000)--the latter estimated that corruption's cost could reach the equivalence of a 20% tax.

[36] See Gastanaga, et.al (1998) for the evidence on the impact of tax rates on FDI. It is interesting to note that in the new Saudi investment law no special tax treatment is forwarded to foreign investors.

The determinants that we omitted are (see the restricted F-test in Appendix III for the joint insignificance of the omitted variables): stock of FDI, infrastructure quality, and index for FDI openness. The stock of FDI reflects the effect of agglomeration economies in that locational advantages, once attained, tend to perpetuate themselves and to lock-in future FDI (in other words, history *matters* because of first-mover advantages). This effect is not yet prevalent in any of the Arab countries due to the lack of a critical mass of FDI with the requisite reputation for specialized and differentiated products. On the positive side, though, the absence of such economies means that future FDI will have a chance to spread less unevenly among the Arab countries[37]. For infrastructure, we used two measures, percentage of roads paved and telephone lines per 1,000 persons, but neither measure came out to be significant. It is because either the measures we used are not the "appropriate" ones or variations in infrastructure quality are not all that important among Arab countries[38]. In the case of the index for FDI

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[37] Wheeler and Mody (1992) found that agglomeration economies are an important determinant of FDI for US multinationals. The agglomeration effects arise from the self-reinforcing impact of specialized and differentiated inputs and spread of reputation.

[38] The absence of a significant effect for infrastructure could also be due to incentives such as subsidies on cost of infrastructure. Also, the two measures that we used are the ones for whom data exists for all the Arab countries in the sample. In general, though, most of the evidence in the literature points to the importance of infrastructure. See, Cheng and Kwan (2000) and Wheeler and Mody (1992).

openness, the reason that it did not turn out to be statistically significant is because of the asymmetry in FDI requirements among the Arab countries: those who do not have performance and foreign exchange requirements, set ownership limits (Gulf countries); and those who do not set ownership limits, have performance and foreign exchange requirements (most of the rest)[39]. Perhaps more important as a reason is the discrepancy between the rules and regulations as they appear in the books and as they are implemented on the ground, a discrepancy that naturally gives rise to or is a product of official corruption[40].

The determinants that we used in our model are: T, index of tariff and non-tariff barriers ranging from 1 (least restrictive) to 10 (most restrictive), to check whether FDI is tariff jumping; XDI, export diversification index, ranging from 0 (maximum diversification) to 1 (minimum diversification) , to see how flexible resource endowments

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39 Lebanon and Bahrain, and to a large extent Egypt, are the exceptions. For a description of the FDI requirements, see IMF (1998). An example of the occasional paradoxical nature of FDI is reported in Onyeiwu (2000). The 1999 Index of Economic Freedom compiled by the Heritage Foundation and the Wall Street Journal put Tunisia and Egypt in the "mostly unfree" category. However, these two countries have received substantial FDI relative to the rest of the Arab world over the last decade.

40 The discrepancy between legal text and practice affecting FDI rules is also mentioned as one serious concern of foreign investors in the survey on FDI in Africa reported in UNCTAD (1999).

are and how adaptive comparative advantage is in attracting FDI[41]; GDPG, growth rate of GDP, to detect for the effect of market size and its growth on FDI; QM/GDP, ratio of quasi money to GDP, to check for the impact of financial development on FDI since foreign affiliates raise close to 40% of their capital from domestic markets; EX, exchange rate defined as units of domestic currency per 1 $ US, to ascertain whether weak currencies attract export-oriented FDI; RISK, index of political and economic risk, scaled out of 100 with ratings below 50 are considered high risk and those above 80 low risk[42]; D_1, dummy variable equal to 1 for countries that are members of the EU-Mediterranean Free Trade Initiative (Jordan, Morocco, and Tunisia) and to 0 otherwise; D_2, dummy variable equal to 1 for countries in peace with Israel (Jordan and Egypt) and 0 otherwise; and D_3, dummy variable equal to 1 for members of the Gulf Cooperation Council (GCC) and 0 otherwise[43]. (See Appendix I for data sources).

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41 In all likelihood, the effect of XDI is biased upwards, and it would have been smaller had we been able to find data for adjusted wages and run it as an independent variable. The export diversification index is defined as the absolute deviation of the country share from world structure, or: $XDI_j = (\sum_i | S_{ij} - S_i |)/2$, where S_{ij} is share of commodity i in total exports of country j, and S_i is share of commodity i in total world exports. For more on the derivation of this index, see UNCTAD (1997).

42 Political risk usually refers to a variety of concerns, ranging from production disruption, to confiscation or damage to property, to threats to personnel, to a change in macroeconomic management and the regulatory environment.

43 On relative basis, the GCC is considered to be the most "successful" Arab free trade area.

Table (16) presents the OLS estimates for the coefficients of the above independent variables over the 1993-98 period and for 14 Arab countries. Trade barriers have a positive and significant coefficient, indicating that FDI could be tariff-jumping, especially in big and protected markets like Egypt, Algeria, Morocco, and Saudi Arabia. The export diversification index has a very strong and significant effect, emphasising the importance of resource endowments and their development in determining FDI in the Arab world[44]. Since its impact is much larger than that of trade barriers, it indicates that FDI is more elastic with respect to aggregate demand in export markets than to aggregate domestic demand. More important, it shows that, for Arab countries to become successful export platforms, diversification of the economic base is of utmost importance. Especially important in this regard is the upgrading of the human resource and skills base, since there is no way that the Arab countries can compete in skills-based product with a male and female adult illiteracy rates of 26% and 48% respectively, against respective developing countries' rates of 18% and 33%.

The coefficient on GDPG is not significant, and this is not surprising given that GDP growth in the Arab world is still highly correlated with fluctuations in the price of oil and the fact that FDI is attracted mostly as a result of resource endowments rather than market size. The

[44] Riedel (1995) also found that FDI is related to trade patterns in Asia. In general, though, if FDI is tariff-jumping then the effect of incentives will be mostly limited since the protected market is the major determinant of FDI. However, if FDI is geared to production of exports then incentives become important.

financial deepening measure, QM/GDP, is not significant either, and there are two possible reasons behind the result. First, high ratios of QM/GDP are found in the Gulf countries and Lebanon, the former because of the accumulated oil revenues and the latter because of the important historical role of the banking (and service) sector in the development of the Lebanese economy. But these countries also represent the economies with the least diversified real sector to parallel their developed financial sector. Second, foreign affiliates can tap capital from the international market, if domestic financial markets are not well developed, so their reliance on the latter as a source of funds is not essential[45]. The important point, though, is that as far as FDI is concerned, financial sector development and reform should not take precedence over real sector reform and educational improvements. Any policy that gives priority to improving the financial sector without at least a concomitant strengthening of the economic-resource base is misguided.

As to the exchange rate, its coefficient is significant but with the opposite sign (though very small): currency appreciation (a lower EX) increases FDI. This is because capital equipment in the Arab world is mostly imported, so a stronger currency implies cheaper imported

[45] A third factor could be the positive effect of financial deepening on savings. A higher ratio of QM/GDP could increase the savings ratio and in the process reduce the current account deficit and its accommodating financing needs, including financing through FDI.

inputs and lower production costs[46]. The really interesting result is that of the risk coefficient, and it is *statistically insignificant*. At least during the 1990s political risk was not a significant determinant of FDI (looked at differently, if it were, then Israel would not have received more than $6.8 billion in FDI between 1993-98). This means that hopes of foreign capital, including FDI, pouring into the Arab world once a comprehensive peace is achieved are grossly exaggerated[47]. With FDI mainly responsive to underlying economic factors, it also means that peace is not a substitute for a diversified resource base and economic policy reforms.

Regarding the dummy variables, only the coefficient on D_1 is significant. The free trade agreements with the EU is proving to be a stimulus for efficiency-seeking FDI and, as we mentioned earlier, is turning Morocco and Tunisia as export platforms to the EU. On the other hand, free trade among the GCC countries has not yet induced more FDI to service the larger market, simply because it is still more economical to service this market from abroad. Nor have the peace treaties between Israel and each of Jordan and Egypt, partly because political reconciliation has not yet made a notable, favorable dent in

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[46] Onyeiwu (2000) found, for a group of 10 Arab countries, the exchange rate to have a *negative* effect on capital *outflows.*

[47] The negative coefficient of RISK could indicate the possibility of muticollinearity and a look at the correlation matrix revealed a correlation coefficient of –0.6 (below the critical level of –0.8, though) between RISK and EX, the highest coefficient in the matrix. As a result, we ran two regressions with one of these variables included in the specification at a time. We found that the sign, size, and t statistics of the coefficient of EX hardly changed; however, the coefficient of RISK reversed its sign but *remained statistically insignificant.*

their economic fundamentals, and partly because the economic protocols do not aim at an expanded market through free trade[48]. However, there are signs that the Qualifying Industrial Zone (QIZ) between Israel and Jordan might ultimately prove to be a magnet for more FDI[49].

In conclusion, how does the FDI experience of Arab countries compare with that of other countries? We will compare the Arab experience with China's, who since 1992 has become the number one recipient of FDI in the developing world and second to the USA in the whole world[50]. In political economy terms, the Arab world and China have two things in common: first, both have to transform a heavily state-led economy to a market-oriented one; and, second, both have to manage the transition with one eye on economic progress and the other eye on political stability. The similarities stop here, however, especially when it comes to the structure of administration and incentives relating to FDI. In this regard, we can specify four differences. First, unlike Arab countries whose reform process followed guidelines from international institutions and donor countries, China's reform process was home-

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48 It is safe to say that neither country will have a free trade agreement with Israel before a free trade agreement is completed among the Arab countries. The only Arab country that has a *de facto* customs union with Israel is Palestine. For more on the economic implications of peace as it relates to trade arrangements in the Arab world, see Bolbol and De Simone (2000).

49 To qualify for duty-and quota-free exports to the USA, the QIZ should have at least 35% of its appraised value within the zone. Of the 35%, a required minimum of 11.7% should come from Jordan and 8% from Israel, and the rest from either Jordan, Israel, USA, or Palestine. Also, textiles seem to be among the first industries to attract Jordanian and Israeli investments.

50 Between 1993-98, the USA received a cumulative FDI inflow of more than $ 530 billion, whereas China received more than $ 220 billion.

made and was set at its own pace. This helped to delink and insulate FDI policy from other measures in the reform process that could have contained FDI's spread and restrained its growth. Second, almost all of FDI in China is located in Special Economic Zones -- China currently has close to one fifth of the 840 such zones that dot the world -- in coastal areas across form Hong Kong and Taiwan, primarily to take advantage of the entrepot character of these two places and of their expertise in managing global production and distribution. This also provided FDI activities, to a considerable extent, with a geographic insulation from the center's bureaucratic and regulatory hassels[51]. Third, and more important, the level of China's wages adjusted to productivity is one of the most favorable in the world and its GDP has been growing at an annual per-capita rate of more than 5% over the past twenty years. This means that China has been *earning* FDI that is both market-and efficiency-seeking[52]. Fourth, and most important, more than 60% of China's FDI comes from Hong Kong and Taiwan, two production centers that moved to China not only because they had lost their cost competitiveness in light-to medium-industrial goods, but also because of subjective proximity in

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[51] China's FDI sites include: Special Economic Zones, Open Coastal Cities, Economic and Technological Development Zones, and Open Coastal Areas. The first site is the most important and receives the most generous incentives. As to ownership structure, 55% are joint ventures, 30% are foreign owned, and the rest are mostly cooperatives. For an excellent discussion of Chinese special economic zones, see Ge (1999).

[52] For a discussion of the impact of FDI on Chinese economic development, see Chen, et.al (1995) and Cheng and Kwan (2000).

terms of culture and language[53]. And this brings us to a very important characteristic that handicaps the flow of FDI to the Arab world.

It is fashionable these days to argue, perhaps somewhat superficially, that globalization (the unrestricted global flows of goods, capital, technology, and ideas) determines culture and homogenizes cultural norms and practices. But if one looks at the global flows of at least capital and technology, one finds that it is homogeneous culture that mostly determines these global flows. In other words, one finds Hong Kong and Taiwan investing in China, Japan in East-and South East-Asia, EU in Central and Eastern Europe, and US in Canada and EU. This idea, of course, does not square *perfectly* with reality, but the point is that, besides lacking FDI on efficiency- and market-seeking grounds, the Arab world also lacks a "cultural FDI sponsor". Not that the Arab world lacks *financial* capital -- Arab outside capital alone is more than $500 billion -- but it lacks established multinationals with the requisite physical capital, technical know-how, and brand names to consolidate FDI activities in the Arab world. It takes time, naturally, to develop these capabilities but perhaps a good starting point -- not withstanding the needed policy and structural changes -- would be joint ventures between Arab finance capital and foreign real capital (and the current privatization schemes in the Arab world are a good vehicle for that). The hope is that the resultant technology transfer, and the environment of improved technical know-how, *could* be an effective

[53] Liu, et. al (1997) modeled the impact of cultural similarity and found it to be positively related to FDI in China.

springboard to develop such capabilities for indigenous Arab multinationals.

VI. FDI, Total Factor Productivity, and Growth in the Arab Countries: A Growth-Accounting Framework

The talk about technology transfer and the question raised at the end of section IV can be addressed by looking at the effect of FDI on growth and productivity. As we indicated earlier, there is evidence that FDI can have a favorable effect on total factor productivity (TFP, which captures the impact on output for a given level of labor and capital inputs), in addition to its positive effect on capital accumulation. The effect on TFP arises mainly from the role of FDI in the international diffusion of knowledge and technology, and there are several channels through which this diffusion and its spillovers can take place. Examples are labor turnover from multinationals to domestic firms, technical assistance to suppliers and customers, and the demonstration effect on domestic firms in practices dealing with the choice of technology, export behavior, and managerial practices.

To capture this efficiency effect of TFP, let us work with the Cobb-Douglas, constant-returns production function:

(7) $$Y = A L^{\alpha} K^{\beta}$$

where Y is output, A is TFP, L is labor, K is capital, and $\alpha + \beta = 1$ with α being the share of labor, and β the share of capital, in output. The marginal productivity of capital can be derived as $\beta A k^{\beta-1}$, where $k = K/L$ is the capital-labor ratio[54]. It shows that under identical technologies across countries, that is uniform A and β, countries with comparatively *low* k will have a higher marginal productivity of capital and thus attract more capital and grow faster[55]. Alternatively, for given k, a high β (due to the adoption of capital-intensive technologies) and/or a high A imply a high marginal productivity of capital as well. The reasons behind a high A are currently under intense study in the growth literature, but some of the confirmed factors are a large and critical mass of physical and human capital, R & D expenditures and adequate infrastructure, and accountable governments and sound government policies. As important, a high A helps explain why developed countries with relatively *high* k still attract most of the FDI in the world economy because of their resulting high marginal productivity of capital[56].

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54 For more on the properties of the Cobb-Douglas and other production functions, see Barro and Salai-Martin (1995).

55 This is Solow's absolute convergence thesis, where poor countries with low capital-labor ratios grow at higher rates and ultimately catch up with and reach income levels of rich countries; see Solow (1956). For a re-statement of this thesis to conditional convergence, where poor countries convergence to their own *steady-state* level of income, see Mankiw, et.al. (1992).

56 For more on the factors affecting TFP, see Temple (1999); and on the evidence supporting the effect of TFP on high MPK and large FDI inflows for developed countries, see Lucas (1990) and Zebregs (1998).

The point of this section, of course, is that A could also be positively related to FDI. As a result, equation (7) can be expressed as:

$$Y = A(F)\, L^{\alpha} K^{\beta} \tag{8}$$

were F = FDI stock. The marginal productivity of capital due to a change in FDI stock is:

$$MPKF = A_F L^{\alpha} K^{\beta} + \beta A L^{\alpha} K^{\beta-1} \tag{9}$$

where A_F is the effect of FDI on TFP (subscripts denote derivatives with respect to the corresponding variable). In addition, if $A_F > o$, then MPKF is larger than $MPK = \beta A L^{\alpha} K^{\beta-1}$, the private MPK which does not capture the positive spillovers from FDI, by $A_F L^{\alpha} K^{\beta}$, the marginal product of TFP due to FDI spillovers. Or:

$$MPKF = A_F L^{\alpha} K^{\beta} + \beta A L^{\alpha} K^{\beta-1} > \beta A L^{\alpha} K^{\beta-1} = MPK \tag{10}$$

Hence, equation (10) shows that, when FDI generates positive "uninternalized" spillovers, it increases output by more than private MPK. Also, with the "social" MPKF larger than the private MPK, the equilibrium level of investment is below its socially optimal level, and the policy of attracting FDI through tax exemptions, subsidized credit, .. etc, is theoretically justifiable.

To see whether such positive spillovers exist for the Arab countries receiving notable FDI, we are going to work with the growth accounting framework of equation (8). Taking the logarithm and total differential of (8), yields:

$$\frac{dY}{Y} = \frac{A_F dF}{A} + \alpha \frac{dL}{L} + \beta \frac{dK}{K} \quad (11)$$

Since β = MPK.K/Y and dK = I, then β.dK/K is equal to MPK.I/Y; and since A_F.dF/A can be expressed as A_F.Y/A.dF/Y, and dF = FDI and $A_F.Y/A = A_F.L^{\alpha}K^{\beta}$, then A_F.dF/A is equal to λ.FDI/Y where λ is the marginal product of TFP due to FDI spillovers, $A_F.L^{\alpha}K^{\beta}$. As a result, (11) becomes:

$$\frac{dY}{Y} = \lambda \frac{FDI}{Y} + \alpha \frac{dL}{L} + MPK \frac{I}{Y} \quad (12)$$

Equation (12) is different from the standard growth accounting equation in that it has FDI as one of the explanations for the "Solow residual", and if FDI has a favorable effect on TFP then $\lambda > 0$; and that, besides relating growth in output to growth in capital, labor, and FDI-related TFP, it provides us with an estimate of the private maginal product of capital, MPK.

Table (17) presents the OLS estimates from 1978 to 1998 for six Arab countries: Oman, Morocco, Saudi Arabia, Jordan, Tunisia, and Egypt[57]. Growth-accounting equations are of course notorious for their limited power in explaining variations in growth rates of output and, as we can see from table (17), this becomes particularly true for equation (12) in the context of Oman, Morocco, and Saudi Arabia[58]. Oman and Saudi Arabia are oil economies whose fortunes depend on the ups and downs of the price of oil; and Morocco's economy hinges largely on the performance of the agriculture sector which is heavily dependent on unpredictable winter rainfalls[59].

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[57] Since there are administrative and logistical delays involved in setting up FDI activities, we used lag FDI/Y by one period as the independent variable. Also, since I = FDI + DI where DI is domestic investment, equation (12) can be expressed as: dY/Y = (λ + MPK) FDI/Y + α dL/L + MPK. I/Y. We estimated the latter equation and its coefficient estimates did not differ from those of equation (12).

[58] Bisat, et.al (1997) estimated the growth-accounting equation without the effect of FDI on TFP and obtained the following adjusted R^2 for Morocco, Oman, and Saudi Arabia, respectively: -0.007, 0.016, and –0.007.

[59] For example, the following outcomes were obtained in Morocco (year, state of rainfall, and GDP growth rate): 1993, poor, –1%; 1994, heavy, 11.1%; 1995, very poor, -6.3%; 1996, exceptional, 11.5%; 1997, poor, -2.2%; 1998, good, 6.1%.

That is why the effects of these external factors swamp the effects of capital -- domestic and foreign -- and labor in determining changes in growth rates. It is interesting to note, however, that λ is *negative* and statistically significant for Saudi Arabia. Although the Kingdom (until *very* recently) prohibits foreign participation in its oil and gas sector, most of FDI -- besides some in consumer goods and light manufacturing -- is linked to the Saudi Offset Program whereby big foreign defense contractors are required to reinvest between 25%-35% of their contracts' value back in the Kingdom. The negative impact of these investments could stem from the fact that they represent imposed "implants" that neither meet the investment criteria of the multinationals nor the optimum resource allocation of the host country.

As to the three other countries, the impact of FDI through capital accumulation on growth is positive and statistically significant, implying that a 1% increase in the investment ratio adds 0.34% to the growth rate in Jordan, 0.43% in Tunisia, and 0.28% in Egypt. As important, the effect of FDI on TFP in Jordan is statistically insignificant. FDI is mainly concentrated in the minerals sector (phosphates and potash) and in services (light consumer goods and tourism). It is as of yet not located in the medium-to high–technology industries, but there is hope that in the near future more FDI in these industries will be undertaken to take advantage of the QIZ and Aqaba's

new Special Economic Zone[60]. In the case of Tunisia, λ is *negative* and statistically significant. Tunisia received close to $ 3.5 billion in FDI between 1987-98, but 75% of these inflows were directed at the hydrocarbons sector to build the Transmed gas pipeline and the rest at the textile and tourism industries. The textile industry has a large foreign presence, comprising more than half of the 1900 firms in operation, and one would expect that technology spillovers would be strongest there[61]. But textile is a low-technology industry, and any efficiency advantages accruing from the large foreign presence is more likely to be an outcome of *competition* than of transfer of advanced technology[62]. This will produce a one-time improvement in the *level* of productivity, pushing the latter closer to the efficiency frontier but not necessarily increasing its rate of growth. In fact, the market structure of excessive competition and segmentation in the industry, along with its lack of integration (almost all of its necessary raw materials are imported), seem to be making additional FDI exert a negative effect on TFP growth[63].

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60 It is expected that Aqaba's Special Economic Zone will be open in year 2001.

61 In 1998, the textile sector in Tunisia employed half of the workforce in the manufacturing sector, accounted for 6.5% of GDP, and constituted 45% of exports. For more on the sector, see the paper by R. Mouadab in Sadik (1999).

62 Haddad and Harrison (1993) obtained similar results at the sectoral level for the impact of FDI on productivity and its growth in Morocco. Also, Sjoholm (1999) found FDI spillovers in Indonesia when competition *is joined with* a large technology gap, and Chuang and Lin (1999) found it in Taiwan when accompanied with R and D expenditures.

63 Imports of accessories to the textile sector constituted 23% of total Tunisian imports in 1998.

For Egypt, too, λ is found to be *negative* and statistically significant at the 10% level, but its size is less than that of Tunisia. FDI in Egypt has been the most active in the Arab world, participating in the privatization of public enterprises and concentrating on manufacturing (50%), banking (30%), and tourism (7%)[64]. Egypt also is the largest market in the Arab world and is still fairly protected, so the negative effect of FDI on TFP could be the result of trade-induced distortions by firms attracted to serve the protected domestic market[65]. Also, and this applies to Tunisia as well, it could be that the positive effect of FDI on TFP takes time to spread and materialize and, as a result, FDI's short- to medium-run effect is confined to *capital accumulation only* -- in the same way as the Asian growth experience with its heavy FDI presence was up to the early 1980s[66]. Concerning the effect of labor growth rates, in none of the countries it is statistically significant. Adding more labor to production in these countries could increase the level of GDP but not its rate of growth, due to diminishing returns of labor productivity that arises mainly from low capital-labor ratios,

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64 By mid-1999, the government had privatised 120 of the 314 public enterprises, and foreign participation was estimated at more than 30% of the equity involved.?

65 On a scale of trade restrictions from 1 (least restrictive) to 10 (most restrictive), Egypt is placed at level 8; see the paper by Brown, et.al. in Sadik (1999). Also, a possible factor could be the lack of commitment on the part of investors, whose portfolio equity investment is in excess of 10% and as a result is considered FDI, for efficient restructuring of privatized companies if their aim is speculative in nature.

66 On the role of TFP growth or the lack of it in the context of the Asian growth experience, see Young (1995).

inadequate skills, and short work-experience periods of the young labor force[67].

As we showed in equation (12), the coefficient of the investment ratio is the private marginal product of capital, MPK. It is interesting to relate this estimated MPK to the actual social marginal product of capital that captures the effect of TFP on the productivity of capital from all factors affecting TFP not just FDI (remember that TFP reflects the efficiency of the investment environment for given labor and capital inputs). Let us call this social marginal product of capital, SMPK; and we can calculate it from the aggregate incremental capital-output ratio, ICOR, whose values for Jordan, Tunisia, and Egypt over the 1978-98 period are given in table (18). The inverse of ICOR, dY/dK, is SMPK which measures the change in aggregate social output due to a change in the capital stock[68]. Thus, we can compare the MPK estimated in table (17) with the SMPK calculated as the inverse of the average ICOR in table (18):

	MPK	SMPK
Jordan	0.34	0.15
Tunisia	0.43	0.18
Egypt	0.28	0.16

[67] The importance of capital equipment and the technology embodied in them to growth is emphasized in De Long and Summers (1992). Also, on the effect of low capital-labor ratios on Arab productivity, see Bisat, et. al (1997); and on the link between the age structure of the labor force and productivity and growth, see Sarel (1995).

[68] The social marginal productivity of capital, SMPK, differs from MPKF in that the former captures the changes affecting TFP from *all* relevant factors, whereas the latter those relating to FDI *only*.

What the above figures show for all three countries is the discrepancy that exists between the social and private marginal productivity of capital. Investment, in other words, is much more rewarding to its direct beneficiaries than to society at large. To give some explanations for the low SMPK that are familiar to any student of the Arab economy, one can mention over-valued exchange rates and trade barriers that increase the relative price and production of non-tradeables which have a shorter growth mileage than tradeables, public expenditures that are driven by political expediency rather than sound social rates of return, and heavy reliance on imports of capital equipment that are utilized without adequate absorption of the technology embodied in them. FDI does not seem to be helping either. It is surely contributing to more capital accumulation and growth, but it is not *yet* improving investment efficiency. And here lies the answer to the question we posed earlier. It is not so much the *quantity* of investment that is missing for the Arab economy to start having sustained growth, but the *quality* of investment: a quality that is hampered by distorted incentives, lack of appropriate institutions, and inadequate appreciation and availability of technological innovation.

VII. Conclusion and Policy Implications

Improving living standards in general and in Arab countries in particular requires at least two conditions: raising per-capita income and satisfying the demand for goods and services. Raising per-capita income is a consequence of output expansion and growth. However, growth and expansion of output is generated by productive investment which requires financing. Developing countries including Arab

countries face two constraints in their efforts to develop: saving-investment gap and foreign exchange gap (S-I and X-M, the dual gap constraint on development).

During the 1970-1985 period, which includes the oil boom in the region, the Arab countries as a group did not face either constraint. In fact, aggregate Arab savings exceeded aggregate investment and the external sector was the vent for the outflow of resources from the Arab region to other regions of the world. This aggregated picture conceals variations among the Arab countries. The GCC group and Libya experienced excess of savings over investments as well as excess of exports over imports. Other countries were faced with both gaps of which (i) 67% was financed from unrequited transfers, both private and official, originating mainly from the GCC group; (ii) 28% from external borrowing; and (iii) 6% from foreign direct and portfolio investment.

Since the second half of the 1980s, almost all Arab countries experienced one or both of the domestic and foreign constraints. The deteriorating situation in all the Arab countries and the competition among all countries, developed and developing, for attracting capital inflows, especially the non-debt creating flows, paved the way for Arab countries to adopt programs to stabilize and reform their economies, hoping that would improve their investment climate and lure foreign investors and capital inflows. But succeeding in reforms is one thing and attracting capital inflows, especially FDI, is another, since capital inflows are not determined only by the investment climate.

A significant feature of private flows in the 1990s has been the shift from commercial banks to non-bank sources. The impressive rise of FDI to developing countries in the 1990s is a reflection of the expansion and acquisition of production facilities by multinational corporations (MNCs). Factors that could explain their motivation are not confined to the importance of traditional ones related to wage cost, source of raw materials, and proximity to markets. Strategic decisions concerning specialization and exploitation of economies of scale in corporate mergers and acquisitions are also important explanatory factors. In countries characterized by emerging, large and growing markets and macroeconomic stability, privatization and increased private sector financing for infrastructure projects, more FDI was attracted. Also, MNCs of developed countries in general, and those of the United States, United Kingdom and Japan in particular, account for most of the flows and stock of FDI. (It is to be noted that FDI flows are not confined to developed countries, they flow also from developing to developing countries). However, it is not clear what factors are responsible for attracting FDI to developing countries. FDI flows are concentrated in a handful of diverse developing countries. There seems to be no strong relationship between the degree of trade and financial sector liberalization and the amount of FDI a country receives. For example, China receives a dominant share of total FDI flowing to the developing countries, despite the fact that it has strong controls and regulations governing capital flows. Malaysia and Thailand received more FDI than the more liberalized Latin American countries. African countries attracted little FDI in spite of their efforts to liberalize and open their economies. Incentives such as tax and other fiscal and monetary inducements offered by host countries are not effective means to attract FDI. In a nutshell, the main pull factors

for FDI are the availability of competitive resources, large and growing domestic market, and guarantee of profit and capital repatriation.

Arab countries received on average one percent of global FDI in the 1990s compared to 2% of world GDP. Moreover, FDI inflows to the Arab world were concentrated in six Arab countries, namely: Egypt, Jordan, Morocco, Oman, Saudi Arabia and Tunisia and deployed in the oil sector, petrochemicals and manufacturing especially textiles and minerals.

The resource gap in the Arab world over the coming fifteen years could average 8% of GDP. Assuming that a part of the resource gap was to be filled from FDI, the paper has identified some crucial determinants for attracting FDI that could assist policy formulation and guide structural transformation. These are:

1. At this stage, most potential FDI will be efficiency seeking for export purposes. Hence the need to diversify the economic base and upgrade the quality of human resources. In other words, real sector and educational reform should be directed at transforming Arab comparative advantage towards skills-based goods. Attracting FDI will also contribute to this transformation, thus kick-starting a virtuous cycle of structural change and enhanced specialization.

2. Financial sector reform, whether along a bank-based or stock market-based system, is beneficial in its own right. But as far as FDI is concerned, financial deepening is not a stimulus for FDI.

As a result, financial sector reforms should take a back seat to real sector reforms or should be under taken simultaneously[69].

3. In the 1993-1998 period, political risk proved to be not a significant factor in affecting FDI. This means that a comprehensive political settlement will not flood the region with pent-up FDI; and FDI will not have a noticeable presence unless the economic fundamentals are there. At any rate, perhaps the best way to reduce political risk is through economic growth (which FDI no doubt could contribute to) since it ameliorates the possibility of conflict by increasing both the income of the disadvantaged groups and the opportunity cost of disruptive political stalemates.

4. Exchange rates are a weak determinant of FDI. So the best course, as far as this aspect of commercial policy is concerned, is to maintain stable real exchange rates and overall macroeconomic stability. Also, free trade agreements with richer partners, like the EU or even membership in WTO, would attract more FDI to serve the expanded export markets. Hence, this aspect of commercial policy should be pursued, along with the strengthening of the move that is currently under-way towards an Arab free trade area.

5. FDI among the Arab countries would be enriched if there were capable Arab multinationals. To this effect, Arab finance capital -- both domestic and "expatriate"-- needs to team up with foreign real

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[69] On the role of financial markets and government policy (especially in the context of East Asia), see Stiglitz and Uy (1996) and Singh (1998).

capital not only to increase FDI and the technological capabilities of the Arab world, but also to develop reputable indigenous multinationals.

Besides contributing to more investment, FDI has the added advantage of technological spillovers. However, the paper has shown that such spillovers are yet to be witnessed in the Arab countries. As a result, we could argue the following implications:

1. At present, incentives based on positive externalities from FDI are not economically justifiable, in addition to being a drag on tight fiscal budgets. This is because FDI has yet to improve TFP in the Arab world.

2. There are two cases where incentives will be justifiable and highly recommended. First, when FDI is located for export purposes, so that the competition in international markets induces foreign affiliates to be more productive and innovative. Second, when the technology gap between the foreign affiliates and the average domestic firm is large, such as in medium-to high-technology goods in the Arab world. In both instances, efficiency gains from technology spillovers could be significant to warrant subsidization and support of FDI.

In the final analysis, with or without FDI, what the Arab world needs first and foremost is an overall improvement in the quality and the environment of investment so that new capital expenditures would have higher social productivity.

Table (1): Developing Countries: Composition of Aggregate Net Resource Flows[1] (Percentage Shares)

	1980	1989	1993	1994	1995	1996	1997	1998	1999
Aggregate Net Resource Flows[2]	82.70	82.60	219.17	220.36	257.17	313.15	343.73	318.33	290.70
Private Flows	57.8	49.9	75.6	79.1	79	90.1	88.5	84.1	82.2
FDI	5.3	28	30.1	40.3	40.8	41.8	49.5	53.7	66
Portfolio Equity	0	4.1	23.28	15.9	14	15.7	8.8	4.9	9.5
Bonds	1.4	4.8	16.7	17.3	12	19.9	14.25	12.45	8.6
Bank Lending	36.25	2.7	1.6	4	11.8	12	15	14	-3.9
Other[3]	14.8	10.25	4	1.6	0.4	0.7	0.85	-0.98	1.9
Official Flows[4]	42.2	50.1	24.4	20.9	21	9.9	11.5	15.9	17.8

[1] Long-term and excluding IMF.

[2] In US $ billion.

[3] Includes credit from manfacturers and bank credits covered by a guarantee of an exports credit agency.

[4] Includes grants.

Source: World Bank (2000a).

Table (2): Arab Countries[1]: Composition of Aggregate Net Resource Flows[2] (Percentage Shares)

	1980	1989	1993	1994	1995	1996	1997	1998
Aggregate Net Resource Flows[3]	8.77	10.16	7.79	10.23	6.33	11.54	12.66	11.80
Private Flows	-9.8	54.5	30.8	52.45	27.45	48.3	72.1	73.15
FDI	-37.8	19.5	48.5	32.7	-3.4	30.8	46.3	42.6
Portfolio Equity	0	0	0	1	3.2	14.15	17.85	7.45
Bonds	0.39	1.68	-8.3	2.2	11	7.7	12.8	11.35
Bank Lending	4	8	-22.2	8.7	10	0.09	-0.18	2.34
Other[4]	23.6	25.3	12.8	7.8	6.7	-4.4	-4.6	9.4
Official Flows[5]	109.8	45.5	69.2	47.55	72.55	51.7	27.9	26.85

[1] Includes Algeria, Djibouti, Egypt, Jordan, Lebanon, Morocco, Oman, Syria, Tunisia, Yemen, Bahrain, Iraq, Libya, Saudi Arabia.

[2] Long-term and excluding IMF.

[3] In US $ billion.

[4] Includes credit from manfacturers and bank credits covered by a guarantee of an exports credit agency.

[5] Includes grants.

Source: World Bank (2000a).

Table (3): Regional Distribution of Developing Countries' Aggregate Net Resource Flows[1] (Percentage Shares)

	Aggregate Net Resource Flows		Private Flows								Official Flows[2]	
			FDI		Portfolio Equity		Bonds		Bank and Trade Related Lending			
	1993-97	1998	1993-97	1998	1993-97	1998	1993-97	1998	1993-97	1998	1993-97	1998
East Asia and Pacific	39.7	26	46.4	37.5	39.1	57.8	41.6	4.7	33.1	-18.7	24.4	31.8
Europe and Central Asia	14.6	18.7	12.3	14.2	9.4	18.6	11	36.3	22.4	28.2	23.7	10.1
Latin America and Caribbean	30.8	43	32.1	40.5	35.6	11.2	41.5	44.4	41.1	91.9	5.4	20.3
South Asia	4.8	4	2.5	2.1	9	2.2	1.4	10.5	3.7	-1.5	10.7	10.2
Sub-Saharan Africa	7.3	4.7	3.7	2.6	4.7	4.4	2.1	0.6	-1.8	-4.5	30.4	22.9
Arab Countries[3]	1.8	3.7	2.9	2.9	2	5.6	1.3	3.4	0.6	3.3	11.2	6.5

[1] Long-term and excluding IMF; data for 1993-97 represent average annual flows.

[2] Including grants.

[3] Same as Table (2).

Source: World Bank (2000a).

Table (4): Domestic Savings and Per-Capita GDP in $US of Arab Countries, GCC, Non-GCC, Developing Countries and World (Percentage Ratios)[1]

	1987-92[2]	1993	1994	1995	1996	1997	1998
Savings Ratio							
Arab Countries	15.1	17.4	19.5	20.1	20.0	21.8	18.6
GCC	30.6	28.8	31.3	32.2	33.6	33.7	27.2
Non-GCC	8.9	12.0	13.3	14.1	14.8	15.9	15.2
Developing Countries	23.4	25.5	26.9	27.4	26.9	27.3	26.4
World	22.6	22.2	23.1	23.6	23.5	23.9	23.3
Per-Capita GDP							
Arab	2,253	2,312	2,301	2,399	2,570	2,589	2,470
GCC	10,820	11,545	11,400	11,675	12,257	12,154	10,920
Non-GCC	1,138	1,108	1,100	1,166	1,272	1,296	1,323
Developing Countries	1,031	1,093	1,090	1,090	1,190	1,250	1,250
World	3,884	4,420	4,470	4,880	5,130	5,180	4,890

[1] GCC includes: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE. Non-GCC includes: Algeria, Egypt, Jordan, Lebanon, Libya, Mauritania, Morocco, Sudan, Syria, Tunis, and Yemen. Arab Countries include both GCC and non-GCC.

[2] Annual average.

Source: AMF (1999); IMF (1999).

Table (5): Domestic Investment of Arab Countries, GCC, Non-GCC, Developing Countries and World (Percentage Ratios)[1]

	1987-92[2]	1993	1994	1995	1996	1997	1998
Arab Countries	21.8	23.0	23.4	22.9	20.6	21.8	23.4
GCC	20.9	22.2	22.1	21.1	19.8	21.0	23.4
Non-GCC	23.2	23.9	24.4	23.5	22.3	21.8	23.1
Developing Countries	25.2	28.6	28.2	28.9	28.0	27.8	26.6
World	23.7	23.7	23.8	24.1	23.9	23.9	23.2

[1] Same as table (4).

[2] Annual average.

Source: Same as table (4).

Table (6): Resource Gap of Arab Countries, GCC, Non-GCC, Developing Countries and World (Percentage Ratios)[1]

	1987-92[2]	1993	1994	1995	1996	1997	1998
Arab Countries	-6.7	-5.6	-3.9	-2.8	-0.6	0.0	-4.8
GCC	9.7	6.7	9.2	11.1	13.8	12.7	3.8
Non-GCC	-14.3	-11.9	-11.1	-9.4	-7.5	-5.9	-7.9
Developing Countries	-1.8	-3.1	-1.3	-1.5	-1.1	-0.5	-0.2
World	-1.1	-1.5	-0.7	-0.5	-0.4	0.0	0.1

[1] Same as table (4).
[2] Annual average.

Source: Same as table (4).

Table (7): Growth Targets and Investment

(Average Annual Percent, 1998 - 2015)

	Arab Countries	GCC	Non-GCC
Scenario One			
g	5	6.1	5.4
ICOR	4.5	4.35	4.25
i	22.5	26.5	22.95
Per-Capita GDP in 2015[1]	4,083	21,621	2,336
Scenario Two			
g	7	7	7
ICOR	4.5	4.35	4.25
i	31.5	30.45	29.75
Per-Capita GDP in 2015[1]	5,661	25,029	3,032

[1] In US dollars.

Table (8): Savings-Investment Gap

(Average Annual Percent, 1998 - 2015)

	Arab Countries	GCC	Non-GCC
Savings			
Scenario 1	20.60	27.90	19.68
Scenario 2	22.64	28.11	22.75
Investment			
Scenario 1	22.50	26.50	22.95
Scenario 2	31.50	30.45	29.75
Savings-Investment Gap			
Scenario 1	-1.90	1.40	-3.27
Scenario 2	-8.86	-2.34	-7.00

Table (9): Arab Countries[1]: National Savings, Investment, Current Amount Balance, and Net External Financing (Percentage Ratios)

	1987-92[2]	1993	1994	1995	1996	1997	1998
I/GDP	21.6	22.05	22.10	21.50	20.30	20.70	22.10
S/GDP	18.9	18.50	19.27	20.43	22.08	22.47	17.67
CAB/GDP[3]	-2.7	-3.56	-2.83	-1.07	1.78	1.77	-4.43
KAB/GDP[4]	3.77	5.28	3.84	0.98	-1.06	0.15	0.88
of which net FDI/GDP	0.26	1.09	0.95	1.00	0.95	1.60	1.45
ΔR/GDP[5]	-0.11	-0.02	0.57	0.59	-0.10	-1.32	2.89

[1] Includes Jordan, UAE, Bahrain, Tunisia, Algeria, Saudi Arabia, Sudan, Syria, Oman, Kuwait, Lebanon, Libya, Egypt, Morocco, Mauritania, and Yemen.

[2] Annual average.

[3] The reason that CAB/GDP is not exactly equal (and opposite in sign) to the sum of KAB/GDP and ΔR/GDP is because of statistical errors and omissions.

[4] Represents net external finacing, both long - and short - term.

[5] A *negative* ΔR/GDP represents an increase in international reserves.

Source: Arab Monetary Fund (1999).

Table (10): Developing Countries: National Savings, Investments, Current Amount Balance, and Net External Financing (Percentage Ratios)

	1987-92[1]	1993	1994	1995	1996	1997	1998
I/GDP	26.38	28.60	28.20	28.90	28.00	27.80	26.60
S/GDP	25.16	25.50	26.90	27.40	26.90	27.30	26.40
CAB/GDP[2]	-1.22	-3.20	-1.30	-1.50	-1.10	-0.50	-0.20
KAB/GDP[3]	3.15	4.96	2.25	2.75	3.26	1.91	0.38
of which net FDI/GDP	2.01	2.42	2.20	2.82	5.33	4.32	0.63
$\Delta R / GDP$[4]	-1.56	-1.20	-0.60	-0.91	-1.46	-0.56	0.02

[1] Annual average.

[2] The reason that CAB/GDP is not exactly equal (and opposite in sign) to the sum of KAB/GDP and $\Delta R / GDP$ is because of statistical errors and omissions.

[3] Represents net external finacing, both long - and short - term.

[4] A negative $\Delta R / GDP$ resents an increase in international reserves.

Source: International Monetary Fund (1999).

Table (11): World and Regional Distribution of FDI Inflows (Percentage Shares)

	1987-1992[1]	1993	1994	1995	1996	1997	1998
Total[2]	173.5	219.4	253.5	328.9	358.9	464.3	643.9
Developed Countries	78.7	60.1	57.7	63.3	58.8	58.8	71.5
EU	41.9	35	30.6	35.1	30.4	27.2	35.7
USA	26.6	19.8	17.8	17.9	21.3	23.5	30
Other	10.2	5.3	9.3	10.3	7.1	8.1	5.8
Developing Countries	21.3	39.9	42.3	36.7	41.2	41.2	28.5
East Asia and Pacific	10.6	22.3	23.7	19.7	21.2	17.9	10.7
Europe and Central Asia	1	4.6	2.8	4.9	4.2	4.6	4
Latin America and Caribbean	7.2	9.2	12.4	10	12.8	14.7	11.6
South Asia	0.2	0.5	0.6	0.9	1	1	0.6
Sub-Saharan Africa	1	0.9	1.3	1.2	1.3	1.4	0.7
Arab Countries	1.3	2.4	1.5	0	0.7	1.6	0.9

[1] Annual average.
[2] In US$ billion.
Source: UNCTAD (1999).

Table (12): FDI Inflows by Industry[1]

Sector/Industry	Developed Countries[2]	Developing Countries	
		Asia[3]	Latin America[4]
All Industries	198.51	118.79	42.51
Primary	8.59	3.37	3.99
Manufacturing	70.28	70.69	10.3
Chemicals	19.36	13.67	0.72
Machinery	8.07	2.21	2.29
Electronics	3.92	5.04	0.35
Transport & Equipment	4.48	0.55	0.22
Services	105.24	42.47	24.07
Trade	24.11	4.16	1.37
Finance	38.9	1.87	5.25
Real Estate	7.38	7.3	0.1
Communications	5.34	9.74	2.3

[1] In US$ billion and for 1997.

[2] Including US, EU, Canada and Switzerland and accounting for 83% of developed countries' FDI inflows.

[3] South, South-East, and East Asia, and accounting for 99% of the region's FDI inflows.

[4] Including the Caribbean and accounting for 90% of the region's FDI inflows.

Source: UNCTAD (1999).

Table (13): Arab Countries: FDI Inflows ($US Million)

	1987-1992	1993	1994	1995	1996	1997	1998	1998	
								Stock of FDI Inflows	Stock of FDI Inflows/GDP[1]
Algeria	-	-59	22	-24	447	630	500	2,799	5.9
Egypt	806	493	1,256	598	636	891	1,076	16,700	20.2
Libya	52	31	69	9	209	10	150	--	--
Morocco	203	491	551	332	354	1,079	258	4,724	13.06
Sudan	-6	-	-	-	-	98	10	100	1
Tunisia	160	562	432	264	238	339	650	5,330	26.6
Djibouti	-	1	1	3	20	25	25	84	12.03
Mauritania	4	16	2	7	4	-	6	97	10
Bahrain	58	-5	-31	-27	47	26	10	642	10.4
Jordan	21	-34	3	13	16	361	223	1,226	16.53
Kuwait	7	13	-	7	347	20	-10	439	1.75
Lebanon	2	7	23	22	64	150	230	554	3.45
Oman	103	142	76	46	75	49	50	2,395	16.9
Qatar	10	72	132	94	35	55	70	595	5.7
Saudi Arabia	-35	1,369	350	-1,877	-1,129	2,575	2,400	26,270	20.4
Syria	67	176	251	100	89	80	100	1,299	7.96
UAE	52	401	62	399	130	100	100	2,099	4.5
Yemen	198	897	11	-218	-60	-138	100	1,941	37.3

[1] In percentage terms.

[2] In US$ billion.

Source: UNCTAD (1999).

Table (14): Direct Investment Position Abroad of USA, EU, and Japan (Percentage Shares)

USA[1]		EU[2]		Japan[2]	
Region and Country	**% Share**	**Region and Country**	**% Share**	**Region and Country**	**% Share**
Developed	69	Developed	86.6	Developed	68.4
EU	43.4	EU	67.4	USA	41.9
UK	15.8	USA	13.9	EU	18.2
Canada	11.7	Developing	13.4	Australia	5.2
Developing	31	Latin America	5.3	Developing	31.6
Latin America	19	Asia	3.1	Latin America	12
Mexico	2.6	Malaysia	0.7	Asia	16.4
Brazil	3.7	China	0.2	China	4.9
Asia	8.6	Africa	0.7	Indonesia	3.7
Singapore	1.8	Morocco	0.2	Africa	1.7
China	2.4	South Africa	0.3	Middle East	1
Africa	0.9	Middle East	0.3	East Europe	0.2
South Africa	0.2	East Europe	4.8		
Middle East	1	Czech Republic	1.3		
East Europe	0.9	Hungary	1.6		
		Poland	0.8		

[1] For 1996.

[2] For 1994.

Source: Adapted from Shatz and Venables (forthcoming).

Table (15): FDI-Related Features of Selected Developing and Arab Countries

	Manufacturing Value Added: % of GDP[1]	Value Added of Foreign Affiliates as a % of Manufacturing Value Added	Exports of Foreign Affiliates as a % of Total Exports[3]	Average Annual % Growth of Exports: 1990-97
China	37	..	36.1	17.1
Malaysia	29	57.2	51	16.8
Singapore	23	70.4	60.6	15.3
Mexico	20	..	21.1	20.5
Turkey	16	8.4	..	11.2
Egypt	26	..	..	4.3
Jordan	14	..	..	9.3
Morocco	17	32	..	9.3
Saudi Arabia	10	..	..	4.3
Tunisia	18	..	30	7.8

[1] Data for 1998.

[2] Data for Malaysia, Singapore, and Turkey are for 1994.

[3] Data for Malaysia and Mexico, 1994; Singapore, 1996; and China and Tunisia, 1997.

Source: UNCTAD (1999) and world Bank (2000b).

Table (16): Dependent Variable: FDI/GDP[1]

Independent Variables	(1)	(2)
T	0.0955***	0.0665***
	(2.0603)	(2.1333)
XDI	-6.6314*	-5.5751*
	(-4.328)	(-5.2168)
GDPG	0.0411	0.0361
	(0.7797)	(1.2408)
QM/GDP	0.0001	0.0033
	(0.038)	(0.7282)
EX	-0.0009***	-0.001***
	(-2.0226)	(-2.3799)
RISK	-0.0212	-0.0313
	(-0.941)	(-1.5702)
D_1		0.6112**
		(4.2878)
D_2		-0.1911
		(-0.8937)
D_3		0.0612
		(0.2909)
Adjusted R^2	0.7766	0.934
F-test: p-value	0.0061	0.0048
N	14 [2]	14 [2]

1 Figures in brackets are t statistics.

2 Includes Algeria, Egypt, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Saudi Arabia, Sudan, Syria, Tunisia, UAE, Yemen,

* Significant at 1%

** Significant at 5%

*** Significant at 10%

Table (17): Dependent Variable: Growth Rate of GDP[1]

	I/GDP	FDI/GDP	dL/L	Adjusted R^2
Oman	0.0974	0.446	1.3726	0.0091
	(0.3386)	(0.1855)	(1.0814)	
Morocco	0.0879	-3.145	-0.5327	-0.071
	(0.1254)	(-1.2709)	(-0.1429)	
Saudi Arabia	0.0923	-1.346**	0.6015	0.0897
	(0.1736)	(-1.6571)	(0.408)	
Jordan	0.34*	-0.385	-1.056	0.2104
	(2.1151)	(-0.431)	(-1.115)	
Tunisia	0.4378*	-1.3592*	0.5129	0.1444
	(2.1637)	(-2.127)	(0.2097)	
Egypt	0.2844*	-0.8452**	-0.461	0.159
	(2.4185)	(-1.7566)	(-0.3187)	

[1] Figures in brackets are t statistics.

* Significant at 5%.

** Signifinant at 10%.

Table (18): ICOR: Jordan, Tunisia, and Egypt

	Jordan	Tunisia	Egypt
1978	7.06	4.69	4.05
1979	8.45	4.4	4.31
1980	2.4	3.97	3.08
1981	4.8	5.98	6.65
1982	8.22	-79	3.42
1983	10.68	6.23	3.45
1984	13.26	5.61	3.96
1985	3.68	4.75	3.3
1986	2.79	-16.78	11.8
1987	9.69	3.12	10.48
1988	-51.4	97	7.9
1989	-1.75	13.27	10.4
1990	18.76	3.56	12.25
1991	14.38	6.84	11.42
1992	3.08	3.65	4.47
1993	6.58	13.27	6.03
1994	5.89	9.21	5.34
1995	5.77	10.29	4.17
1996	39.75	3.53	3.82
1997	12.13	4.94	3.63
1998	14.7	5.52	3.92
Average	6.62	5.43	6.09

Source: World Bank (2000b) and AMF (1999).

Chart (1): Private and Official Flows to Arab Countries

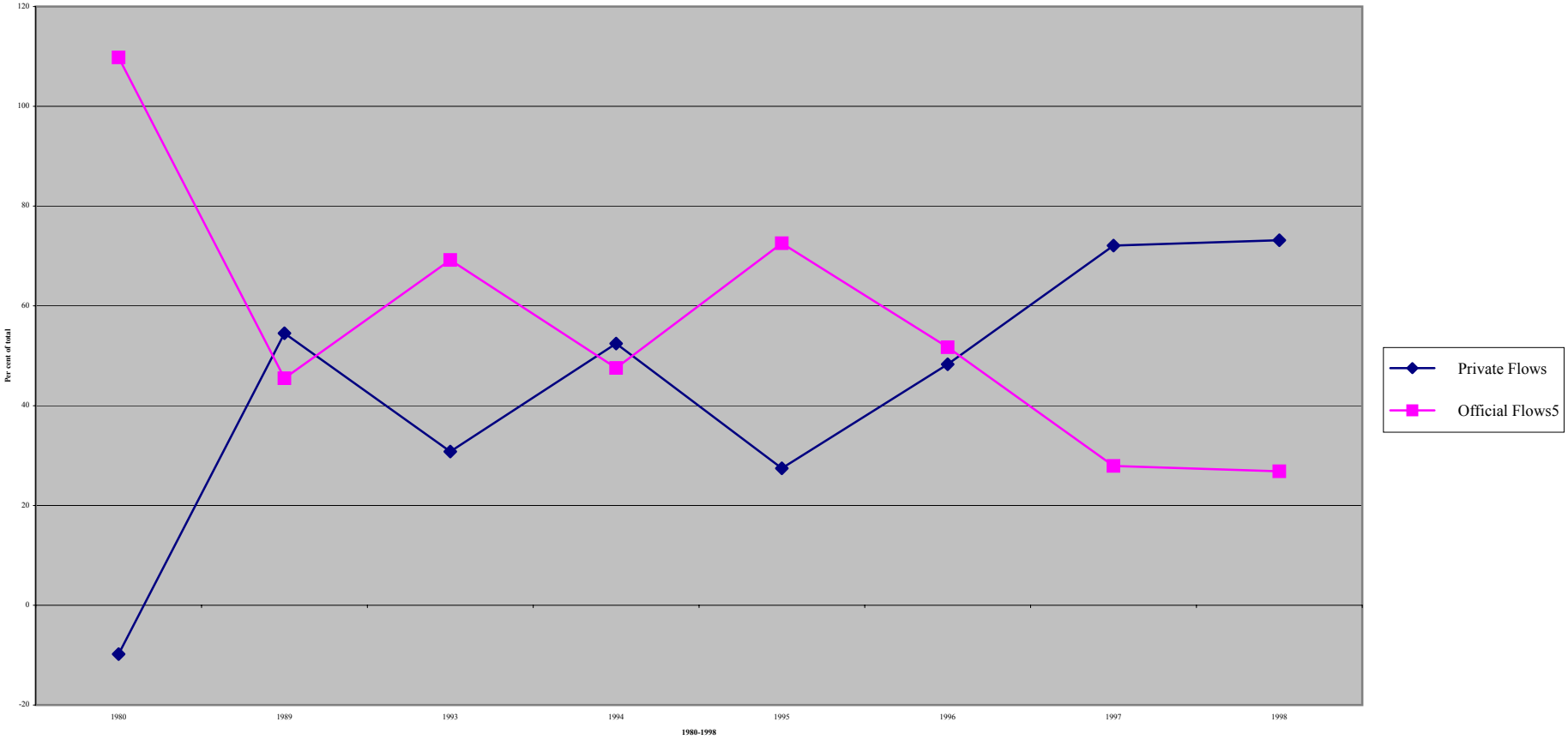


Chart (2): Domestic Savings

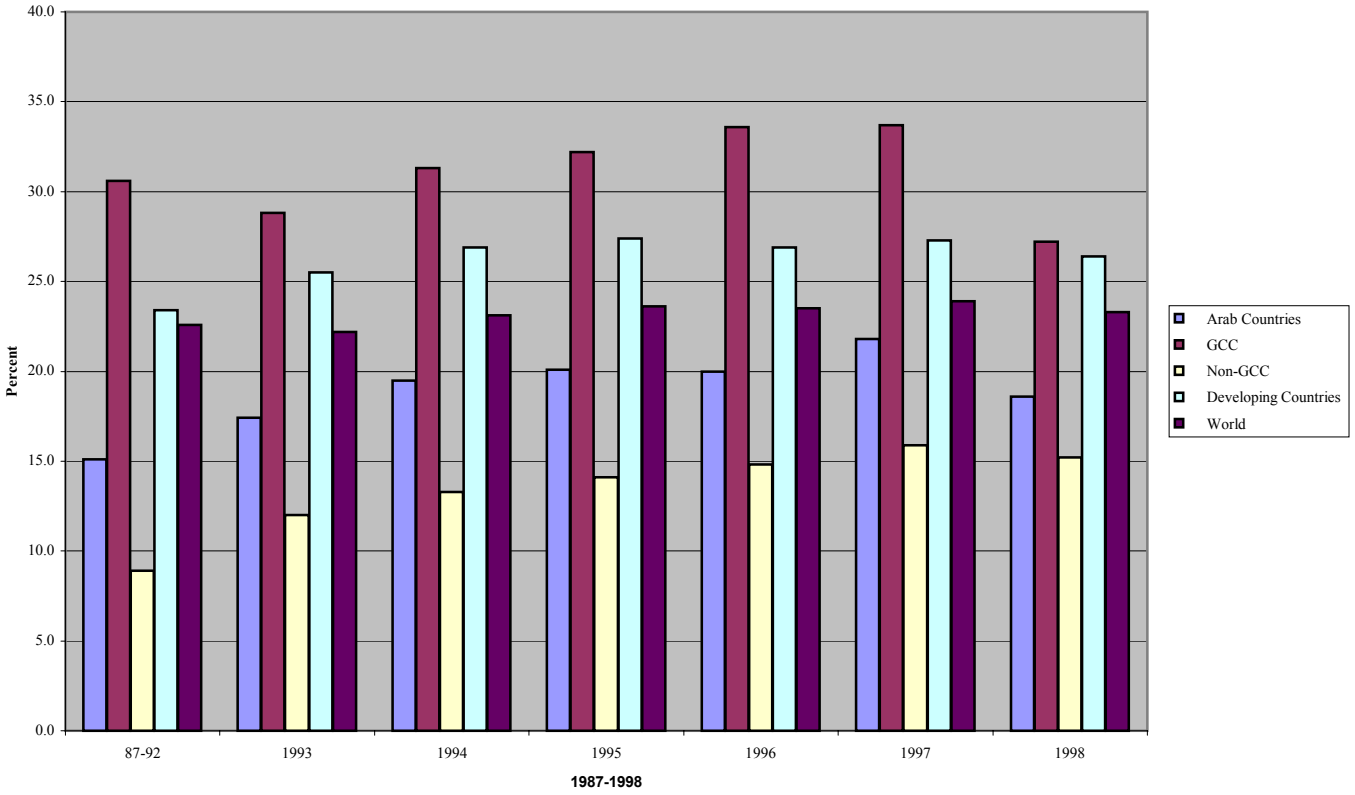


Chart (3): Domestic Investment

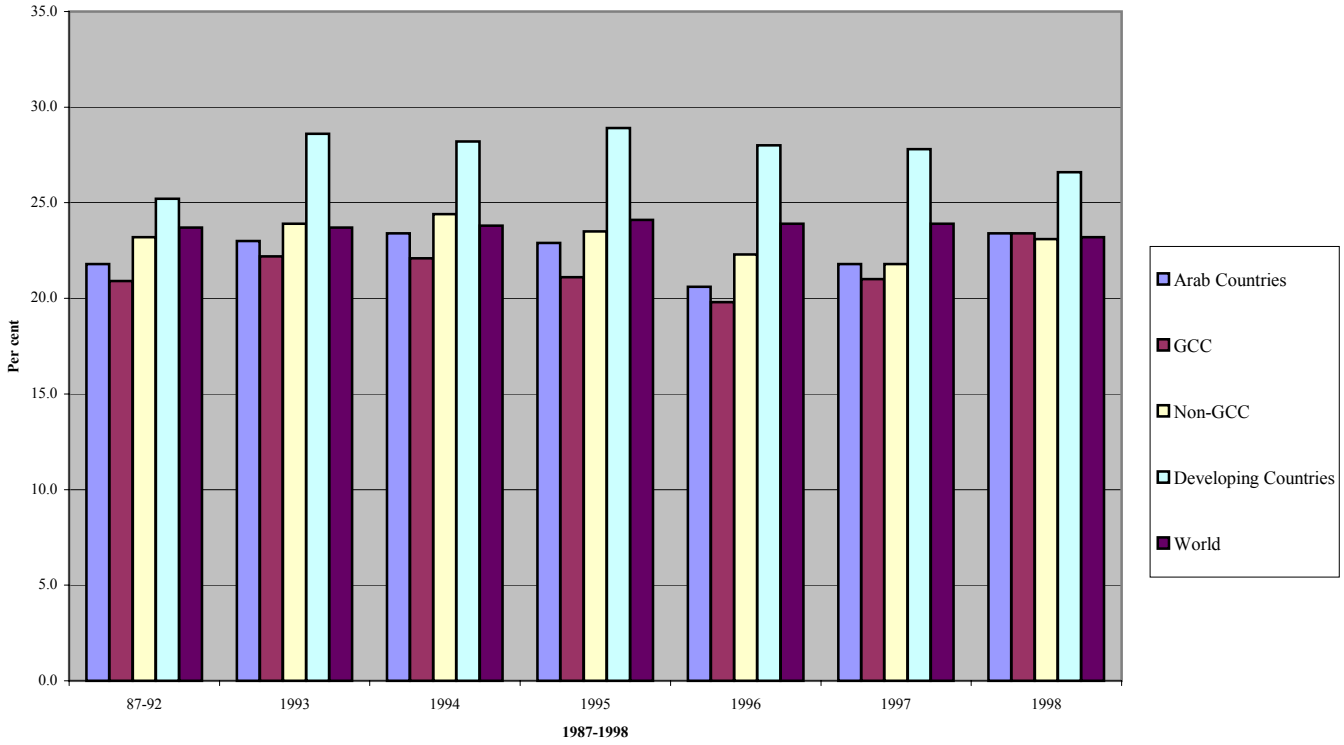


Chart (4): Resource Gap

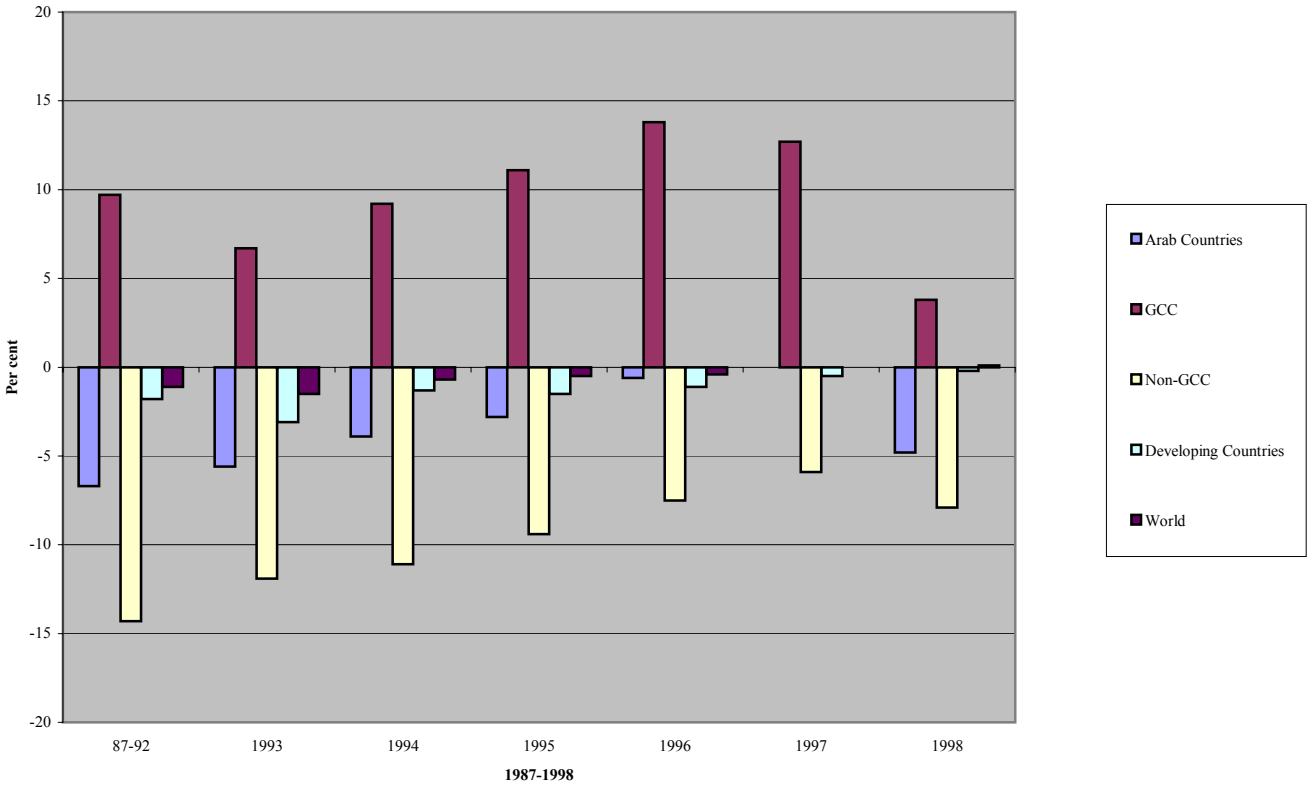


Chart (5): Scenario 1: Resource Gap

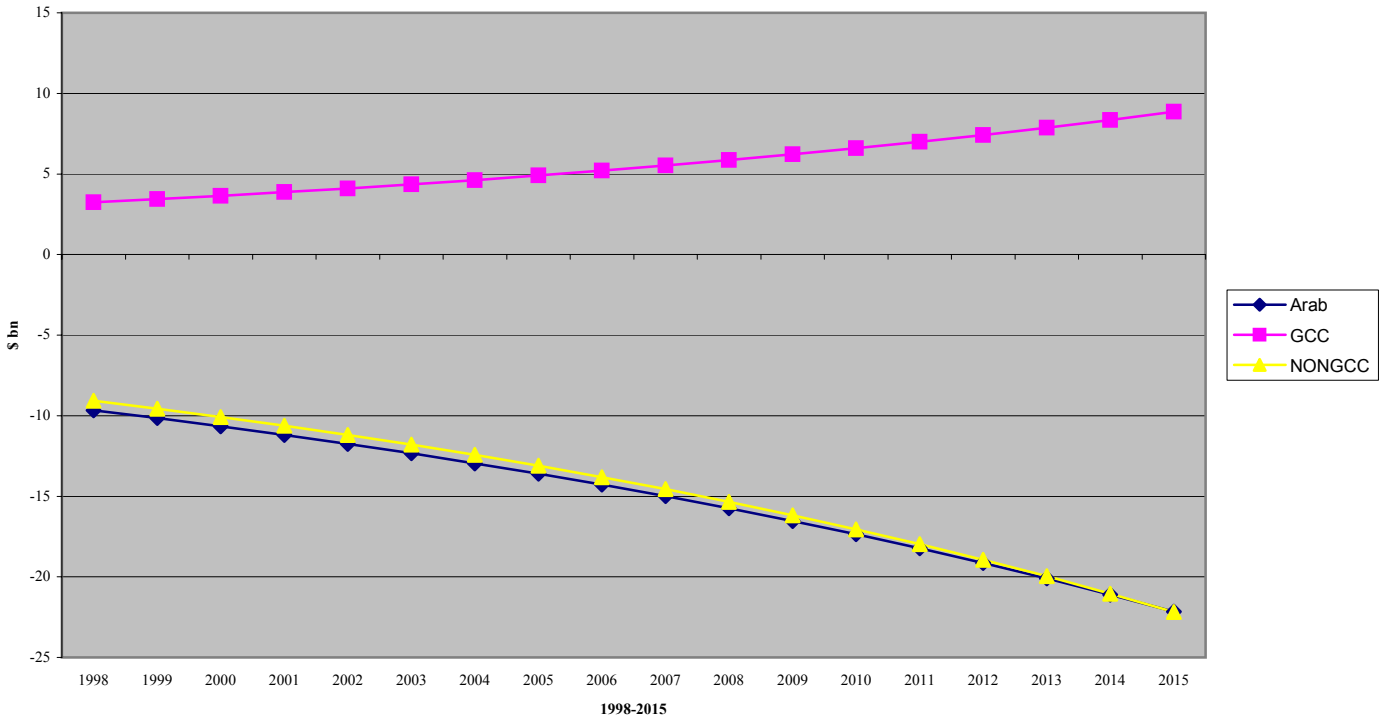


Chart (6): Scenario 2: Resource Gap

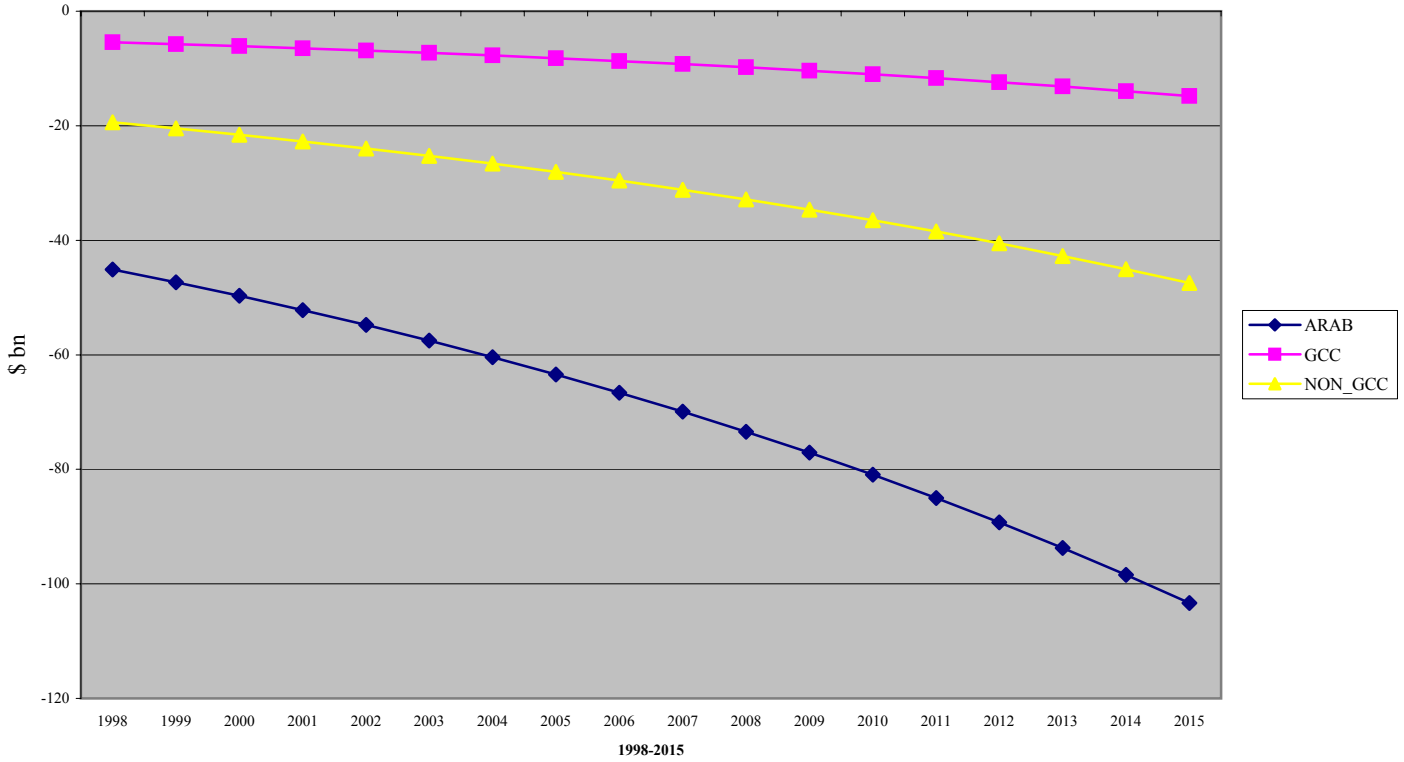
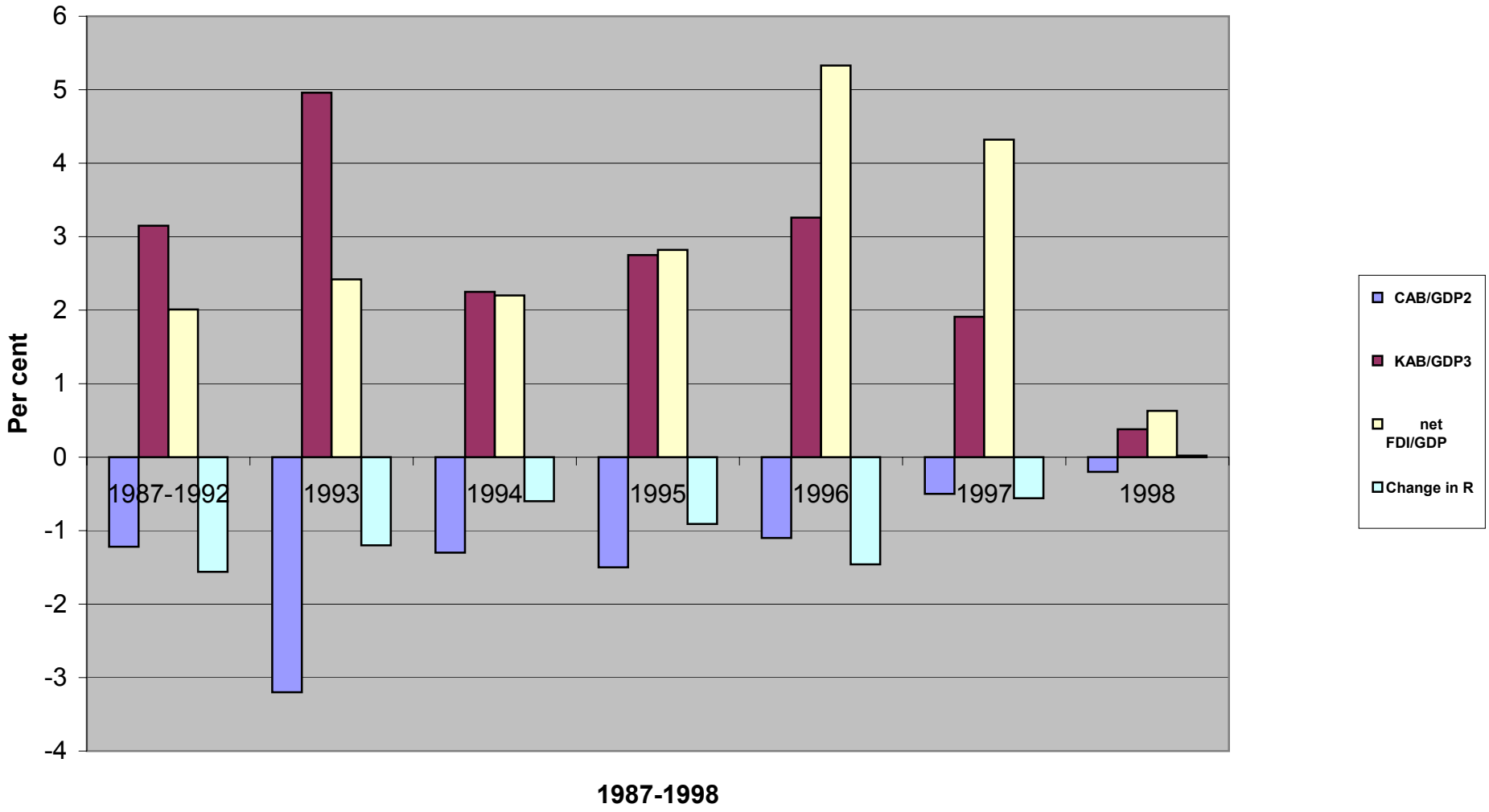


Chart 7:Sources of Developing CA Financing



Appendix I

The data sources for the variables are: T from Brown, et. al in Sadik (1999); XDI from UNCTAD, *Handbook of International Trade and Development Statistics*; GDPG and RISK from World Bank, *World Development Indicators*; QM and EX from IMF, *International Finance Statistics*; GDP and I from AMF, *National Accounts of Arab Countries*; FDI from World Bank, *Global Development Finance*; and L from AMF*, Unified Arab Economic Report*.

Appendix II

Following World Bank (1999) and Hussien and Thirlwall (1999), the savings ratio will be modeled as an increasing function of per-capita GDP (PCY) but at a decreasing rate. Specifically:

$$\frac{S}{GDP} = a + b\,(PCY)^{-1} + u$$

where a and b are parameters and u is the error term. We ran the cross-section regression equation for 15 Arab countries over the 1987-98 period and obtained:

$$\frac{S}{GDP} = \underset{(-3.5834)}{27.015 - 7738.558\,(PCY)^{-1}} \quad \text{Adj. } R^2 = 0.4582$$

Hence, the change in the savings ratio for a given change in PCY can be calculated as:

$$d\left(\frac{S}{GDP}\right) = 7738.558 \left(\frac{1}{PCY}\right)\left(\frac{dPCY}{PCY}\right)$$

which clearly shows that d (S/GDP) gets smaller the higher the level of PCY.

Appendix III

The omitted variables, stock of FDI, intrastucture quality, and index of FDI openness, were statistically insignificant and did not add to the explained variation in the dependent variable, FDI/GDP. We used the following restricted F-test to check for their joint insignificance:

$$F_{r,\, n-k-1} = \frac{(ESS_r - ESS_u)/r}{ESS_u/n-k-1}$$

where ESS_r, and ESS_u are respectively the error sum of squares of the restricted (three variables omitted) and unrestricted (three variables included) models, r is the number of omitted variables, and n-k-1 is the degree of freedom from ESS_u. As a result, the calculated $F_{3,4}$ is:

$$F_{3,4} = \frac{(0.6199 - 0.2744)/3}{0.2744/4} = 1.677$$

It is less than the critical F-value = 6.59 at the 5% level, so we *fail* to reject the null hypothesis that the coefficients of the omitted independent variable are equal to zero. Also, the bias in the parameter estimates that is obtained from the omitted variables is small because the correlation between the omitted and included variables is low.

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