CONSTANTINE PORPHYROGENETUS INTERNATIONAL ASSOCIATION

Journal of Management Sciences and Regional Development
Issue 1, January 1998
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http://www.stt.aegean.gr/geopolab/GEOPOL%20PROFILE.htm
ISSN 1107-9819
Editor-in-Chief: Abraham Mehrez

The Gaza Strip and the West Bank: The transition toward economic independence

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Received June 1996. Final version accepted August 1997

Abstract

The West Bank and Gaza Strip have been under Israeli occupation for the past three decades. This situation has brought about some unique trends in economic development. Moves toward peace during the past year have facilitated the independence of these areas, and, therefore, a radical economic transition must take place in order to accommodate the new reality. The purpose of this paper is to present a macroeconomic analysis by, first, characterizing the economic development of these states under the occupation, and, second, forecasting the path of economic growth when Israeli occupation is withdrawn.

Since the occupation, the West Bank and Gaza Strip have been dependent on Israel for employment, trade, and finance. This situation is characterized by a very low level of investment and capital stock, lack of various public services, an inadequate infrastructure, and a low level of GDP per capita. The first task of a new regime would be to deal with these issues. The econometric model developed in this research paper will be useful for assessing feasibility, foreign capital requirements, impact on growth, economic variables, etc. of any such plans.

Keywords: Macroeconometric model, Middle East, West Bank and Gaza Strip, imposed integration, forecasting growth.

1. Introduction

The term "economic transition" has been recently devised to describe the changes that have taken place in the economies of the Communist Eastern European countries. In this paper, we discuss a different type of economic transition: a transition from occupation to independence. We consider the case of two Palestinian territories, the Gaza Strip and the West Bank, where the population has lived under Israeli occupation since 1967. During this period, the Palestinian economy has developed in a very unique way. As a result of the Declaration of Principles between Israel and the Palestinian Liberation Organization (P.L.O.), the Palestinian economy has recently begun to move slowly toward independence. We analyze and estimate aspects of this transition and its economic impact.

It emerges that there are some similarities of the Palestinian transition to that occurring in Eastern Europe. In both instances, a cardinal change of regime at both the political and economic levels has to take place. In the Palestinian case, Israel has controlled such things as employment, taxation, government activities, etc. During the transition, many of these activities will have to be transferred to the new Palestinian Authority which has practically no existing infrastructure to carry them out. Another similarity to the Eastern European cases is that the Palestinian economy in transition is deeply underdeveloped compared with its neighbors: it suffers from low GNP per capita, low rates of growth, low levels of employment and distorted allocation of resources. If these conditions do not improve, the process of transition could be jeopardized. A general aspect of similarity is that the transition is taking place from a well-defined situation (though not necessarily

desirable) to an unclear prospect, which involves market economic activities in Eastern Europe and a competitive international market for the Palestinian economy.

Another problem this paper addresses is how to determine realistic or attainable goals for the Palestinian economy. As it turns out, the resources needed to realize reasonable goals of economic growth, employment, and balance of payments are not domestically available in these economies and must be financed by external governments and international organizations. An assessment of the required resources is provided.

The transition is a complex process and will have to also take into consideration non-economic aspects. We limit our discussion to major macroeconomic aspects such as GNP growth and expenditure, employment, balance of payment, and investment. Due to the embryonic state of monetary and public finance policies, we do not include issues like money supply and rates of exchange.

Section II includes an international comparison locating the Palestinian economy among other countries. Section III presents a brief description of the economic background in the Gaza Strip and the West Bank, emphasizing the major economic problems. Section IV proposes various plans and programs of transition, evaluates them, and estimates their economic implications. The last section consists of a summary and some conclusions. Due to space limitation, the macroeconometric model that serves the various estimations is presented very briefly in the appendix. The sources of data are publications by CBS (Central Bureau of Statistics) of Israel and World Bank reports.

2. The West Bank and Gaza Strip - An international comparison

In this initial section, we describe the Palestinian economies of the West Bank (WB) and the Gaza Strip (GS) in an international perspective. The figures of Table 1 show that the WB has a GNP per capita that significantly exceeds that of Egypt, Syria and Jordan. In the international ranking of the World Bank, these levels would be considered high for the WB and average for the GS among low middle-income countries. However, the economic literature on international comparisons of national products has criticized such simple comparisons, which do not account for purchasing power differences among the various countries. A correction of such differences is made in the International Comparison of Products (ICP).[1] In Table 1, we see that when ICP corrected exchange rates are used to compute GDP or GNP per capita, both the WB and GS fall below GNP per capita in Egypt, Syria, Jordan, and other "low income" countries. These figures indicate that even though simple statistics show that apparently average income levels in the Palestinian economy are higher than those of neighboring Arab countries, in realistic situations this may not necessarily be so.[2] Indeed, a controversy exists among economists on the relative levels of welfare and economic growth in the Palestinian Economy (PE hereafter) and other Arab countries; e.g., Jordan.[3] The inconsistency of ICP and simple statistics does not help to resolve this controversy. The truth probably lies somewhere between the simple GNP statistics and the ICP measures. In any case, there is little evidence that real income per capita for the PE is significantly higher than that of some of the neighboring countries.

The levels of consumption in per capita terms in the PE, when measured in US dollars without any correction for purchasing power, indicate that they are substantially higher than those of neighboring Arab countries, and much lower than those of Israel (see Table 1). That is, private

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1 See Summers and Heston, 1991.

2 It should be mentioned at this point that the ICP method is not universally accepted, and is subject to much criticism. Thus we cannot take it for granted.

3 See Hamed and Shaban, 1993.

consumption per capita in 1989 was $1,477 in the WB, $942 in GS, $6,035 in Israel, $495 in Egypt, and $811 in Jordan. There is a clear upward bias for the figures in Israel, the WB and the GS. A specific ICP measure for consumption (which we do not present) would have probably reversed the ranking of the PE as compared with Jordan, Egypt, and probably Syria. An interesting point is the relatively large share of GNP devoted to private consumption in the PE, which is 78 and 84 percent in the WB and GS, respectively. This is approximately the level in Egypt, and much higher than that of other Arab countries, Israel, or more developed economies.

The prevalence of large proportions of income (GNP) devoted to private consumption is characteristic of poor and underdeveloped countries. In African, and some Asian and Latin American countries, this share reaches as high as 90-95 percent. In the developed economies it is anywhere from 55 to 65 percent. This indicator is not only related to levels of national income, and possibly to its distribution, but also to the degree of government involvement, to the rates of taxation, and to the provision of public goods (health, education, etc.) by central or local governments. There is no doubt that the high ratio of GNP spent on private consumption in the PE represents, among other things, the relative low level of taxation and government consumption. Indeed, we see (in Table 1) that the government spends only 7-8 percent of GNP on public consumption in the PE, while in other Arab countries it reaches 15-20 percent. By comparison, in Israel it was 29 percent in 1989.[4] These higher levels of government spending are financed (at least partly) by higher levels of taxation; thus disposable income as a share of GNP is obviously higher in the PE than in other countries. In other words, a larger disposable income per dollar of GNP, combined with the need to privately purchase goods (which are otherwise supplied by many governments) generates a relatively high level of private consumption.

Moreover, the PE lacks savings opportunities. Until recently, there was no banking system, and, even at present, the financial sector is at most in its embryonic. Although it is possible for the PE to use the Israeli banking and financial facilities and invest in the Israeli stock market, due to national reasons and mistrust, this option is not very often taken.

The above is perfectly consistent with investments figures. Table 1 shows investment levels and their ratio of GDP (or GNP). We see that proportions of GNP devoted to investments in the PE are 16 and 19 percent for the WB and GS, respectively. These levels are somewhat on the low side compared with other countries, but are certainly not unusual. They are higher than in Syria (13 percent), similar to Israel (16 percent), and slightly below Jordan (18 percent). In per capita terms, they are clearly higher than those of Egypt, Syria, Jordan, and even Tunisia. All these comparisons are somewhat misleading, because most of the investments in the P.A. (50-80 percent) are in residential housing and not in productive capital. This phenomenon is stronger in the GS than in the WB. As mentioned above, there are very few savings opportunities and practically no financial savings incentives; thus most of the savings are channeled to investments in residential construction, and foreign currency. Only a small portion is converted into productive capacity. The data on savings and investment can be explained by the general notion of supply and demand. There are several sources for the supply of funds for investment: private savings, government allocations, foreign investments and investment banking. Only the first source is relevant to the PE. The demand for investment is generated by firms that invest in productive capital, by the public that invests in housing, and by central and local governments that invest in infrastructure. In the PE, the investment in productive capacity is very risky. The role of local government is limited and restricted, and most private investments are allocated to residential construction. The reason for this

[4] For the sake of accuracy, we should remember that public and government consumption in all countries except the PE includes defense spending, which is not included in PE statistics of government expenditure. Defense very often represents a large proportion of government expenditure; for example, in 1989 in Israel, it was 26 percent, in Jordan 25 percent, in Egypt 14 percent, and in Syria 40 percent of total government expenditure.

unusual phenomenon is because savings opportunities are very limited. Thus, investment in housing becomes essentially the only financial outlet. These facts clearly affect the PE's rates of economic growth, their output composition, their technology and their capital-labor ratios. In the following section we elaborate on the productivity issue.

This takes us to the volume of international trade and the degree of openness. Table 1 shows the absolute volumes of merchandise exports and imports and their relative levels. From these figures, the PE seem not to be either among the most open or least open economies. The exports/GDP and imports/GNP ratios are of average levels compared with those of other countries. Nevertheless, these figures should be correctly interpreted, since they do not tell the whole story. Most of the PE trade is with Israel; some 80-90 percent of the Palestinian imports originate in Israel, and similar ratios of total exports are sold in Israel as well. Actually, Israel is by far the largest trading partner of the PE (in second place, Jordan is far below). The PE also represents an important trading partner for Israel. It is the second largest export market for Israeli products (after the U.S.). These facts support the claim that the PE has integrated into the Israeli economy. This trading picture comes on top of the $700-800 millions flowing in labor remittances from Israel to the PE. Indeed, as mentioned above, this is an imposed integration, but it certainly represents the baseline of any future economic developments in the area.

How would we place the PE among other countries according to their level of economic development? The answer to this question is not easy. On one hand, the Palestinians have levels of income per capita (if we disregard ICP estimates) characteristic of middle-income economies. In other respects, they are below the group of less developed countries. The share of agriculture in GDP is 24 percent in the WB and 16 percent in the GS. For the WB, it is higher than any other country listed in Table 1. It is probably higher than that of most countries on the World Bank's list of middle- income countries. This share for both areas of the PE implies that from this point of view they are similar to low-income economies. This statement is reinforced when the industry's share in GDP is considered. The figures for the WB and GS are 7 percent and 12 percent, respectively. They represent extremely low levels of industrialization, probably lower than those of most countries in the world.[5]

Another sign of low development is the heavy reliance of the economy on workers' remittances, which account for approximately 30 percent of GNP. In proportional terms, it is probably the highest level in the world. In absolute terms, there are several other countries benefiting from remittances of their workers (e.g., India, Pakistan, Egypt, Morocco, Turkey, Portugal). In all cases, the phenomenon of a country benefiting from wages earned abroad by national workers is a sign of inadequate domestic employment and labor force characteristics that coincide with foreign requirements for workers (usually low wages and low skills). In some cases, the low level of domestic development is related to the opportunity for local workers to work abroad. The availability of foreign jobs for national workers might cause domestic wages to rise to the level of those of the foreign country. We know that investments, in general, and foreign investments, in particular, are often attracted by low wages, which supposedly generate high profits. If this is so, then the possibility of national workers to work abroad, and in so doing raise the wage level at home, deters investments and causes a low level of development and employment. This may be the case for the WB and GS. It is clear that both foreign and domestic investments are negatively affected by political uncertainty and Israeli occupation. In addition, wages in the Palestinian Autonomy are more or less equal to wages that Palestinian workers receive in Israel.[6] This is certainly a higher wage level than could be reached in the WB and GS had all the residents

5 For comparison, see World Bank, World Development Report, 1991, p. 208.

6 See Kleiman, 1992; also, Angrist, 1992.

been employed there. Under such conditions, the employment of Palestinian workers in Israel has a negative effect on investments in the PE and on their economic development.

All the analyzed indicators above point to the chronic underdevelopment that characterizes the PE. These indicators have been observed in this study in a limited international comparison. There are some other characteristics that have not been reviewed here that would probably be consistent with the general picture. We refer mainly to infrastructure-related and standard of living indicators. For example, almost no electric power is generated in the PE. It is true that electric power reaches almost every household (99 percent in urban areas and 65 percent in rural areas), but most is imported from Israel. Telephone services are very limited, health and education services probably do not come close to standards in developed countries, or even in most middle-income countries. It is interesting that despite these symptoms of underdevelopment, the use and ownership of some durable goods is relatively high and resembles a standard of living seen in developed countries. For example, most households own cooking stoves, refrigerators, washing machines, radios, TVs and solar water heaters. Furthermore, the daily calorie supply per capita is 2900 Kcal in the WB and 2600 Kcal in the GS. This is equivalent to levels in countries like Japan, Singapore, and Saudi Arabia, and significantly higher than those of all low-income and many middle-income countries.

We can use this international comparison to ask a question that has emerged and will emerge in future negotiations: What is the nature of economic relations that will prevail between the Israeli and Palestinian economies in an era of peace? At this stage, we will not go into details of specific economic arrangements that should be instituted within a final peace agreement. We would like to remain within the framework of an international comparison and state that there are other cases where neighboring countries, very different in economic size and structure, coexist in peace and economic cooperation. The most outstanding case is that of the U.S. and Mexico. Of course, there are very significant differences between the two comparisons. The U.S. and Mexico are two very large independent countries, while Israel and the PE are small economies, and one of them, the latter, is not independent and is highly integrated into the Israeli economy. Still, many of the economic ratios between Israel and the PE are of the same order of magnitude as those between the U.S. and Mexico. Total GNP in Israel is approximately 18-20 times larger than that of the PE. GNP per capita is six-fold greater in Israel than it is in the PE. For the sake of comparison, the U.S. has a total GNP twenty-five times greater than that of Mexico. Other features in the U.S. and Mexico are suggestive of the conditions between Israel and the PE: Mexico also suffers from low wages and excess supply on the labor market, and workers from Mexico attempt to work in the U.S.

In spite of the differences in income size and degree of development, these two economies reached the conclusion that cooperation and free trade would be of benefit to both, and signed, together with Canada, the NAFTA (North American Free Trade Agreement). We do not necessarily claim that free trade between Israel and the Palestinian economy is the best arrangement at the first stage of a peace agreement, although this might be a longer-run goal that could be achieved between the two parties. Due to the significant differences between the two economies, it is not clear that a free trade agreement is the mechanism that would indeed enhance bilateral or international trade in the area. The example of the U.S. and Mexico, however, implies that common interests may be found among very different economies. The institutional arrangements might also contribute to the mitigation of these differences and reduce areas of friction and possible conflicts.

3. Background, main characteristics, and problems

In this section we give a brief description of the important characteristics of the Palestinian economy. We focus mainly on the special and, in many cases, very unusual features of this economy with the problems that they raise in present and future contexts.

Tables 2 and 3 demonstrate the economic situation in the West Bank and Gaza Strip, as well as some of the main trends. The main points are: 1) The Palestinian economy is very small in absolute terms. Therefore, its ability to carry out economic large scale plans is quite limited. 2) The rate of growth during 1970-1980 (the first decade of the occupation) was very high. This was due to the newly acquired access to the relatively large Israeli market, transfer of technology, and the new employment opportunities at higher wages on the Israeli labor market. During the next decade, the rate of growth significantly slowed down, especially when measured in per capita terms. This was accompanied by a high rate of population growth, which explains the low rate of growth of income per capita.

One of the most crucial characteristics is the dependence of the Palestinian economy on the Israeli economy. This has various implications: GDP and GNP, which in most countries are quite close to each other in numerical values, are significantly different in the Palestinian economy. The difference stems from the aforementioned remittances of Palestinian workers in Israel. Recall that these amounted to approximately 700 million US dollars in 1987, and they represent about a quarter of the income of the West Bank and one-third of the income in the Gaza Strip. A comparison of lines 11 and 12 in Tables 2 and 3 confirms that approximately one-third of the labor force works in Israel. Another aspect of this dependence is reflected by imports and exports. In both parts of the PE, the origin of most of the imports, as well as the destination of most of the exports is Israel. Furthermore, the merchandise trade deficit is mostly financed by the workers' remittances from Israel.[7]

The second characteristic, which is of particular interest, is the labor market in the PE, where more than one-third of the labor force is employed outside the domestic economy. This economic phenomenon has been thoroughly analyzed in other studies[8]. There is no doubt that for the last two and a half decades, the employment of Palestinian workers in Israel was efficient and convenient for all parties, at least as a short-run solution. From the Israeli point of view, it provided a relatively low-wage labor force possessing appropriate skills for the construction, agricultural, and parts of the service and manufacturing sectors. It kept cost of production low, and enabled producers to remain flexible, since they could avoid investments in more capital intensive-techniques.

The Israeli government considered the employment of OT workers in Israel as desirable for several reasons. As mentioned above, it contributed to output, especially in some problematic sectors that rely on low wage labor. Moreover, this activity solved problems of employment and income generation in the PE without requiring government involvement of any kind.

This type of employment was also convenient for the Palestinians. It certainly was an efficient way to earn an income. Palestinian workers earned wages that were initially higher than those in the PE. Over time, this labor opportunity raised wages in the PE as well, bringing them to a level equal to that of Palestinian wages in Israel. One of the likely socially desirable results was also a decrease in income distribution inequality in the PE. Another advantage, from the Palestinian point of view, was that worker remittances, which were spent at home, generated demand that eventually contributed to the rates of GDP growth. This was the case during the earlier years of occupation (1968-73), when rates of economic growth in the PE were especially high.

Regarding the future, it is clear that the existing situation, where one-third or more of the Palestinian labor force is working in Israel, will not remain permanent. In Israel, due to security reasons and unemployment problems, closure of the PE was instituted in 1993 so that only about one-half of the Palestinian workers employed in Israel were allowed to keep their jobs. It is evident that the trend will be to gradually reduce employment of Palestinian workers to a minimum.

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7 It is important to mention that after the implementation of the Oslo Agreement between Israel and the PLO, there was a substantial decrease in the number of Palestinian workers in Israel.

8 See Kleiman, 1992; op. cit. Angrist, 1992; Farris, Fishelson, Jubran and Nathanson, 1993.

The Palestinians face a dilemma. Short-run considerations suggest that the employment of Palestinian workers in Israel should continue because it generates badly needed income, thus solving unemployment problems, but it also raises wages in the PE, thus deterring investments and slowing down economic growth. Long-run considerations, therefore, would call for a gradual decrease of Palestinian employment in Israel. It seems that the long-run interest of both parties in this case is similar. Thus, we may expect that a peace agreement would include a mechanism that would generate a gradual phasing out of Palestinian labor activity in the Israeli economy.

Several other factors characterize the Palestinian economy. As seen in the previous section, the level of government expenditure is very low. There is no normal government activity in the PE that provides the public with the usual services, such as education, health, internal security, etc. In addition, public spending on infrastructure is very low. The role of government is fulfilled by the Israeli Civil Administration, which operates on the basis of a balanced budget. Thus, all domestically collected taxes are spent as government expenditure. The problem is that tax collection is only weakly enforced, and therefore the available resources for public spending are very limited. The relative rate of investments is also very low; investments are mostly in housing, and only a small part in productive assets or infrastructure.

Exports and imports grew at a fast rate during the first decade, but this trend was reversed during the second decade due to various constraints set by Israel and Jordan on exports from the PE. The development of international trade is crucial for the development of the Palestinian economy since the local economy is so small. It is only through international trade that the market can expand and profit from specialization and comparative advantages. It is difficult to predict future trends, however, since they are dependent on political agreements that will determine the nature of the trade regime.

Another important feature of the Palestinian economy can be seen in Table 4. The incremental capital output ratio (ICOR), although a highly criticized indicator, is still used to a great extent in studies of economic development, mainly as a policy-making indicator. The assumption is that the lower the ICOR, the more efficient capital formation is in generating output and stimulating economic growth. The ICOR is indeed a very simple estimate of the inverse value of the marginal product of capital. In the years 1985-1990, the ICOR (excluding investment in housing) was 3.6 in Israel.[9] For any period since 1968, this same measure for the PE was significantly lower, most of the time below 2 (see Table 4). In the West Bank, it was relatively high (2.5) in the years 1980-87, but has fallen since to a level below 1. It has usually been lower in the GS than in the WB. During the years 1987-90 it was negative in the GS because net capital accumulation was negative. The gross investment in productive capital was less than the depreciation. These are the years of the Intifada (the Palestinian uprising), when ICOR values were very low in the PE due to the very low levels of investment and some negative rates of growth. Incidentally, investments in housing have remained positive, and, in the case of Gaza, they are even relatively high. This comes in spite of, and possibly because of, the Intifada. The figures mentioned above indicate that marginal productivity of capital is possibly higher in the PE than in Israel. If this is true, it might be due to the dramatically lower capital-labor ratios in the WB and GS.

The implication concerning future prospects, especially if peace emerges and normal economic relations prevail, is that capital might flow to the PE from both Israel and foreign countries. This would contribute to economic growth and to a reduction of the income gap between the Israeli and the Palestinian economies. In other words, the extremely low levels of ICOR in the PE, especially when compared to the levels in other Arab countries, such as Jordan (10.7), Syria (12.5), Tunisia (8.4) and Egypt (6.8) (see Diwan and Squire, 1992), would probably attract Arab,

9 Diwan and Squire (1992), who show ICOR values for Israel (5.6) and Arab countries. Their measure includes housing.

Israeli, and foreign capital. A necessary condition for the attraction of such capital to the PE is political stability and security in order to reduce risk. Other requirements for the motivation of capital flows are the creation of an economic atmosphere favorable to economic activity. This might be achieved by ensuring accessibility to home and foreign markets, by reducing barriers (economic and non-economic), by reducing unnecessary bureaucratic red tape, and by creating mechanisms that would encourage economic cooperation at both micro and macro levels. We would like to state at this point that this does not necessarily call for an immediate institution of a supernational free-trade organization; such a framework might be a long-term goal that is gradually built up stage by stage. We will elaborate later on potential trade arrangements in a peace setting.

To complete this review of economic characteristics of the PE, we would like to mention one other factor which is of major importance: the monetary-financial structure of the PE. We refer to this issue only very briefly by suggesting the problems that might emerge within the context of a peace arrangement.

The PE is in a certain sense a province of the Israeli economy. This is still true for the WB, and to a lesser extent for the autonomous Gaza Strip. The most outstanding feature in this instance is the absence of monetary independence. Clearly, there are no monetary authorities in the PE. Since the Israeli occupation, there haven't been any financial institutions with the impact of commercial banks or with the powers of a central bank. Money supply is, therefore, totally determined by the state of the balance of payments; namely, by a quasi "gold standard mechanism." Nevertheless, two important sets of variables, very strongly related to the monetary system, are determined outside of these economies; namely, interest rates and price systems. These two factors are almost totally determined by the Israeli economy, and reflect economic trends and policies there. Therefore, money supply in the PE is almost a pure endogenous variable that has not been directly subjected to any policy since 1967. This may have been considered as an advantage by certain economists had the PE been independent in determining levels of nominal variables (prices and interest). Since the price system is mostly determined by the Israeli economy, however, it is not responsive to domestic trends, and the only component of this system which is partly determined at home involves non-traded goods only. Thus, the adjustment mechanism in the economy and the convergence to equilibrium is realized through quantity (real) changes and not through price changes. This creates a clear problem of instability in real variables on both the demand and supply sides, which may be a slowing down factor of economic activity as a whole.

Another factor operating in the same direction is the lack of a commercial banking system or a financial network that would transform household savings into productive capital, without which a modern economy cannot efficiently operate. Since the implementation of the Oslo Agreement, commercial banking has started to develop in the Palestinian countries.

The difficult question in this context concerns the type of monetary regime that will eventually be established. Some of the questions that will have to be answered when peace prevails are:

(a) What currency will be used as legal tender in the Palestinian economy?
(b) What exchange rate regime will be implemented with the Jordanian Dinar, the Israeli Shekel, and possible other currencies?
(c) How free will the foreign exchange system and international capital flows be?
(d) Will there be a Palestinian Central Bank, and what will be its powers?

4. The transition process

In this section, we use an econometric forecasting apparatus to project aggregate demand and supply levels in the Palestinian economy. These projections will reveal some of the crucial problems of this economy in the domains of economic growth, employment, and trade balance.

The forecasting is based on a macroeconomic model of the West Bank and Gaza Strip. The model is based on nineteen demand-side equations and two supply-side equations (aggregate production functions). Due to space limitations, we present the equations in the appendix.

4.1 Baseline scenario - The demand-side

We start the analysis by looking into the baseline scenario of the demand-side that provides estimates of various macroeconomic variables under existing conditions. The values of these variables are generated when the exogenous variables are extrapolated in continuation to the trends that existed during the 1980-90 decade. The endogenous variables are all computed within the equation system presented in the appendix.

The outcome of this exercise is partly displayed in Table 5. The purpose of the projections shown there is to characterize the nature of macroeconomic trends in the Palestinian economy, assuming that the perceived present behavioral and technological equations remain unchanged, and that existing economic conditions and trends continue. This synthetic profile will serve as a basis for comparison in the assessment of future policies and will reveal some of the fundamental problems in these economies.

In Table 5, we choose to show a selection of anticipated future variables that are of special interest for the years 1990 (actual values), 1996, and 2000.

Table 5 provides the following insights:

(1) Economic growth and employment. In the baseline scenario, economic growth based on the demand-side is expected to be faster in the GS than in the WB. This difference is mainly explained by the stronger export sensitivity of the GS to the rise of disposable income in Israel. In other words, GS exports to Israel, which account for approximately 90 percent of total exports, is expected to rise faster than in the WB, thus generating a faster economic growth. Bear in mind that this result is based on the extrapolation of trends from 1980 to 1990.

In the case of the WB, GNP growth is projected to be faster than that of GDP. The opposite is true for the GS. This is due to an overall higher rate of growth in worker remittances from Israel during the nineteen eighties in the WB. In short, the anticipated annual rates of growth are in the proximity of 4 percent. These could be considered substantial rates in developed countries. However, in view of the developmental needs of the two territories and their production capacity, these rates of growth should be considered very low and inadequate for the Palestinian economy.

Indeed, as can be seen in lines (15) and (16) of Table 5, the employment generated by the aggregate demand (GNP) levels is significantly lower in both territories than the respective labor forces. The employment figures are produced by combining figures of the projected demanded GDPs (line (1)) with implied future values of capital stocks and the estimated aggregate production functions from the appendix. Future labor forces are estimated by simply extrapolating them from their trends in the years 1980-1990. Line (15) indicates that when Total Factor Productivity and the projected growth of capital stock are accounted for, the demanded level of GDP on the WB in the year 2000 would generate an employment level of approximately 174,000 workers, which is significantly smaller than the projected labor force of 250,000 workers. In the GS, the number of domestically employed workers would rise to 96,300, but would still be far below the projected size of the labor force of 143,500 workers. Should Palestinian workers not be allowed to work in Israel,

the baseline scenario predicts unemployment levels of 31 and 33 percent in the WB and GS, respectively.

These figures could be inaccurate and the projection could possibly involve a significant error term. Nevertheless, the econometric work points out a significant problem of the Palestinian economy; namely, the fact that it has been suffering in the past, and is expected to suffer in the future from a chronic overcapacity or deficiency of demand levels. In the past, most of the employment stemming from this situation was solved through employment of Palestinian workers in Israel. Thus, if this scenario is realized, it will mean that the Palestinian economy will either suffer from chronic high and increasing levels of unemployment, or will have a permanent dependence on Israeli and other foreign labor markets for employment, or a combination of both. The second possibility seems to be unlikely, due to both Israeli and Palestinian reluctance (see Diwan and Walton, 1994), which stems from ideological, political, social, and security, as well as pure economic reasons. Indeed, as is shown in the next section, in the long-run, it would pay in terms of GNP and productivity for Palestinians working in Israel to switch their activity to the WB and GS. By doing so they would increase their GNP, and thus correctly reallocate their labor force.

There is no doubt that the phenomenon shown here is one of the fundamental problems of the Palestinian economy. The deficient demand and the existence of high unemployment, if perpetuated, would have negative social and political effects, contribute to the creation of a stagnating economy, and represent a waste of available resources. Success or failure in creating productive employment for these workers, and in bringing actual national output as close as possible to potential output, is what might make the difference between creating a modern and growing economy similar to the Newly Industrialized Countries in Southeast Asia, or generating an economic system like the ones found in the Third World.

The demand policies that should be implemented are clearly those with a positive effect in stimulating aggregate demand. Such policies should be consistent with the effective constraints of the economy and should serve the long-term goals of economic growth and development. Recent literature in economic development suggests that a stable macroeconomic environment, undistorted foreign exchange markets, and openness to international trade are conducive to sustainable economic growth (see Fischer, 1993; World Bank, 1991). Therefore, the policies designated to increase demand components, investments, government spending on public consumption and investments, and desirable exports should be those that avoid high inflation, excessive budget deficits, and heavy intervention in the international trade and foreign currency sectors.

(2) Government Deficits. In the baseline scenario, direct budget deficits (including government investments) are projected to rise in the WB and significantly fall in the GS. The different trends in the two territories stem from the higher growth of projected tax revenues in the GS which should be generated by the faster growth of income there. Moreover, the rate of growth in government spending (which, in our model, is an exogenous variable) is projected to be lower in the GS. In this territory, the budget deficit is expected to virtually disappear by the year 2000. In the WB, on the other hand, it is projected to significantly rise to 5 percent of GNP. The figures on lines (5) and (6) in Table 5 provide a partial picture of the fiscal conditions in the Palestinian economy. As we have shown elsewhere (see Luski and Weinblatt, 1994a), effective tax collection by the Israeli government in the PE is significantly higher than the mere numbers appearing in the official statistics. The difference is due to the Value Added Tax collected by the Israeli government on Palestinian imports from Israel and on custom duties levied by the government on imports from abroad. When these taxes are computed and added to government revenues, the deficits in both the GS and WB are transformed into substantial surpluses (see lines (7) and (8)). In the year 2000, these surpluses are projected to amount to 3.5 percent and 11 percent of GNP in the WB and GS, respectively.

The importance of the findings presented above is that if existing taxes are imposed and collected, the government in the Palestinian economy will enjoy substantial public resources that will be available to spend on public consumption and investment without necessarily creating a budget deficit. This is clearly conditional on the effective enforcement of tax laws by the Palestinian Authority. At any rate, an increase of public spending using these or other resources will contribute both to the generation of public goods (education, health, etc.), which are badly needed, and to infrastructure. Furthermore, such a policy will certainly increase aggregate demand, thus reducing the level of unemployment, or the level of employment abroad, and narrowing the gap between actual and potential GDP.

(3) Balance of External Transactions. Lines (9) through (13) in Table 5 indicate that, if existing trends are to be continued, both the GS and the WB will have rising trade deficits over time. When foreign workers, income, and unilateral transfers are accounted for, the WB will still face a current account deficit in 2000 exceeding 5 percent of its GNP. The GS, however, is projected to develop a rising current account surplus, reaching 3 percent of its GNP in the year 2000. In both cases, these projections are downward-biased due to the fact that elaborate private and public investments are expected to take place in both the WB and GS. Thus, the existing levels of imports and exports are probably irrelevant as a basis for the simulation of future trends.

The investment projects, if and when realized, will certainly increase imports immediately. In the longer run they will increase the supply of traded goods and improve international competitiveness, thus possibly increasing exports. In other words, both exports and imports are expected to follow different trajectories than the ones projected in the baseline scenario. An important result appears on line (14) and indicates that both Palestinian economies are expected to have trade deficits with Israel, even above the size of worker remittances. This result should be qualified since future Palestinian trade relations, especially with Israel, will not necessarily follow the existing or recent past trends. Nevertheless, the forecasting of uneven bilateral trade flows of similar magnitudes between Israel and the Palestinian economy have been found in other studies (see Arnon and Weinblatt, 1994; Halevi, 1994). This future situation, if indeed realized, is worrisome, especially if a free-trade arrangement is planned between Israel and the Palestinian entity. The viability over time of such an agreement becomes doubtful when the bilateral trade flows are significantly unbalanced. In such a case, the temptation to violate the agreement, or to abolish it altogether, is great. Such a unilateral measure is economically undesirable and politically very unhealthy.

The anticipated current account deficits imply that during the coming years, the Palestinian economy must first receive foreign credit, or foreign aid, or both, in order to finance its current account deficit. The limits of this foreign exchange financing represent their foreign currency constraint. This constraint will put a limit on investments, government expenditure, and other employment generating components of aggregate demand. One important way to stimulate domestic employment to enhance demand without inflicting a burden on the foreign currency constraint is by increasing exports. This solution calls for an outward-oriented growth strategy that would emphasize improving the international competitiveness of the economy.

4.2 The supply-side -- Baseline conditions and scenarios

We now turn our attention to projections emerging from the supply-side. The importance of the supply-side analysis is in providing insights into potential levels of economic activity, and in estimating the human and technological requirements to achieve a variety of economic goals (as is shown in Luski and Weinblatt, 1994a, 1994b).

Projected levels of potential GNP and GDP, and their growth rates under a variety of assumptions, are displayed in Table 6. Line (2) in Parts (a) and (b) of the table represent the projected levels of potential GNP, GDP, and their per capita values in the WB and GS, assuming that existing (1980-90) trends will continue. They are significantly higher than the projected rates of growth of demanded GDP, which implies that a significant portion of the Palestinian force will be employed in Israel, as it was during the baseline decade. The projected increase in domestic labor forces, capital stocks, and productivity in this scenario generate an average annual growth of potential GDP of 5.5 and 5.3 percent in the WB and GS, respectively. For potential GNP, the similar figures are 5.1 and 4.7 percent. Recall that during the same period, projected growth rates of demanded GDP (from Table 5) are 3.8 and 4.4 percent, and demanded GNP 3.6 and 4.1 percent for the WB and GS, respectively. Clearly the growth on the supply-side significantly exceeds that of the demand-side. Thus, we find, once again, evidence of what we believe is the major fundamental economic problem of the Palestinian economy -- a deficiency of demand. Existing levels of demand are inadequate to absorb potential levels of output. This conclusion is based on the minimalistic case, assuming that an elaborate employment of Palestinian workers in Israel will continue. In a more realistic case, assuming the repatriation of all or most Palestinian workers, the gap between potential and actual GNP widens, and projected potential unemployment is then significantly greater (see lines (3) and (4) in Parts a and b of Table 6).

A series of interesting inferences may be drawn from the findings in Table 6. In comparing the projected rates of growth in the baseline scenario (line 2) with the case that all Palestinian workers in Israel return home for employment (line 3), we see that repatriation has a dramatically positive contribution to increasing these rates for both territories for potential GDP and GNP. Concerning potential GDP, it is not surprising, since repatriation implies that domestic employment would grow by almost one-half. The finding regarding GNP is less trivial. The substantial increase in the rate of growth of this variable implies that the Palestinian economy would significantly gain from the reallocation of workers from the Israeli labor market to domestic employment. Thus, the Israeli-employed Palestinian workers generate a higher net national income when employed at home than when employed in Israel. To illustrate, in the year 2000, WB GNP would "gain" 620 million dollars (of 1986), approximately 20 percent of their projected potential GNP (in the baseline case), if all workers would return home for work. For the GS, the gain is smaller -- only 77 million dollars -- approximately 7 percent of their projected GNP. It is important to qualify this optimistic picture by stating that in order to realize this potential growth several conditions ought to be met. Two of these are: (a) that the professional structure of the Israeli-employed Palestinian workers suits the needs of the increased production in the WB and GS; and, (b) that demand will also increase in order to absorb the additional output.

The above discussion, facts, and estimates raise an interesting point about economic development in light of new growth theories. The case of extraordinarily rapid economic growth in the East Asian NICs generated the feeling among economists that the outward orientation of these economies created enormous productivity gains (see Krueger, 1990). This argument has been challenged by Young (1993). While Young does not argue with the fact that these economies are indeed outward-oriented, he does claim that most economic growth in these countries should be attributed to the extraordinary rates of crude factor accumulation. This includes heavy investments and a significant growth of labor forces through the increase of participation rates. In Young's view, these changes explain most of the rapid rise of output per capita in East Asian NICs, while Total Factor Productivity (TFP) was not among the highest in the world.

The relevance of this discussion to our case is that indeed the rates of participation in the WB and GS are extremely low (see Luski and Weinblatt, 1994a). They are determined mainly by demography (large children population) and culture (low women participation). Both these factors

are very slow to change. However, the Palestinian economy has a very low rate of domestic participation due to large employment in Israel. The several tens of thousands of Palestinian workers in Israel, if employed in their domestic economy with the appropriate amount of complementary capital accumulation, would generate extremely high rates of output and output per capita growth, even without very high rates of TFP. Evidence for the possibility of such trends appears in Table 6. We see there that the mere repatriation of workers would generate the extremely high GNP growth rates of 6.7 and 5.3 percent in the WB and GS, respectively (line (3)). Our calculations show that adding to that a capital injection of one billion dollars (of 1986) in each of these economies would raise the growth rates to 7.0 and 5.8 percent, respectively. These projections are computed for a one decade period, and the estimated growth rates are therefore annual averages for ten years.

These growth rates, if realized, would place the WB and GS at the top of country ranking by their rates of output per capita growth. It would put the WB above Taiwan, Hong Kong, Singapore and Korea, and the GS would only be slightly below them.

Outward-oriented policies would certainly not hurt. Keep in mind that simultaneous to the growth of potential output, demanded output has to also grow, and at a similar rate, if unemployment is to be avoided. Therefore, the outward orientation of the economy, reflected by a rapid growth of exports, would certainly be consistent with the goal of achieving a fast sustainable economic growth.

5. Summary and conclusions

In this paper, the economies of the West Bank and the Gaza Strip are analyzed in two settings. The first is essentially descriptive and includes a review of the major macroeconomic variables in both international and time perspectives. The second is a simulation where future macroeconomic trends are forecasted by using aggregate demand and supply estimates. Both parts serve the purpose of understanding the special nature and problems of these very unusual economies.

The descriptive sections of this paper present a picture of two underdeveloped economies. It is true that when macroeconomic indicators such as GNP and consumption spending are compared with other countries, the PE seems to be better off than the neighboring Arab countries. Nevertheless, a correction of the statistics shows that this is not necessarily so. These two economic systems exhibit a series of anomalies that will have to be "cured" during a time of normalization. These include a situation where one-third or more of the labor forces work out of the economy (in Israel), and similar proportions of GNP are generated in the form of worker remittances. This heavy and unhealthy dependence (for both sides) on the Israeli economy is reinforced by the extremely large trade flows (mainly imports) with Israel. Other unusual features are the very low levels of investments in productive capital, the very high levels of investments in housing, and the relatively low level of government consumption and supply of public goods.

These two economies do not have an independent financial and monetary sector. Money supply is completely determined by the state of the balance of payments, thus it is a totally endogenous variable. The price system is almost completely determined in the Israeli economy, so it hardly reacts to changes of economic variables in these domestic economies. The fiscal system reflects a chronic state of overtaxation, which slows down economic activity.

These characteristics result in two economies with low capital formation, low capital-labor ratios, and low labor productivity. However, prospects for economic growth are good, and the contribution of capital formation to productivity is expected to be significantly higher than it is in Israel. Thus, in a peace era, the Palestinian economy is a potential attractive investment location. It has a high marginal productivity of capital, skilled workers, and unutilized endowments of labor and

human capital; there is a good chance, therefore, for these economies to absorb new technologies and economically grow at a fast rate. What we have described implies that there is significant place for industrial cooperation between Israel and the Palestinian economy. Joint ventures could be financed by foreign capital and take advantage of the complementarity between Israel and the Palestinian economy in factor endowments.

The future issue of a formal free trade agreement is not yet clear. Against the economic arguments in favor of such an agreement, there is a series of economic, non-economic and political arguments on both sides opposing the immediate implementation of such a regime. In the long-run, it certainly is the optimal trade system for which all countries of the region should aim.

One other issue concerning the future is the type of fiscal policy that will emerge. There is no doubt that the existing situation of overtaxation will disappear. It is likely, at least for the first years, that Palestinian authorities will have to bear a certain level of budget deficit which will not necessarily be of unusual magnitude among developed and developing countries. This is because the generation and elaboration of public goods supply will cause government expenditure to significantly rise, but will also increase the productive capacity of these economies by improving the infrastructure, thus stimulating economic growth, and increasing government revenues as well.

Another important issue concerns the monetary system that will have to prevail. Decisions will have to be made on the type of currency, the establishment of a central bank, the creation of a commercial banking sector, and the exchange rate regime. This important problem has been studied thoroughly by Arnon and Spivak (1994) and therefore was not explored in the present study.

In spite of the great difficulty in creating jobs for a large portion of the fast growing labor force, the model suggests that the Palestinian economy and its potential National Income (GNP) will significantly gain from workers' repatriation, but this gain could be realized only if aggregate demand levels would rise to match the growth of productive capacity.

Indeed, the presented baseline scenario predicts that if existing trends continue, one of the major problems of the Palestinian economy would be unemployment generated by a widening gap between demanded and potential outputs. The implication is rising unemployment and an increasing reliance of the Palestinian labor force on foreign markets (Israeli and other) for employment. Bear in mind that the baseline scenario is created when assuming that trends in the exogenous variables of the 1980-1990 decade will continue in the future. There is no special reason to assume that these were unusual trends, thus this scenario could possibly represent a realistic forecasting.

The reduction of future unemployment, or its elimination, together with the generation of sustained growth trends over time, calls for a stable macroeconomic environment combined with outward-oriented development policies. Most of these goals seem to be attainable in a combined scenario involving an appropriate level of government consumption, an effective enforcement taxation, and a Value Added Tax, in particular.

It is predicted that such conditions will generate a reasonably average annual rate of GDP growth, and, with adequate investments, a gradual repatriation of Palestinian labor force.

References

Angrist, J.D. (1992). Wages and Employment in the West Bank and Gaza Strip: 1981-1990. Discussion Paper. Jerusalem: The Falk Institute.

Arnon, A. and A. Spivak (1994), "Alternative Monetary Regimes: The Case of the West Bank and Gaza Strip, Israel and Jordan," Beer Sheva: Monaster Center for Economic Research, Ben-Gurion University of the Negev. (mimeo)

Arnon, A. and J. Weinblatt (1994), "Potential Trade Volume and Alternative Trade Arrangements Between Israel, Jordan and the Palestinian Autonomy," Discussion Paper Series, Jerusalem: Bank of Israel. (Hebrew)

Bruno, M. (1993), "Inflation and Growth in an Integrated Approach," NBER Working Paper No. 4422, Cambridge, MA.

Central Bureau of Statistics (various issues), Statistical Abstracts of Israel, Jerusalem: CBS.

Diwan, I. and L. Squire, (1992) "Economic and Social Development in the Middle East and North Africa," Discussion Paper No. 3, World Bank, Washington, D.C., October.

Diwan, I. and M. Walton (1994), "Palestine Between Israel and Jordan, The Economics of an Uneasy Triangle." The World Bank, Washington D.C. (mimeo).

Edwards, S. (1993), "Trade Policy, Exchange Rates and Growth," NBER Working Paper No. 4511, Cambridge, MA.

Farris A., G. Fishelson, R. Jubran, and R. Nathanson, (1993) "The Labor Market in the Territories," Tel-Aviv: Histadrut Institute for Economic and Social Research.

Fischer, S. (1993), "The Role of Macroeconomic Factors in Growth," NBER Working Paper No. 4565, Cambridge, MA.

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

_____(1991), "Trade, Knowledge Spillovers and Growth," European Economic Review, Vol. 35 (2-3), April, pp. 517-26.

Halevi, N. (1994), "Trade Relations Between Israel and Jordan: Opportunities and Considerations," Sapir Forum for Economic Development, Tel-Aviv University, Tel-Aviv. (mimeo) (Hebrew).

Krueger, A. (1990), Perspectives on Trade and Development, University of Chicago Press, Chicago, IL.

Hamed O. and R. A. Shaban (1993), "One-Sided Customs and Monetary Union: The Case of the West Bank and Gaza Strip Under Israeli Occupation," In S. Fischer, D. Rodrik and E. Tuma (eds.), The Economics of Middle East Peace, MIT Press, Cambridge, MA.

Intriligator, M.D. (1978), Econometric Models Techniques and Applications, Prentice-Hall, Englewood Cliffs, N.J.

Kleiman, E. (1992), "The Flow of Labour Services from the West Bank and Gaza to Israel," Working Paper #20, Department of Economics, The Hebrew University of Jerusalem, July.

Lee, J.W. (1994), "Capital Goods Imports and Long Run Growth," NBER Working Paper No. 4725, Cambridge, MA.

Lerner, A. and H. Ben Shachar, (1975) The Economics of Efficiency and Growth: Lessons from Israel and the West Bank, Ballinger, Cambridge MA.

Luski, I. and J. Weinblatt (1994a), "The West Bank and Gaza Strip: A Macroeconomic Profile and Simulation Model," Discussion Paper No. 94-11, Monaster Center for Economic Research, Ben-Gurion University, Beer Sheva.

_____(1994b), "The West Bank and Gaza Strip: A Macroeconomic Analysis," Economic Quarterly, forthcoming. (Hebrew)

Protocol on Economic Relations Between the Government of the State of Israel and the P.L.O., representing the Palestinian People, Paris, 1994.

Rebelo, S. (1990), "Long Run Policy analysis and Long Run Growth," Journal of Political Economy, Vol. 98, pp. 500-521.

Romer, P. (1989), "Capital Accumulation in the Theory of Long Run Growth," In R. Barro (ed.), Modern Business Cycle Theory, Harvard University Press, Cambridge, MA, pp. 51-127.

Sagi, E., J. Sheinin and M. Fedman (1992), "The Palestinian Economy and its Connection to the Israeli Economy," Discussion Paper 8-92, The Sapir Forum, Tel-Aviv University.

Summers, R. and A. Heston (1991), "The Penn World Tables (Mark 5), An Expanded Set of International Comparisons, 1950-88," Quarterly Journal of Economics, Vol. 106, pp. 327-69.

Talpaz, H. and D. Freeman (1991), "Population in Judea and Samaria at the Beginning of the Year 2000: Economic and Demographic Implications," in H. Erlich and J. Eshel (eds.), Research on Judea and Samaria, Reuben Mass Publishers, Jerusalem 1991. (Hebrew)

Taylor, L. (1991), Varieties of Stabilization Experience: Towards Sensible Macroeconomics in the Third World, World Institute for Development Economics, Oxford University Press, Oxford and New York.

UNCTAD (1992), "Prospects for Sustained Developments of the Palestinian Economy in the West Bank and Gaza Strip, 1990-2010: A Quantitative Framework, April 1992." Geneva, April.

World Bank (1991), World Development Report 1991, Oxford University Press, Oxford and New York.

Young, A. (1993), "Lessons from the East Asian NICs: A Contrarian View," NBER Working Paper No. 4482, Cambridge, MA.

Table 1: Various Economic Indicators - An International Comparison (1989)

	West Bank	Gaza Strip	Israel	Egypt	Syria	Jordan	Tunisia	Portugal	U.S.A.
Population (millions) mid-1989	0.91	0.60	4.50	51.00	12.10	3.20	8.00	10.30	248.80
GNP per capita U.S. dollars	1933	1122	9330	640	980	1240	1260	4250	20910
GNP millions of U.S. dollars	1799	673	41985	32640	11858	3968	10080	43775	5202408
GDP millions of U.S. dollars	1230	434	46030	31580	11460	3330	8920	44880	5156440
GDP/GNP	0.70	0.64	1.10	0.97	0.97	0.84	0.88	1.03	0.99
GDP per capita by ICP	2249*	1325*	11940	3100	4110	4530	3979	7950	21360
Share of private consumption in GDP	0.78*	0.84*	0.59	0.80	0.61	0.65*	0.64	0.66	0.66
Private consumption per capita U.S. dollars	1477	942	6035	495	557	811	713	2875	13885
Share of total investments in GDP	0.16*	0.19*	0.16	0.24	0.13	0.18	0.23	0.30	0.15
Share of total government consumption in GDP	0.07*	0.08*	0.29	0.13	0.15	0.20*	0.17	0.13	0.20
Government consumption per capita (U.S. dollars)	137	95	2966	81	142	250	190	566	4145
Merchandise Exports/GDP	0.21	0.10	0.23	0.08	0.26	0.27	0.33	0.29	0.07
Merchandise Imports/GNP	0.42	0.51	0.28	0.24	0.18	0.54	0.49	0.42	0.10

*Share in GNP

Sources: All information on all countries, including Israel and excluding the Occupied Territories, originates from the World Bank's World Development Report 1991 and 1992, Oxford University Press, Oxford. Figures for the West Bank and the Gaza Strip were computed from information appearing in the Statistical Abstract of Israel, 1992, Central Bureau of Statistics (Israel).

Table 2: The West Bank - Basic Data

	Amounts		Annual rate of growth	
	1970	1991	1970-80	1980-90
1. GNP[1]	447	2,020	12.1	4.7
2. GDP[1]	337	1,559	11.1	4.4
3. Population[2]	603	1,006	0.9	3.0
4. GNP per capita[3]	741	2,008	9.9	1.7
5. Consumption percapita[3]	777	1,709	5.7	0.5
6. Investments[1]	60	---	22.0	0.5
7. Government consumption[1]	65	93	2.9	6.9
8. Exports1	72	234[4]	13.8	0.3
9. Imports1	250	802[4]	10.3	4.8
10. Total factor productivity	---	---	4.6	0.2
11. Number of locally employed workers[2]	100	124	-0.6	3.4
12. Employed workers in Israel2	15	56	11.8	5.3
13. Total capital stock[5]	556	3,722	14.7	7.7

Notes:

1 The data for 1970 is in millions of $US (1986 prices). For 1991, the data is in millions of $US at current prices.

2 In thousands.

3 In terms of $US per capita.

4 Data for 1987.

5 Millions of $US (1986) prices.

Table 3: Gaza Strip - Basic Data

	Amounts		Annual rate of growth	
	1970	1991	1970-80	1980-90
1. GNP[1]	200	839	9.9	4.0
2. GDP[1]	175	558	6.3	3.9
3. Population[2]	367	676	2.3	3.7
4. GNP per capita[3]	544	1,242	7.4	0.3
5. Consumption per capita[3]	518	1,101	5.3	0.6
6. Investments[1]	32	153	15.5	-1.1
7. Government consumption[1]	41	88	0.5	1.9
8. Exports[1]	36	90	16.2	-10.5
9. Imports[1]	120	512	13.7	-1.5
10. Total factor productivity	---	---	4.33	-0.16
11. Number of locally employed workers[2]	53	66	-1.1	2.7
12. Employees in Israel[2]	6	42	20.9	3.0
13. Total capital stock[4]	244	1,722	16.4	6.7

1 The data for 1970 is in millions of $US (1986 prices). For 1991, the data is in millions of $US at current prices.

2 In thousands.

3 In terms of $US per capita.

4 Millions of $US (1986 prices).

Table 4. The Incremental Capital Output Ratio (ICOR)

	Capital stock includes houses		Capital stock including housing	
Period	W.B.	G.S.	W.B.	G.S.
1966-73	2.02	1.99	1.22	1.13
1973-80	2.30	6.98	0.49	2.16
1980-87	8.38	5.84	1.77	0.76
1987-90	1.78	10.36	0.33	-0.65

Table 5. Estimated Values of Future Macroeconomic Variables. Demand-Side Estimates (Baseline Scenario). (Million Dollars at 1986 prices , unless stated otherwise)

	1990 (Actual)		1996		2000	
	WB	GS	WB	GS	WB	GS
1. GDP	1,454.0	428.1	1,744.1	530.4	2.101.2	687.7
2. Average Annual Percent Change 1990	---	---	2.7	3.9	3.8	4.4
3. GNP	1,890.6	667.8	2,301.2	819.2	2,745.3	1,035.5
4. Average Annual Percent Change 1990		---	3.0	3.7	3.6	4.1
5. Direct Government Surplus (incl. Gov. Investment)	-5.83	-12.7	-115.0	-9.6	-142.2	-2.0
6. Percent of GNP	-3.1	-1.9	-4.9	-1.2	-5.1	-0.2
7. Total Government Surplus including VAT+ import duties collected by Israel	41.1	31.1	67.0	83.5	74.2	106.3
8. Percent of GNP	2.2	4.6	2.9	10.1	2.7	10.5
9. Trade Surplus	-576.0	-280.2	-720.5	-353.6	-829.9	-391.0
10. Net Factors Income	436.3	239.7	551.9	299.7	644.1	347.5
11. Unilateral Transfers	49.4	65.4	41.9	76.5	37.5	84.9
12. Current Account Surplus (total)	-90.3	24.9	-126.7	22.6	-148.2	41.4
13. Percent of GNP	-4.7	3.7	-5.4	2.7	-5.3	3.0
14. Trade Surplus with Israel (including remittances)	-120.9	-4.5	-141.1	-21.7	-152.1	-7.2
15. Domestically Employed Workers (thousands)	128.0	60.8	---	---	174.2	96.3
16. Labor Force (thousands)	199.7	108.0	---	---	250.7	143.5
17. GNP per Capita	2,019	1,065	2,101	1,115	2,258	1,188
18. Annual Average Percent Change (dollars of 1986)	---	---	0.9	0.8	1.0	1.1

Table 6: Potential GDP and GNP. Alternative Scenario Estimates

a. West Bank								
Year/Scenario	GDP[1]		GDP Per Capita[2]		GNP[1]		GNP Per Capita[2]	
	Value	Annual Percent Change	Value	Annual Percent Change	Value	Annual Percent Change	Value	Annual Percent Change
1. 1990 (Actual Values)	1.454	---	1,553	1.36	1,890	---	2,017	1.52
2. 2000 Existing Trends (1980-1990) Baseline Scenario	2.652	5.5	2,181	3.4	3.296	5.1	2,711	3.0
3. Repatriation of all workers from Israel	3.929	9.5	3,231	7.6	3,912	6.7	3,222	4.8
4. Repatriation of half of workers from Israel	3,325	7.7	2,735	5.8	3,642	6.0	2,995	4.0

b. Gaza Strip								
Year/Scenario	GDP[1]		GDP Per Capita[2]		GNP[1]		GDP Per Capita[2]	
	Value	Annual Percent Change	Value	Annual Percent Change	Value	Annual Percent Change	Value	Annual Percent Change
1. 1990 (Actual Values)	428	---	683	0.16	667	---	1,065	0.27
2. 2000 Existing Trends (1980-1990) Baseline Scenario	755	5.3	867	2.4	1.103	4.7	1,266	1.7
3. Repatriation of all workers from Israel	1.176	9.6	1,375	7.2	1,180	5.3	1.355	2.4
4. Repatriation of half workers from Israel	985	7.8	1,131	5.2	1,151	5.1	1,321	2.2

(1) Million $US (1986 prices).
(2) Dollars (1986).

Appendix

The appendix includes three parts: Table A which presents the demand-side of the econometric model; part b, which presents the supply-side; and Table C, which is the list of endogenous and exogenous variables.

Table A1: The Demand-Side: Econometric Estimation(1)

A. Gaza Strip

1. Consumption:
   $C_t = 0.61\ Dip + 0.25 C_{t-1}$
   (7.15) (2.23)
   $R^2 = 0.97$ D.W. = 1.90

2. Exports to Israel:
   XIS = +0.0065 Dipis 86
   (9.79)
   $R^2 = 0.8$ D.W. = 1.71

3. Exports to other countries:
   XOTH = -60.98 + 10.81 RJDNIS + 0.86 AFF - 1.54 TIME
   (-2.36) (3.95) (4.50) (-5.58)
   $R^2 = 0.72$ D.W. = 1.97

4. Imports from Israel:
   IMIS = 189.53 + 0.38 GNP
   (2.73) (2.80)
   $R^2 = 0.81$ D.W. = 2.00

5. Imports from other countries:
   IMOTH = 10.610 + 0.052 GNP
   (2.57) (5.92)
   $R^2 = 0.66$ D.W. = 1.85

6. Productive investments:
   IINDUS = 0.039 GNP
   (5.51)
   $R^2 = 0.70$ D.W. = 1.80

7. Investment in housing:
   IHOUSE = 0.046 DIP + 0.71 $IHOUSE_{t-1}$
   (2.57) (5.69)
   $R^2 = 0.90$ D.W. = 2.16

8. Indirect taxes:
   TIND = 0.028 GDP
   (3.64)
   $R^2 = 0.81$ D.W. = 1.69

9. Direct taxes:
   TD = 0.055 GNP
   (8.98)
   $R^2 = 0.88$ D.W. = 2.30

(1) All figures in parentheses are values of the t-statistics.

B. West Bank

10. Consumption:

$C_t = 109.10 + 0.27\ DIP + 0.58\ C_{t-1}$ $R^2 = 0.98$ D.W. = 1.78
(3.90) (3.27) (4.96)

11. Exports to Israel:

XIS = 0.0039 DIPIS 86 + 0.20 AGIND $R^2 = 0.60$ D.W. = 1.60
(3.27) (2.82)

12. Exports to other countries:

XOTH = -61.44 + 24.56 RJDNIS + 0.20 AGIND $R^2 = 0.84$ D.W. = 1.78
(-3.85) (6.03) (3.11)

13. Imports from Israel:

IMIS = 78.21 + 0.38 GNP $R^2 = 0.89$ D.W. = 1.78
(2.17) (11.52)

14. Imports from other countries:

IMOTH = 0.056 GNP $R^2 = 0.47$ D.W. = 1.78
(11.30)

15. Productive investments:

$IINDUS = 0.0526\ GNP_t$ $R^2 = 0.47$ D.W. = 1.43
(9.50)

16. Investment in housing:

$IHOUSE = 0.078\ Dip + 0.427\ IHOUSE_{t-1}$ $R^2 = 0.92$ D.W. = 1.70
(4.08) (2.75)

17. Indirect taxes:

TIND = 14.88 + 0.023 GDP + 44.59 D8384 $R^2 = 0.78$ D.W. = 1.48
(2.82) (3.78) (6.68)

18. Direct taxes:

TD = -6.375 + 0.044 GNP $R^2 = 0.86$ D.W. = 1.60
(-1.49) (10.74)

19. Investment in stocks:

ISTOCK = 107.48 + 0.54 AFF $R^2 = 0.82$ D.W. = 2.13
(-7.45) (8.79)

b. The Production Functions

The supply-side of the economy is based on the Cobb-Douglass production function estimated for the West Bank and Gaza Strip. In logarithm form, the production function is:

$$\ln Y_t = \ln A + g\,t + a\,\ln K_t + (1\text{-}a)\,L_t + b_1 D_1 + b_2 D_2,$$

where a and (1-a) are from capital and labor shares in GDP, respectively, and D_1 and D_2 are dummy variables. D_1 represents the Intifada period and D_2 represents the even years in view of the fact that one of the crops in the West Bank is olives (there are large bi-annual fluctuations in the olive crop).

The estimation was carried out in two stages. During the first stage, a and (1-a) were estimated based on the labor and capital share statistics. At the second stage, the other variable of the production function was estimated. Several tests were performed in order to verify that the Cobb-Douglas function is the most suitable production function.

The econometric estimation results are:

For the Gaza Strip:

$$\ln Y_t = 0.81 + 0.014t + 0.26\,\ln K_t + 0.74\,\ln L_t - 0.12 D_1$$

and $R^2 = 0.96$

For the West Bank:

$$\ln y_t = 0.75 + 0.02t + 0.36\,\ln K_t + 0.64\,\ln L_t - 0.18 D_1 + 0.10 D_2$$

and $R^2 = 0.95$

Table C: List of Variables - The Demand-Side

Endogenous Variables

GDP =	Gross domestic products at market prices
GNP =	Gross national product
E =	Aggregate demand
C =	Private consumption
DIP =	Private disposable income
TIND =	Net indirect taxes
I =	Gross fixed capital formation
IINDUS =	Investment in the business sector
IHOUSE =	Investment in residential buildings
ISTOCK =	Investment in stock
X =	Exports
XIS =	Exports to Israel
XOTH =	Exports to other countries
IM =	Imports
IMIS	Imports from Israel
IMOTH	Imports from other countries

Exogenous Variables

FIA =	Factor income from foreign sources
FPA =	Payments to foreign factors
TFG =	Government transfers to the private sector
UTF =	Foreign transfers to the private sector
IGOV =	Government investments
G =	Government expenditures in the P.A.
DIPIS86 =	Disposable income in Israel
RJDNIS =	Real exchange rate of Jordanian Dinar in NIS (Israeli Shekels)
AFF =	Domestic product of the agricultural sector
T =	Time
D =	Dummy variable