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A SUMMARY AND EVALUATION OF A REPORT BY

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"ANALYSIS AND ASSESSMENT OF THE ECONOMIC EFFECT OF THE

U.S. PUBLIC LAW 480 TITLE I PROGRAM IN ISRAEL"

This Summary and Evaluation was prepared by the

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PREFACE

Israel is the largest recipient of U.S. food assistance, if measured on a per capita basis. For this reason it is particularly appropriate to review PL 480 Title I (Agricultural Trade Development and Assistance Act of 1954) and related food assistance programs as they have affected the Israeli economy. These effects may be favorable, functioning in such a manner as to increase consumption, improve external financial reserves, or increase economic activity through investment. It is also necessary to determine whether there have been any unfavorable repercussions, such as displacement of commercial imports, decrease in local agricultural production, loss in farm income because of lower food prices, or discouragement of investment in agriculture.

To assess possible effects of U.S. farm export programs, the U.S. Department of Agriculture has sponsored a series of studies in selected recipient countries. Israel was selected as the first country to be studied, and this is the first such report. In most cases the research contracts are being made with local professional economic research groups in an effort to obtain objective points of view of local people as they review an outside operation, namely the U.S. agricultural export programs.

In the case of Israel, the Bank of Israel was the contractor and most of the research was done by the Bank's staff of economists, under the leadership of F. Ginor. Dr. Alfred E. Kahn of the Department of Economics at Cornell University served as consultant to the Bank of Israel's research staff. The local research group has been free to draw together whatever data seemed appropriate, to assess certain possible effects of the program, and to analyze them as seemed appropriate.

The U.S. Department of Agriculture does not necessarily agree with all the conclusions drawn in these studies. It does agree with some of them. Where differences exist careful analysis will be required to determine which view is correct and whether any changes in the export programs are needed. In some cases the situation at the time a program was approved has changed and appears different in retrospect. Moreover, the impact of the Title I program can be evaluated only by estimating what the situation would have been had the food not been shipped, which is very difficult. Moreover, this report and others to follow cover a period of years. The average relationship over a number of years may not adequately reflect the actual situation at the time any particular PL 480 agreement was signed.

The policies of the 83d Congress in enacting PL 480 (Ch. 469), from the standpoint of foreign economic relations were:

(1) To expand international trade among the U.S. and friendly countries.

(2) To facilitate convertibility of currency.

(3) To make maximum efficient use of surplus agricultural commodities in furtherance of the foreign policy of the U.S.

(4) To stimulate and expand foreign trade in agricultural commodities.

(5) To encourage economic development.

Also important are the criteria under which sales are made. In developing a specific country program, and in determining whether a program should be approved, a large number of items are considered. One of these is that the currency of the country concerned is usually not freely convertible. The country frequently has found it necessary to adopt certain measures to protect foreign exchange reserves and limit imports. A second consideration is that Title I shipments should not reduce substantially the amounts that would be purchased in the commercial market. The law states that PL 480 sales must "take reasonable precautions to safeguard usual marketings of the U.S. and to assure that sales under this act will not unduly disrupt world prices of agricultural commodities or normal patterns of commercial trade with free countries".

The law allows freedom for more administrative decision than is customary in actual practice. There are at least five conditions under which Title I sales can be made in countries where currencies are not freely convertible without reducing usual commercial exports of the U.S. and friendly countries.

(1) Title I commodities can provide some of the additional food needed because population has increased.

(2) Title I commodities can provide some of the additional food demanded because income (purchasing power) has expanded. This can be of strategic importance if U.S. assistance programs have been instrumental in stimulating a higher rate of economic development and domestic food production has not yet increased in line with these needs.

(3) In the course of economic development and an increase in purchasing power a country with a moderate per capita income may shift its consumption pattern from grains to animal products. Some part of the increase may represent additional food consumption.

(4) If Title I imports reduce food prices below what they would have been then the increased consumption through lower prices (or in an inflating economy through less rapidly rising prices) is additional to what would have occurred in the absence of the program.

(5) If food consumption has been rationed or would need to be rationed because of shortages of foreign exchange, Title I commodities can supply some of these additional food needs. How much reduction should take place in imports of food or in non-food items, where shortages of foreign exchange exist, is a difficult, high level decision. Title I shipments can ease some of the problems of food rationing by providing food which otherwise would not have been purchased.

Most of these policies and criteria were relevant in Israel in varying degrees during the 1956-60 period. The difficult assignment undertaken in this study by the Bank of Israel has been to assess quantitatively the contributions of PL 480 in fulfilling the various economic objectives of the legislation.

In many respects the report on the effectiveness of the PL 480 Title I program for Israel will differ from studies in other countries. First, the volume of shipments relative to the national economy was large, as stated earlier. Second, Israel has a substantially higher level of income than the majority of recipient countries--over $500 compared with $50 to $150 per capita in many of the less developed countries. Third, Israel is clearly evolving as an industrial and trading society, living in substantial part on a continued plan of imports and exports. Israel is not self-sufficient agriculturally, though agriculture does play an important role in the national economy. Fourth, Israel has been the recipient of very substantial gifts and grants from both public and private sources abroad during the period of Title I imports. This would include the entrepreneural skills, educational level and managerial skills of the people migrating to Israel. Fifth, Israel with this wide range of foreign economic assistance was able to establish and maintain a high rate of economic development and growth, which showed itself in increased investment, increased production, increased productivity, higher incomes, larger imports, and greater exports. For these and other reasons the conclusions with respect to Israel do not hold for other recipients of PL 480 commodity assistance.

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The $152 million of commodities imported by Israel under Title I of PL 480, together with the investments financed with the proceeds from selling these commodities, contributed significantly to the phenomenal growth of the Israeli economy during 1955-60. Investment of local currency proceeds, together with internal savings and other external assistance, contributed to a substantial increase in Israel's world trade during this same period.

The report prepared by the Bank of Israel analyzed the effect of the receipt of surplus U.S. commodities. About 60 percent of these commodities were food commodities, another 36 percent were feed grains, with industrial raw materials, cotton, tobacco, and tallow making up the balance. The report concluded that these imports brought about both temporary and permanent increases in (1) investment, (2) national product, (3) employment, (4) income, (5) consumption, (6) savings, and (7) exports. Concurrently, receipt of PL 480 commodities had a stabilizing influence on the price level.

Increase in Resources

GNP at constant prices increased 53 percent between 1955 and 1960, imports by 65 percent, for a total rise in resources of over 56 percent. Consumption by the private sector increased by 49 percent. For the peak year, 1959, Title I imports and the production resulting from Title I programs accounted for 3.6 percent of total resources and 11½ percent of the increase in total resources between 1955 and 1959. The production resulting from Title I programs represented 2.7 percent of the GNP alone--60 percent in industry and power and 25 percent in agriculture (tables 1a and 1b)--and accounted for approximately 9 percent of the rise in GNP between 1955 and 1959. The lasting effect of the program was to increase the gross national product by 2 percent, thus accounting for 5 percent of its increase between 1955 and 1960.

Investment and Employment

Over the 6 years gross capital formation rose 41 percent. Investment financed through Title I funds reached a high in 1959, when it contributed nearly 7 percent to the total and accounted for 23 percent of its increase between 1955 and 1959, (table 1b). In that year Title I programs were credited with reducing unemployment by 50 percent. The report credits Title I programs during 1955-60, on the average, with creating temporary jobs for 4,450 and permanent jobs for 7,817 people per year.

Consumption

Private consumption in Israel over the six years increased over 50 percent or, on a per capita basis, by about 25 percent. By 1960, fourteen percent of the consumption increase was attributable to Title I, which accounted for five percent of total consumption in that year. Since food, clothing, and tobacco represent about half of consumer expenditures, the effect on food consumption is closer to 10 percent. In addition, there was a qualitative increase in consumption, that is, there was a shift from cereals (and fish) to meat, eggs, and fresh fruit. The increase in the consumption of animal products, in turn, is reflected in the large increase in the utilization of feed grains for animal production (table 2).

Imports and Exports

Israel's annual exports in this period increased from $144 million in 1955 to $352 million in 1960 or about one and a half times while imports increased from $427 million to $694 million or by about two-thirds. The

Table 1a.--National Accounts at Constant (1955) Prices
(Millions of Israel Pounds)

	1955	1956	1957	1958	1959	1960
GNP	2,148	2,342	2,564	2,722	3,068	3,295
Imports	768	903	898	1,016	1,108	1,267
Total resources	2,916	3,245	3,462	3,738	4,176	4,562
Private consumption	1,607	1,731	1,866	2,037	2,228	2,397
Public consumption	455	608	539	559	606	671
Investments	601	613	707	746	823	848
Exports	253	293	350	396	519	646
Total use of resources	2,916	3,245	3,462	3,738	4,176	4,562

Sources: Central Bureau of Statistics of Israel.
"Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Table 1b.--Estimated Percentage Increase in Total Resources
Caused by the Title I Program (in Per Cent)

GNP	0.6	1.6	1.1	2.0	2.7	2.2
Imports	3.2	5.2	2.9	7.2	6.1	5.8
Total resources	1.3	2.6	1.6	3.4	3.6	3.1
Private consumption	1.5	2.7	2.0	4.4	3.9	5.0
Public consumption	--	--	--	--	--	--
Investments	2.2	5.9	1.7	4.5	6.7	0.8
Exports	--	0.7	1.2	1.3	1.8	3.0
Total use of resources	1.3	2.6	1.6	3.4	3.6	3.1

Source: "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Table 2.--Estimated Additional Consumption and Imports of Title I Commodities Caused by the Title I Program in Israel*

Commodity	Additional Consumption (tons): As a result of: Higher incomes of persons affected by program (1)	Additional Consumption (tons): As a result of: larger rations and lower relative prices (2)	Additional Consumption (tons): Total (3)	Additional Stock-piling (tons) (4)	Total Additional Imports (tons) (5)	Total Additional Imports (thousands of a/ dollars) (6)
Wheat	-7,905	--	-7,905	71,000	63,095	3,912
Feed grains	15,512	291,000	306,512	60,000	366,512	16,308
Rice	-148	4,200	4,052	1,100	5,152	581
Cotton	921	--	921	--	921	638
Tobacco	--	--	--	50	50	73
Butter	111	11,190 b/	11,190 b/	c/	11,190	9,646
Cheese	131	4,730 b/	4,730 b/	c/	4,730	2,400
Non-fat dry milk	--	-12,000	-12,000	2,600	-9,400	-1,802
Edible fats and oils	141	32,040 b/	32,040 b/	c/	32,040	9,458
Beef	26	2,800	2,826	--	2,826	2,516
Prunes	14	320 b/	320 b/	c/	320	100
Dry edible beans	--	--	--	--	--	--
			Thousands of Dollars			
Total value a/	1,058	35,221	36,066	7,764	--	43,830
Ocean transport borne by the program	--	--	2,164	466	--	2,630
Total	--	--	38,230	8,230	--	46,460

*The calculations in this table are limited to Title I commodities only. They do not reflect the additional agricultural commodity imports other than the specific Title I commodities that occurred over this period. The fact that Title I commodities did not require the use of limited foreign exchange made it possible to import approximately the same amount of other commodities from the U.S. (See table 16, page 30).

a/ F.O.B., excluding ocean transport.
b/ First column included.
c/ Included under "additional consumption", column 3.

Source: "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

imports were associated with (1) additional consumption of imported commodities as a result of increased population, increased income, or as a result of larger rations and lower relative prices, (2) additional stockpiling, (3) additional imports made possible by the growth of exports.

Average annual merchandise imports during the 1956-60 period rose by $100 million as compared with annual merchandise imports during the 1950-54 period. This represented a cumulative total increase above the earlier level of about $600 million for the 6-year period. Annual imports of the type of commodities included in Title I agreements from the U.S. almost doubled, representing a cumulative total increase for the 1956-60 period of about $130 million.

The net effect of the PL 480 Title I sales during 1955-60 was an estimated increase in total imports of $167 million compared with the value of Title I commodities (less the U.S. uses) of $145 million. For the specific Title I commodities, imports exceeded the volume which would have been imported in the absence of the program, reflecting increased consumption, a build-up of stocks, imports for the development of the livestock industry, or the maintenance of stable prices. The report estimated that some 31 percent of the specific Title I import commodities or $46.5 million were "additional" consumption or stockpiling during this period (table 2). It did not include the additional consumption that resulted from the additional commercial purchases required in the agreement for other type commodities as a condition for receiving the Title I commodities, nor the additional consumption of non-Title I agricultural products that undoubtedly occurred with the overall expansion of trade made possible by the relaxation of foreign exchange. Estimated increases in feed grains and edible fats and oils were particularly significant amounting to over half the total. Estimated increases in imports of wheat were small and confined to additional quantities used in stockpiling. No estimates are made of the "additional" purchases of Title I commodities which may be made in the future because of the higher level of economic activity attained.

The measurement of additionality in this report was limited to only those individual commodities included under Title I. Over the period of this study, aggregate imports of agricultural trade with the U.S. increased by approximately the same magnitude that Title I increased. This was recognized to some extent in the report where it was stated that "World trade as a whole is thus not impaired by the sale of surplus commodities, and in the long run it is even increased, since the increase in the productive capacity in the receiving country increases its capacity to import by raising its exports, as was the case in Israel." Though this subject was treated very objectively within the framework of the assumptions under which the precise calculations of additionality were made for the individual commodities, it does to some extent lead to partially erroneous conclusions especially in relation to the program's impact on the additionality of the country's agricultural as well as total trade.

The longer term effect as the Israeli economy develops and gains in flexibility is suggested by soybeans and livestock production. Commercial purchases of soybeans were made a condition of programming vegetable oils under Title I. However, imports rose far more than was required, as rations were liberalized and diets modified. Feed grain shipments aided the development of a livestock industry, which in turn expanded the demand for protein feeds. U.S. soybean exports rose from $4.2 million in 1956 to $13.6 million in 1960. Similar increases occurred in feed grains. The structural changes in consumption and production accompanying these increases are likely to persist.

In another section of the report it is estimated that private consumption increased by 57 percent between 1954 and 1960 and would have increased by 50 percent in the absence of Title I agreements. This is an accumulated increase of 367 million Israeli pounds over the period due to Title I. Only a part of this increased consumption was for food, approximately 122 million Israeli pounds, and this in turn was for a variety of domestic and imported products and for the associated marketing services. Thus roughly this estimate is consistent with the data presented above (table 2). More significant, however, is the statement that "The effect of the Title I program on real consumption was cumulative- - - -this effect is a permanent one; it would remain even if Title I imports should cease".

It should be noted that the research team appeared somewhat hesitant in predicting the policy the Israeli Government would have followed under pressures of food shortages and no Title I agreements. Slight increases in their assessment of the severity of rationing would substantially increase the figures presented in table 2. The judgment presented in the report does suggest that the Israeli Government did have more flexibility in adjusting the use of foreign exchange than many current observers believed possible.

In addition to the direct effects of PL 480, Israeli imports were substantially increased by other U.S. assistance programs. Only 37 percent of U.S. total economic assistance was in terms of Title I shipments. No estimates of the effects of these other programs on additional food consumption were included in the study, however.

Stabilization

Increased availability of Title I commodities, the increased production of livestock products, and building up stocks are estimated to have limited the rise in the price level to 28 percent over the six years of the Title I program, compared to an estimated 36.5 percent which would have occurred in the absence of the program.

The study concluded with a projection of present trends in population, consumption, and investment, which implies that within a decade Israel could export enough to finance its imports. This projection assumes substantial investment from abroad in the interim, a decline in the rate of economic growth, and an acceptance of the associated level of living. If these conditions are satisfied this could mean that commercial purchases would replace those now being made under PL 480.

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This Summary and Evaluation was prepared by the Export Programs Research Staff, Development and Trade Analysis Division, 1/
Economic Research Service

BACKGROUND

Israel has developed rapidly since its establishment in 1948. The population almost tripled during the first 12 years as about one million immigrants were successfully settled and integrated into the economy. The population at the end of 1960 reached 2,150,000.

Gross national product rose nearly three and a half times over the decade of the 1950s, amounting to IL (Israeli pound) 4,390 million ($2,440 million) in 1960. The product per person employed rose by 56 percent.

In agriculture the area under irrigation more than quadrupled while agricultural output rose three and a half times. New products, such as cotton and sugar beet, were introduced. Yields per unit of land and per head of livestock improved considerably, as did labor productivity in the various branches of agriculture.

Industrial production rose two and a half times during the decade. Although most of the enterprises operating today were founded after the establishment of the State, the older plants renewed their equipment, expanded production, and raised their standards of efficiency. A great number of new products were introduced to both domestic and foreign markets.

About 750,000 dwelling rooms were built, in addition to the expansion of industrial, agricultural, and public buildings.

Various public services, including transportation, health, and education, were expanded as population and production expanded.

1/ Members of the Export Programs Research Staff contributing to this summary were: Frank D. Barlow, Jr., Doris D. Nichols, Haven D. Umstott, Robert W. Johnson, Susan A. Libbin, and Janet R. German. Dr. Lawrence W. Witt, Professor of Agricultural Economics, Michigan State University, East Lansing, Michigan, assisted in the preparation of this summary and evaluation. Dr. F. Ginor, who prepared the original report under contract with the U.S. Department of Agriculture, reviewed this analysis of her report, and made many helpful suggestions. The contract study was developed and negotiated by the Regional Analysis Division while it was a part of the Foreign Agricultural Service.

Expansion of domestic production resulted in a significant improvement in the foreign trade balance. External per capita deficits on current account, at constant prices, declined by 39 percent between 1949-60. This was achieved by augmenting exports and substituting products produced domestically for imported goods. Exports of goods and services multiplied approximately sevenfold during this period, while the substitution of local products for imports is reflected in the diminishing share of imports in total resources--23 percent in 1960 as compared with 28 percent in 1950 (at constant prices). At the same time, the standard of living improved substantially as private per capita consumption, at constant prices, rose by 56 percent.

The absorption of immigration and the expansion of production were made possible by large investments: capital stock rose about fourfold and totaled IL 10,200 million at the beginning of 1961.

During the early phase of expansion the economy suffered from inflationary pressures. Although the influx of immigrants and capital provided the human and material resources for economic development, the streams were not balanced in magnitude. At the time of mass immigration the sources of foreign income were limited, and strong inflationary pressures were unavoidable.

Annual rates of growth are set forth in table 3.

Table 3.--Rates of Growth: 1950-60

	Percentage Increase 1950-60	Annual rate of growth
Population	67	5.2
Value of gross national product[a/]	174	10.6
Gross capital stock[a/]	264	13.9
Product per employed[a/]	56	4.6
Agricultural output[a/]	247	13.2
Industrial output[a/]	157	9.9

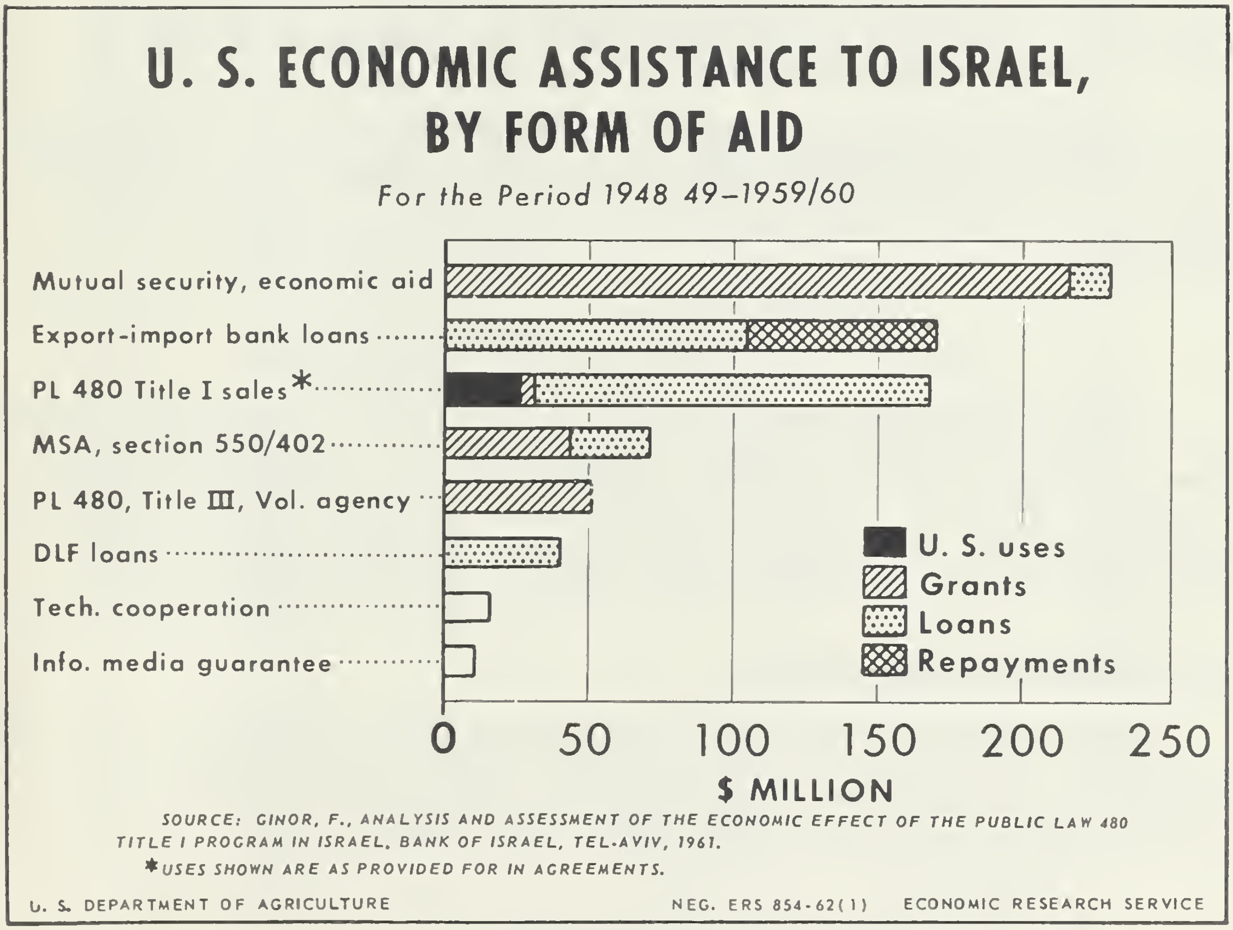
a/ At constant prices.

Source: Population, product and employed: Central Bureau of Statistics. Agricultural and industrial output: Bank of Israel. Gross capital stock, A.L. Gaathon, Capital Stock, Employment and Output in Israel, 1950-59, Jerusalem, 1960.

After the first period of inflation, a disinflationary policy was instituted at the beginning of 1952. Since 1954 there was steady economic expansion. Inflationary pressures were present, but were checked by fiscal and monetary measures, and by a regular, and sometimes increased, supply of imported goods including PL 480 commodities.

This great economic expansion was made possible by the influx of large capital imports which amounted to $3,655 million during the 12-year period 1949-60. Loans and grants of the United States Government to an amount of $648 million net[2] constituted an important part (18 percent) of this capital import. Shipments under the PL 480 Title I program amounting to $159 million during the period of its operation (1955-60) constituted 8 percent of total capital imports during this period, and 55 percent of United States economic assistance.

2/ Including loans from the Export-Import Bank.



TOTAL U.S. GOVERNMENT ASSISTANCE TO ISRAEL

From the time Israel was established through June 30, 1960 the United States made available $757 million in economic assistance to that country, (table 4). A little less than half of the assistance was in the form of grants. Of the approximately $400 million in loans, about half require repayment in dollars, the balance in Israeli pounds.

Several agencies of the United States government have participated, and their relative importance changed over the 12 years reviewed. For the period as a whole, Mutual Security grants and loans ranked first in importance, accounting for about $300 million. As these programs phased out, Title I programs became the major vehicle of aid. Nearly four-fifths of the proceeds from the sale of U.S. surplus commodities under Title I is allocated for loans to Israel; about 7 percent was used for specific grants. The remaining 15 percent, reserved for U.S. uses, does not represent economic assistance. Donations through voluntary agencies--since 1954 under authority of PL 480--have been continuous. The Export-Import Bank authorized $172 million in loans to Israel, most of it during the first two years of the country's history. By December 1960, $65 million had been repaid. As of June 30, 1960, allocations to Israel from the Development Loan Fund totaled $40 million. Additional economic aid to Israel was under the Technical Assistance and Informational Media Guarantee programs.

In assessing the specific impact of Title I imports on the development of the Israeli economy, it is important to keep in mind that net assistance under Title I during 1954-60 represented only 37 percent of total U.S. economic assistance. The Ginor report was concerned only with the specific contribution of this single aspect of U.S. economic assistance.

REVIEW OF PUBLIC LAW 480 OPERATIONS IN ISRAEL

Public Law 480 operations in Israel must be reviewed in relation to total U.S. economic assistance programs, (table 4). Title I sales accounted for some 22 percent of gross economic assistance. Title III donations amounted to nearly 7 percent of all U.S. economic assistance programs or 31 percent of Title I sales. Title I sales which began in 1954 were second only to direct economic aid grants under Mutual Security programs which declined after 1956.

Sales Agreements and Shipments

Sales agreements signed under PL 480, Title I for the period January 1955 to December 1960 amounted to $168.5 million. About 2,131,000 tons of agricultural surplus commodities at a value of $159 million[3/] were shipped to Israel under the program during this period, (table 5).

3/ Includes $9 million for ocean freight.

Table 4.--U.S. Government Economic Assistance to Israel, by Form of Aid, and by U.S. Fiscal Years (Allocations): 1948/49 - 1959/60

Fiscal year	Mutual Security Program					PL 480 Title I	PL 480 Title III	DLF	Ex-Im	Infor-mational	Total
	Economic Aid		Section 550/402								
	Grants	Loans	Grants	Loans	Technical Cooperation[a]	Sales	Voluntary Agency	Loans	Bank Loans	Media Guarantee	
					Thousands of Dollars						
1948/49									109,535		109,535
1949/50							1,200		25,465		26,665
1950/51							21,500		--		21,500
1951/52	63,500				934		--			900	65,334
1952/53	70,061				2,531		40			2,100	74,732
1953/54	51,327		1,197		1,679		20,673			2,000	76,876
1954/55	19,680	2,316	--	17,684	1,673	12,697	378			2,600	57,028
1955/56	7,892	2,498	5,062	10,000	1,719	27,632	1,646			1,500	57,949
1956/57	--	9,994	14,997	--	1,966	10,538	2,291			600	40,386
1957/58	--	--	7,499	--	1,694	41,000	2,253	15,000	24,200	500	92,146
1958/59	--	--	7,500	--	1,854	38,309	1,706	10,000	3,350	500	63,219
1959/60	--	--	7,500	--	1,756	37,600	442	15,000	9,425	300	72,023
Total	212,460	14,808	43,755	27,684	15,806	167,776	52,129	40,000	171,975	11,000	757,393

a/ Including about IL 2 million administrative expenses.

Source: U.S.O.M. Funding and Financial Report. Israel Ministry of Finance. "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Table 5.--Shipments under PL 480, Title I Agreements by Commodities a/ 1955-60

Commodity	Shipments: Tons	Shipments: $ Thousands	Sales Agreements program $ millions
Wheat	814,490	50,483	50.4
Feed grains	1,204,690	53,566	54.7
Rice	11,490	1,298	1.3
Cotton	7,720	5,347	5.6
Tobacco	640	935	1.0
Butter	11,190	9,646	9.7
Cheese	4,730	2,400	2.4
Whole dried milk	210	200	0.2
Non-fat dried milk	20,420	3,914	3.9
Edible oils & fats	37,980	11,211	11.2
Tallow	2,350	500	0.5
Beef	11,230	9,999	10.0
Prunes	320	100	0.1
Dry edible beans	3,810	606	0.6
Total	2,131,270	150,205	151.6
Ocean freight	--	8,980	16.9
Total	2,131,270	159,185 b/	168.5

a/ For detailed tables by calendar years and fiscal years see Appendix E, Tables E1-E4, of F. Ginor Report.

b/ The c. and f. value of these shipments is estimated at $168 million. The difference of $9 million is 50 percent ocean transport borne by the Government of Israel. Arrivals amounted to $152 million, with a c. and f. value of $160 million (see Chapter 6., of F. Ginor Report).

Source: Ministry of Finance: U.S. 13th Semiannual Report on PL 480, Doc. 131, Washington 1961. Also "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Foodstuffs intended for direct consumption constituted 23 percent of Title I commodity shipments. Commodities for food processing accounted for 36 percent of the total shipments. Feed grains for the livestock industry accounted for 36 percent of the total shipments. Less than 5 percent of the Title I shipments constituted materials for industrial production of consumer goods, (table 6). On the whole, commodities shipped under Title I agreements were intended mainly for consumption, either directly or after undergoing processing.

Techniques of Operating the Title I Program

Most PL 480 commodities were imported by the Government and it was not necessary to set up separate administrative machinery in Israel as it already existed. In the United States, a separate administrative body acted as agent and shipper in all transactions involving the surplus agricultural commodities.

The Food Import Division in the Ministry of Commerce and Industry in Israel handled the importation of wheat, rice, vegetable oils, butter, cheese, non-fat dried milk and frozen beef. Commercial firms imported feed grains, cotton, tobacco and other commodities.

Commodities imported under the Title I program were sold by the Government or by the importers to wholesalers or producers (in the case of raw materials for industry and feed grains for agriculture) and through them entered the general stream of commodities within the country. The commodities were not specially allocated by administrative measures to specific sectors or projects.

Before shipment, the Government deposited in a special U.S. account the local currency equivalent of the value of the imports. The commodities were shipped from the U.S. after confirmation of the deposit.

Table 6.--Title I Shipments, by Purpose of Commodities

Purpose	$ Thousands	Percent
Immediate food consumption (rice, butter, cheese, edible oil, beef, prunes, dry beans)	35,260	23.5
Material for food processing (wheat & non-fat dried milk)	54,597	36.3
Material for agricultural production (feed grains)	53,566	35.7
Material for industrial production (cotton, tobacco, tallow)	6,782	4.5
Total market value	150,205	100.0
Ocean freight borne by program	8,980	
Grand Total	159,185	

A major part of the local currency funds generated by the sale of Title I commodities was allocated for economic development. These funds were used to finance projects selected from the State Development Budget.

The selection of projects was made jointly by the Office of Economic Assistance in the Ministry of Finance and the U.S. Operations Mission to Israel. Funds were released by the USOM on the basis of periodic reports indicating the progress of work on the various projects.

The criteria used in selecting projects to be supported by Title I local currencies were:

(a) The projects should be identifiable for the purpose of budgetary control.

(b) The projects should meet the conditions of Public Law 480.

(c) The projects should be economically sound.

Utilization of IL Currency Funds

Under agreements signed as of 1961 allocations in terms of dollars made available were made as follows:

		Million
(1)	U.S. Government Uses	\$27
(2)	Economic Development in Israel	111
(3)	Private loans (Cooley Amendment)	26
(4)	Grants	4
	Total Allocated	\$168

Up to the end of 1960 approximately 80 percent of the allocations for economic development was released as loans or grants for approved projects through the State Development Budget. Loans to industrial enterprises under the Cooley amendment were released up to 55 percent of allocations by the Export-Import Bank through their agent, the Industrial Development Bank of Israel.

EFFECT ON AGRICULTURAL PRODUCTION

Since the establishment of Israel in 1948, the area under irrigation more than quadrupled while agricultural output rose three and a half times. New products such as cotton and sugar beet were introduced. Yields per unit of land and per head of livestock improved considerably, as did labor productivity in the various branches of agriculture. Since 1953-54 total agricultural production increased 78 percent, reflecting a nearly 200 percent increase in livestock production and increases of 53 and 37 percent respectively in the output of field crops and vegetables. On a per capita basis, total agricultural output between 1953-54 and 1959-60 rose 43 percent, (table 7).

Table 7.--Israel: Growth of Agricultural Output Total and by Branch, 1953/54-1959/60, at constant prices. (1953/54 = 100)

Commodity	Output in 1959/60
Total Agricultural Output	178
Field Crops	153
Vegetables and Potatoes	137
Citrus	138
Other Fruits	234
Livestock Products, total	195
Milk	180
Eggs	283
Meat	457

Source: Central Bureau of Statistics (Statistical Abstracts, Monthly Bulletins); Food and Agriculture Organization (for total output); and "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Crop production, in general, is limited by the shortage of land. By 1954 vegetable production had already risen sufficiently to supply domestic needs, and acreage restrictions were imposed. Further increases in output reflected increased productivity. In the case of grains, production has been virtually stable since 1953-54 due to the lack of unirrigated land on which such production could be profitable. At the same time comparative efficiency brought about reduced use of irrigated areas for grain production, and as a matter of national policy as well as profitability, new irrigated acreage was used rather to plant cotton and vegetable oilseeds and establish orchards. Per unit of irrigated land, the return from cotton was more than double that from grains; and in the case of peanuts the relative return was even higher. While the expansion of cotton and oilseed production was a significant factor in the total growth of agricultural output during the six years under review, a large proportion of the new orchards was not yet in yield. At the same time, the rapid rise in living standards increased the demand for livestock products and government import policy encouraged local production. The net result of all these factors was the greater relative increase in livestock than in crop output and an increase in the share of livestock production from about 40 percent of the total value of farm output at current prices during 1952-54 to about 50 percent during 1958-60.

By providing a continuous supply of feedgrains at stable prices, PL 480 made a major contribution to the remarkable expansion of the livestock industry. The contract study indicates little other direct effect on agricultural production of most Title I imports.

Due to the much higher relative return from other crops it was concluded that feed grain production would not have expanded even if prices had been higher in the absence of Title I imports. In the case of wheat, it was concluded that imports would not have been appreciably smaller had Title I supplies not been available because bread was such a basic item in the diet. For other Title I commodities, even though they constituted a fairly sizable proportion of total supplies in certain years, the major contribution of these imports to production was indirect. By providing a continuity of supplies they encouraged the development of local processing industries, which in turn provided an outlet for and thus encouraged the expansion of domestic production of such commodities as cotton and vegetable oilseeds. This availability of these supplies also had somewhat of a permanent effect on increased consumption and to the extent to which increased consumption exceeded production, it would have contributed to increased imports.

Impact of PL 480 Programs on the Livestock Industry

In general, the conclusions of the Israel study emphasize the stimulating effects of Title I feed grain imports upon the expansion of the livestock industry, (table 8). Some of the more important findings of the study were:

(1) The annual rate of expansion in livestock production increased from 8 percent during the five years preceding the PL 480 program to an annual rate of 20 percent since then.

(2) Title I feed grain imports were estimated to have made possible a 15 percent increase in livestock output by 1959-60 over what might have been expected in the absence of the program.

(3) The supply of feed grains obtained from usual commercial markets plus local production increased by about 6 percent annually from 1953/54 - 1959/60 while Title I imports doubled the feed grain supply.

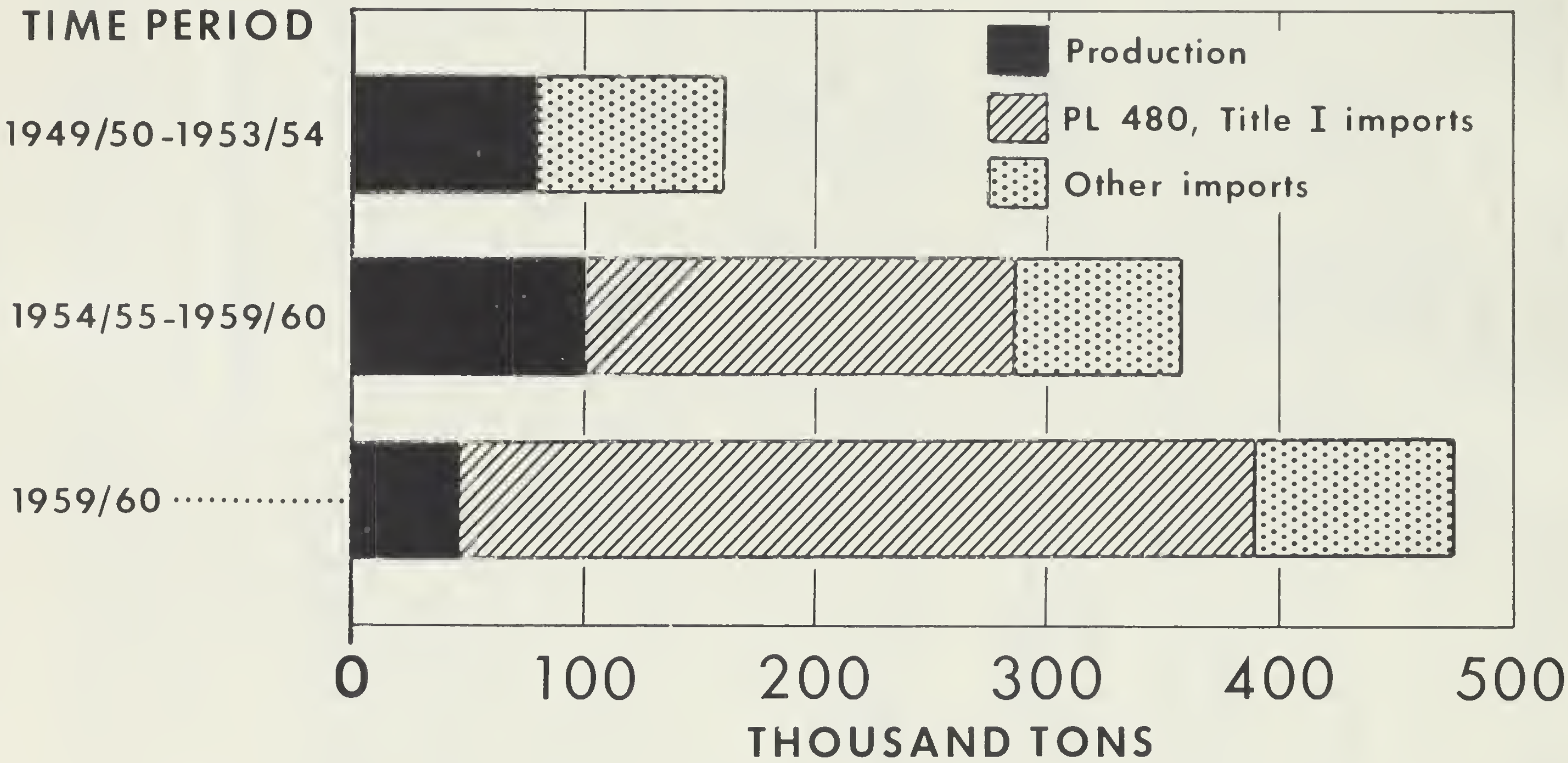
A major effect of Title I feed grain imports was the relaxation of government controls, a decline in "free market" prices from as much as 50 percent above official prices to near official levels, building up reserve stocks, and a continuity of feed grain supplies in marketing channels. This contributed to price stability which resulted in greatly increased confidence by livestock producers.

The increased production of animal products made possible increased consumption levels and at the same time reduced the country's dependence on imported animal products. In fact, egg and poultry production increased faster than local consumption, thus making available considerable quantities for export. During the last six years an average of 5 percent of total annual egg production moved into export markets. In 1960 this rose to 9 percent. Recently the government found it desirable to limit egg exports to 300 million annually as it became apparent that at the current rate of subsidy, the recent high volume of exports was not in the best interest of the economy.

Another indirect effect of Title I feed grain shipments was that in helping to raise livestock and especially poultry production it increased

ISRAEL: SUPPLY OF FEED GRAINS BY ORIGIN

Average of 1949/50-1953/54 Compared With Average of 1954/55-1959/60 and Total for 1959/60



SOURCE: GINOR, F., ANALYSIS AND ASSESSMENT OF THE ECONOMIC EFFECT OF THE PUBLIC LAW 480 TITLE I PROGRAM IN ISRAEL, BANK OF ISRAEL, TEL-AVIV, 1961

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Table 8.--Israel: Imports of Feed Grains: 1950-54 and 1955-60 Averages, by Country of Origin

Exporting Countries	1950-54		1955-60	
	Total	Average	Total	Average
	(Tons)			
U.S.	132,336	26,467	1,369,901	1/228,317
West Germany	3,002	600	--	--
Algeria	11,364	2,273	16,627	2,771
Tunisia	4,758	952	--	--
Cyprus	14,278	2,856	--	--
French Territories in Africa	29,574	5,915	--	--
Other Territories in Africa	9,349	1,870	--	--
British Territories in Africa	--	--	1,386	231
Union of South Africa	--	--	11,407	1,901
Ethiopia, Eritrea	--	--	985	164
Australia	10,027	2,005	--	--
Yugoslavia	7,069	1,414	--	--
Argentina	5,846	1,169	964	161
Other Countries in South America	489	98	--	--
France	--	--	29,607	4,934
Italy	6,824	1,365	834	139
Denmark	--	--	16,359	2,727
Belgium	--	--	200	33
Bulgaria	--	--	1,732	289
Mexico	--	--	10,266	1,711
Turkey	5,318	1,063	2,529	422
Other Countries	66,394	13,279	9,950	1,658
All Countries	306,623	61,326	1,472,747	245,458

1/ Annual average 1955-60 PL 480 Title I imports 190,048 tons.

Source: Central Bureau of Statistics, import data; and "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel," by F. Ginor.

Note: " -- " denotes zero or negligible quantities.

the demand for protein feeds. This in turn provided a profitable outlet for cottonseed at the same time that higher incomes generated a bigger demand for edible vegetable oils. An ancillary effect was an increased demand for soybeans, largely supplied by the United States, as well as rising exports of vegetable oils.

UTILIZATION OF TITLE I COMMODITIES

The diet of the population improved markedly during the period that Title I commodities were received. This improvement, together with gradual derationing and decontrol, was to no little extent attributable to the Title I program according to the Israel Study. Imports of Title I commodities during the period 1955-60 constituted about two percent of total private consumption expenditure, while Title I food and feed imports represented about 5½ percent of total food consumption expenditure, (table 9).

Average annual per capita consumption at constant prices was 28 percent higher in the six-year period 1955-60 than in the preceding five-year period (1950-54) while per capita food consumption was 26 percent higher. Title I commodities accounted for 10 and 29 percent, respectively, of these increases, (table 10).

Comparison of annual changes in real per capita consumption with the annual share of Title I commodities in consumption (table 10) reveals correlation between the two. Real per capita consumption rose only slightly in years when the share of Title I imports was small and rose considerably in years when their share was relatively high, (table 11). This correlation is even more pronounced if the comparison is confined to the food component.

Though there were also other general reasons for a low rate of increase in 1955 and 1957 and for a high rate of increase in other years (table 11), it appears that the volume of Title I imports had some influence on changes in food consumption. In 1957 the small increase in real per capita consumption and the decline in per capita food consumption is partly explained by the (1) slower rate of growth in domestic production, and (2) the relatively rapid growth of population in that year as a result of heavy immigration. But the temporary interruption of Title I shipments reduced supplies from imports and the interruption of feed grain imports under Title I agreements adversely affected local production of livestock products. On the other hand, the high rate of increase in food consumption in 1958 was explained by the increased Title I imports and the large increase in agricultural production, to which the increased feed grain imports under Title I agreements contributed.

Share of Title I Commodities in Food Consumption

Average annual per capita food consumption at constant prices as reported in the Israel study rose from approximately $163 during the five-year period 1950-54 to $206 during the next six-year period 1955-60. Of the total increase of 26 percent, Title I commodities accounted for 29 percent or nearly one-third.

Table 9.--Share of Title I Imports in Consumption and Food Consumption 1955-60

	Private Consumption			Consumption of food and beverages		
	Total at current consumers' prices IL millions	Title I Imports IL million	Title I Imports Percent	Total at current consumers' prices IL millions	Title I Imports of food and feed IL millions	Title I Imports of food and feed Percent
1955	1,584	25.8	1.6	577.6	23.25	4.0
1956	1,862	48.6	2.6	688.8	25.63	6.6
1957	2,167	25.8	1.2	779.2	25.66	3.3
1958	2,457	65.6	2.7	887.0	63.35	7.1
1959	2,754	58.1	2.1	980.7	56.00	5.7
1960	3,051	62.6	2.1	1,085.7	60.44	5.6
Total 1955-60	13,875	286.5	2.1	4,999.0	274.33	5.5

Source: Consumption and Food Consumption - National Accounts Unit, Central Bureau of Statistics of Israel. Also, "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F.Ginor.

Table 10.--Share of Title I imports in real total consumption and in food consumption, per capita: 1950-54 and 1955-60

Average Annual	Total Consumption			Food Consumption		
		Share of Title I Imports			Share of Title I Imports	
	IL	IL	Percent	IL	IL	Percent
1950-54	769.2	--	--	293.5	--	--
1955-60	1,004.7	23.7	2.4	370.6	22.7	6.1
Increase	235.5	23.7	10.1	77.1	22.7	29.4

Source: "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

From 1954-55 to 1959-60, Title I commodities constituted about 34 percent of all wheat supplies, 17 percent of vegetable oils and fats, 41 percent of butter, 36 percent of non-fat dried milk, 26 percent of hard cheese, 17 percent of rice, 14 percent of beef, 8 percent of edible dry beans, and 6 percent of dried fruit, (table 12).

The Israel study concluded that although Title I imports of food and feed accounted for 5.5 percent of the total value of food consumption at retail prices in the period 1954-55 to 1959-60[4/], they represented a much higher share in the average daily intake of nutrients because most of them belonged to the group of relatively cheap staple foodstuffs having a high nutritive value.

As shown in table 13, average daily intake of calories per capita in Israel during the five-year period (1949-50 to 1954-55), amounted to 2,716 and rose by four percent to 2,820 calories during the following six-year period (1954-55 to 1959-60). While a definite rising trend in the per capita calorie intake can be observed from the beginning to the end of the first period, this remained at about the same level during the whole second period. About 20 percent of the calorie intake during the second period was supplied by Title I imports.

The average daily intake of fats was 16 percent higher during the second period as a result of Title I imports.

Animal protein intake declined markedly during the first period as a result of lower imports of meat and fish owing to foreign currency shortages, and it showed a rising trend during the second period, when local supplies of eggs, milk and meat increased rapidly. This trend may be attributed to the influence of Title I imports. Though they contributed directly only 6.5 percent to the animal protein per capita intake, indirectly, by means of feed grain imports,they contributed an additional 9.5 percent, making a total of 16 percent. This percentage does not reflect the full impact of Title I feed grains on the expansion of local production of livestock products. Vegetable protein intake shows opposite trends; it increased during the first period and declined during the second.

Title I commodities supplied 24 percent of thiamine intake, 23 percent of calcium, 22 percent of iron and riboflavin, 18 percent of niacin, only 6 percent of vitamin A intake, and no ascorbic acid.

<u>Relative Changes in Food Consumption</u>

During the period of Title I imports the kinds of foods consumed changed remarkably. Most of the change in consumption habits was the result of improved economic conditions and general growth of the economy, but some of it appeared to be related to the availability of Title I commodities.

4/ Their share in the total value of food supplies at farm and import prices, as reported in the Israel study, was about 9 percent.

Table 11.--Annual Change in Real Per Capita Consumption and Share of Title I Imports: 1955-60

	Real Total Consumption		Real Food Consumption	
	Annual Percentage Change	Percentage Share of Title I Imports	Annual Percentage Change	Percentage Share of Title I Imports
1955	0.8	1.6	-0.6	4.0
1956	5.5	2.8	6.9	6.6
1957	2.2	1.4	-0.9	3.3
1958	5.9	3.2	7.8	7.1
1959	6.1	2.6	5.2	5.7
1960	4.8	2.6	5.5	5.6

Source: Appendix E, Table E.47 of Ginor report.
"Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Table 12.--Share of Title I Imports in Quantities of Supplies: 1954-55 to 1959-60

	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1954-55 to 1959-60
	Percent						
Wheat	20.3	32.1	20.5	42.4	39.4	56.9	34.2
Rice	--	2.3	--	--	37.3	47.7	16.6
Butter	26.9	30.4	--	81.6	--	--	40.9
Hard Cheese	--	16.4	47.1	54.3	14.6	--	26.0
Non-fat dried milk	--	17.0	4.9	76.6	72.2	--	36.4
Dried Whole milk	--	--	--	--	97.7	--	--
Beef, fresh and frozen	--	30.4	57.3	--	--	--	13.8
Edible oil and margarine	4.2	21.3	3.3	16.6	19.5	38.0	16.1
Dried beans	--	10.1	12.1	7.2	18.1	--	7.7
Dried fruit	--	--	--	40.0	--	--	5.5

Source: Food Balance Sheets.
"Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

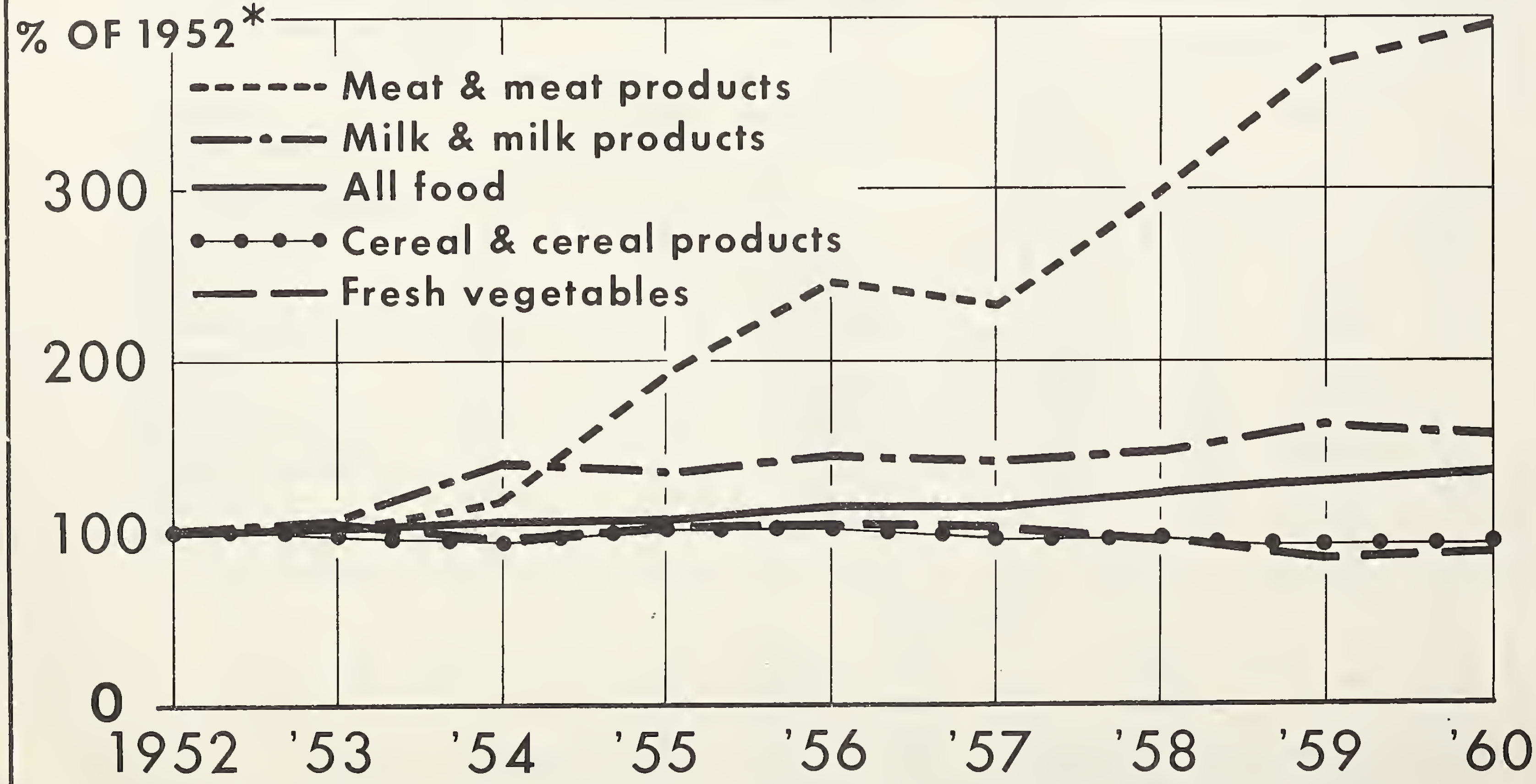
Table 13.--Share of Title I Imports in Average Daily Per Capita Intake of Nutrients

	Unit	First Period 1949-50 to 1953-54	Second Period 1954-55 to 1959-60	Percent change from first to second period	Percentage share of Title I Imports in second period		
					direct	in-direct c/	Total
Calories	no.	2,716	2,820	3.8	18.3	1.6	19.9
Fats	gr.	72.0	83.5	16.0	12.7	3.4	16.1
Vegetable protein	gr.	57.2	55.5	-3.0	26.9	--	26.9
Animal protein	gr.	29.1	32.1	10.3	6.6	9.5	16.1
Calcium	mg.	948	858	-9.5	16.9	5.6	22.5
Iron	mg.	16.1	15.9	-1.2	20.1	1.5	21.6
Vitamin A	units	3,319	3,825	15.2	3.2	3.0	6.2
Thiamine (B1)	mg.	2.00	1.88	-6.0	22.3	1.2	23.5
Riboflavin	mg.	1.91	1.58	-17.3	19.6	2.8	22.4
Niacin	mg.	13.0	14.5	11.5	15.3	2.3	17.6
Ascorbic acid	mg.	139	139	1.0	--	--	--
Food Consumption at constant (1955) retail prices per capita a/		IL 293.5	IL 370.6	26.3	b/5.8	b/3.4	b/9.2

a/ By calendar years.
b/ Calculated on the basis of agricultural production for local food consumption at farm prices and of imports of food and feed at c.i.f. prices.
c/ Constitutes the input of Title I feed grains in local livestock products.

Source: Calculated on the basis of food balance sheets. "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

ISRAEL: CHANGES IN PER CAPITA FOOD CONSUMPTION



SOURCE: GINOR, F., ANALYSIS AND ASSESSMENT OF THE ECONOMIC EFFECT OF THE PL 480, TITLE I PROGRAM IN ISRAEL, BANK OF ISRAEL, TEL-AVIV, 1961.

*VALUES ADJUSTED TO CONSTANT PRICES.

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The most significant increases in consumption occurred in such products as meat and meat products, fresh fruits, edible oils, and eggs, (table 14). Of these, increased domestic production of meats, meat products, and eggs was augmented by Title I imports of feed grains.

As incomes improved per capita consumption of cereal products and fresh vegetables declined, (table 14).

Table 14.--Israel: Per Capita Consumption of Food and Tobacco at Constant Prices, 1958-60
(1954 = 100)

	1958	1959	1960
1. Food Consumption	116.0	124.6	128.0
Cereals and cereal products	103.3	99.3	99.1
Meat and meat products	250.5	313.7	334.8
Fish	99.0	104.1	110.8
Milk and Milk products	104.3	114.8	109.5
Eggs	129.5	125.5	128.6
Edible oils	152.6	120.6	140.5
Fresh fruits	148.4	156.8	191.1
Fresh vegetables	94.7	84.6	86.1
Fruit and vegetables (processed)	141.1	153.0	123.6
Sugar and sugar products, jam & honey	116.2	126.8	122.8
Tea, coffee, cocoa	140.4	159.5	191.5
Miscellaneous	20.1	28.8	27.6
2. Tobacco Consumption	93.5	90.8	96.1
Cigarettes	91.4	89.4	94.6
Tombac, tobacco and cigars	125.0	125.1	125.1

Source: Central Bureau of Statistics, National Accounts Unit.
"Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel," by F. Ginor.

The Israel study concluded that as particular commodities were imported under Title I, purchases of these particular commodities from other sources declined in some instances, but imports of other commodities from the other sources rose substantially. Imports from the United States were maintained near previous levels. The substantial rise in imports over the whole period has to be attributed to the steady economic growth of Israel.

The Title I program, by contributing to this growth, strengthened Israel's ability to import by increasing its capacity both for domestic consumption and for exports. Therefore in the aggregate the Israel study concluded that it was reasonable to assume that the effect of the Title I program was not only to increase total imports by the amount of Title I imports, but also by the amount that increased exports made possible by the Title I investment program increased import purchasing power, (table 15).

In comparing average annual imports of the period in which the Title I program operated with those of the preceding five-year period, the Israel study showed that annual imports of merchandise rose by $100 million, or 32 percent, (table 16). Of this increase, Title I imports constituted $25.3 million. Imports from the United States of the type of commodities shipped under Title I almost doubled. Other types of commodity imports declined resulting in a $19 million increase in total annual imports from the United States. Annual imports of Title I type commodities from other countries declined by $8.3 million from the first to the second period; however, total annual imports from countries other than the United States rose by $81.4 million.

Average annual imports of PL 480 Title I type commodities between 1950-54 and 1955-60 rose by $13.4 million, or 31 percent. This was about in line with the 32 percent increase in total imports. While imports of Title I commodities from the U.S. nearly doubled, (including a small rise in commercial imports), imports from other countries of these commodities declined by about 40 percent. The decline reflected in part changes in exportable supplies available in those countries (e.g.--wheat from Turkey) and in part reduced dependence on imports of livestock products. Moreover, the decline in imports of Title I commodities from non-U.S. suppliers was more than offset by an increase in total imports from countries other than the United States.

It has been estimated that of the average $13.4 million increase in imports of Title I type commodities, $7.8 million represented additional consumption, and the balance would have been required to keep consumption stable.

The greatest increase occurred in imports of feed grains, and made possible the remarkable expansion of the livestock industry. The net total increase in feed grain imports was supplied under Title I. Concurrently however, commercial imports from the U.S. increased 45 percent. These imports were largely responsible for an increase in meat production from

Table 15.--Estimate of Additional Imports and Exports Caused by Title I Program

	1955	1956	1957	1958	1959	1960	Annual Average
	Million U.S. Dollars						
Estimated Imports in absence of Title I	413.5	507.9	541.6	531.6	568.5	651.0	535.7
Actual Imports	426.7	534.5	557.2	569.5	603.6	693.6	564.2
Increase in Imports resulting from Title I 1/	13.2	26.6	15.6	37.9	35.1	42.6	28.5
Estimated Exports in Absence of Title I	143.9	177.1	219.2	232.3	282.5	341.8	232.8
Actual Exports	143.9	177.9	222.0	235.4	287.4	352.2	236.5
Increase in exports resulting from Title I	--	.8	2.8	3.1	4.9	10.4	3.7
Net additional resources available to Israel 2/	13.2	25.8	12.8	34.8	30.2	32.2	24.8

1/ Reflecting Title I imports less U.S. uses, replacement of imports by increased domestic production, imports in exchange for exports resulting from increased domestic production.
2/ Represents difference between actual import surplus and import surplus in absence of Title I operations.

Source: "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Table 16.--Imports of Commodities Included in Title I PL 480 Agreements and Total Imports of Merchandise
(Annual Averages 1950-54 and 1955-60: $ Thousands)

	Annual Average		Change	
	1950-54	1955-60	Absolute	Percent
Imports of Commodities Included in PL 480 Title I Agreements				
Imports under Mutual Security Act and PL 480 Title III	5,364	525	-4,839	-90.2
PL 480 Title I	--	25,324	25,324	--
Other Imports from the U.S.	17,638	18,842	1,204	6.8
Total from the U.S.	23,002	44,691	11,689	94.3
Imports from Other Countries	20,840	12,530	-8,310	-39.9
Total	43,842	57,221	13,379	30.5
Imports of Other Commodities				
Imports under Mutual Security Act and PL 480 Title III	3,396	865	-2,531	-74.5
Other imports from the U.S.	73,538	73,432	-106	-0.1
Total from the U.S.	76,934	74,297	-2,637	-3.4
Imports from Other Countries	192,698	282,370	89,672	46.5
Total	269,632	356,667	87,035	32.3
Imports of All Commodities				
Imports under Mutual Security Act and PL 480 Title III	8,760	1,390	-7,370	-85.8
PL 480 Title I	--	25,324	25,324	--
Other Imports from the U.S.	91,176	92,274	1,098	1.2
Total from the U.S.	99,936	118,988	19,052	19.1
Imports from Other Countries	213,538	294,900	81,362	38.1
Total	313,474	413,888	100,414	32.0

Sources: Central Bureau of Statistics. Ministry of Finance. "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

27,000 tons in 1954-55 to 81,000 tons in 1959-60. Concurrently, milk production rose by 75 percent and egg production by 121 percent.

In the case of wheat just under half of the total wheat imports came from the United States during the 1950-54 period. During the 1955-60 period when average annual imports were 27 percent larger than the 1950-54 period, imports from the United States more than doubled on account of Title I imports which constituted 53 percent of the total wheat imports from the United States. Imports from regular commercial channels in the United States remained at about the same level during the 1955-60 period as during 1950-54.

The total value of commodities imported under Title I which arrived during the six years 1955-60 was $152 million. With foreign exchange resources strained to the limit, the value of these imports not requiring foreign exchange reflected "additional" purchases from the standpoint of Israeli total imports, except insofar as the local currency proceeds were used by the United States for purposes which would have otherwise resulted in foreign exchange dollar earnings by Israel. United States uses amounted to $7 million.

In addition to the net increase in the ability to import of $145 million, Title I investments produced exports of $22 million, which in turn could be used to finance imports. Thus, total additional imports of $167 million, or $28 million per year, resulted from the Title I operations. Moreover, there was a net replacement of imports--reflecting increased domestic production--attributable to the Title I program of $3.5 million. The combined effect of Title I operations was, therefore, to increase resources by an average of 10 percent without further drain on the balance of payments, (table 1).

Illustrations of the kind of imports that increased as a result of the Title I program are:

(1) Imports necessary to complement Title I investments.

(2) Additional imports, both Title I and other commodities, that were used to increase stocks.

(3) Imports to satisfy increased demand created by the Title I program.

(4) Imports of feedgrains would have been smaller in absence of Title I program.

(5) The additional net product, such as livestock products, produced with the help of Title I investments replaced such imports to a certain extent, but it increased the imports of other products such as feed grains.

(6) Exports made possible by Title I investments provided earnings to purchase additional imports.

Investments

Investments made with the local currency funds generated by the sale of Title I commodities played an important role in the economy's growth.

The Israel study assumed that Title I imports constituted additional resources that were made available to the country that otherwise would not have been available. It is highly unlikely that direct dollar grants would or could have been considered as a likely alternative to Title I commodities. The availability of such commodities in the U.S. represented additional resources at the disposal of the U.S. government that lent themselves effectively for use in augmenting the total U.S. foreign assistance effort. Thus, Title I commodity assistance served as an additional source of investment capital during the 1955-60 period. Total gross capital formation during the years 1955-60 amounted to IL 5073 million at current prices, of which Title I accounted for IL 180 million, (table 17).

Investments financed with Title I local currency funds amounted to IL 180 million at current prices, or 3½ percent of total investments amounting to IL 5073 million during the 1955-60 period, and represented an important aspect of the PL 480 program, (table 17). They not only represented an addition to supply, but they increased the demand for investments.

It was concluded that the availability of PL 480 investment funds made possible the use of idle capacity which existed. Utilization of this capacity resulted in increased production of capital assets in consequence of the increased investment demand. In addition, demand for consumer products was created by the additional income generated by this increased production.

The magnitude and character of the Title I program was assessed on the assumption that Title I imports were additional resources to the economy. There is little doubt that agricultural as well as total imports and total investments would have been smaller in the absence of the PL 480 program. Investment expenditure under the Title I program over the 1955-60 period was 75.5 percent of the funds deposited (less IL reserved for use by the U.S. Government) under sales agreements for Title I imports. Investment of these funds in the Israeli economy resulted in an additional net product of IL 124.63 million during this period. It is evident that Title I sales had a healthy deflationary effect on the economy, a beneficial influence on the composition of investments and encouraged savings. All of these helped contribute to increased production.

Loans and grants under the Title I program, distributed through the State Development Budget, constituted nearly 9 percent of the investment expenditure of the Development Budget, which contributed 40 percent of total gross capital formation for the country as a whole.

Table 17.--Total Gross Capital Formation[a] and Investments Financed by Title I Funds: 1955-60 (IL millions)

Calendar year	Total gross capital formation a/ (At current prices)	Investments made from Title I IL funds (At current prices)	Total gross capital formation a/ (At 1959 prices)	Investments from Title I IL funds (At 1959 prices)	Share of Title I in total (percent)
1955	600.6	12.77	731.3	15.49	2.1
1956	679.4	37.95	740.6	41.16	5.6
1957	829.2	14.11	851.9	14.52	1.7
1958	897.4	40.12	907.2	40.42	4.5
1959	1,000.0	66.26	1,000.0	66.26	6.6
1960	1,067.0	b/ 9.01	1,028.4	8.76	0.8
Total	5,073.6	180.22	5,259.4	186.61	3.5

a/ Fixed capital assets only.
b/ Investments under the program in 1960 were relatively small, because the program started late. Figures for fiscal year would be much higher.

Sources: Central Bureau of Statistics; Bank of Israel; Ministry of Finance; and "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Title I funds were used extensively for financing industry and power generation. Less than 8 percent of Title I funds were used for agricultural projects, however, the Government's loans and expenditure for this purpose, according to the Israel study, were relatively high, (table 18).

Tracing the impact of the Title I program was done in the Israel study to evaluate the effect of such capital imports on a developing economy. Some general conclusions may be drawn from it regarding the effectiveness of capital imports in the form of PL 480 agricultural commodities.

The development of the Israeli economy was dependent on imported raw materials. Before the operation of the PL 480 program the lack of a continuous flow of imported raw materials in certain cases prevented the continuous full utilization of productive capacity. Among the more important effects of the Title I program was to encourage the expansion of industries with a relatively high import component and with a relatively low production cost as compared with international prices. The increased supplies of PL 480 commodities, by making possible a continuous flow of imported raw materials and the maintenance of adequate inventories, enabled the economy to utilize productive capacity more fully and to expand industries with a high import component. The study pointed out that in certain instances the industries indirectly stimulated produced at cheaper costs on an international basis of

Table 18.--Total Gross Investments, and Investments from Title I PL 480 Funds, by Branches: 1955-60 (IL Millions; current prices)

Branch	1955-60		
	Total	Title I	Percent
AGRICULTURE	949.3	54.32	5.7
Land preparation	66.1	1.15	1.7
reforestation	62.8	0.70	1.1
Fruit Plantations	165.8	2.39	1.4
Agricultural structures a/	140.1	11.54	8.2
Irrigation b/	306.7	36.94	12.0
Equipment	110.1	--	--
Increase in Livestock	87.8	--	--
Miscellaneous c/	9.9	1.60	16.2
INDUSTRY	1,133.5	99.32	8.8
Electric power	276.1	22.45	8.1
Industry	857.4	76.87	9.3
TRANSPORT	702.9	14.64	2.1
Telephone	38.9	3.73	9.6
Roads	68.3	8.39	12.3
Railways	40.5	2.52	6.2
Other transport	389.8	--	--
TRADE AND SERVICES	673.8	6.31	0.9
HOUSING	1,614.1	5.63	0.3
TOTAL INVESTMENTS	5,073.6	180.22	3.5

a/ The "agricultural settlements" project and Cooley Loan for grain elevators on farms.
b/ The "irrigation" and "local water and irrigation schemes" projects.
c/ The "municipal authorities", "Gush Dan Sewerage" projects and Cooley Loans for commercial grain elevators and part of expansion of agriculture.

Source: Bank of Israel; Ministry of Finance. "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

comparison than industries with a low import component. This made it possible for efficient export industries to be expanded more rapidly.

In Israel, the influence of the Government on the volume of investments and on their distribution among various economic sectors is particularly marked. The development budgets of public bodies, such as the Government itself, the Jewish Agency, and the local authorities, are used to channel most of the capital imports earmarked for the development of the economy. The degree of interference by public bodies in general, and by the Government in particular, in the channeling of investments varies from sector to sector, in accordance with the special conditions prevailing in each. These public bodies finance more than half of the gross investments in the country. Moreover, since a large part of equipment and machinery is still imported, the Government's control of imports also enables it to control, to some extent, even investments financed entirely from private funds. The ability of these public bodies in Israel to affect the structure of investments is great since most loans to "approved" enterprises are granted only if an additional amount of private capital is made available to complement the financing from public sources.

Public funds financed more than 70 percent of the total investment in farms, as well as in national and regional irrigation projects.

Private funds have been invested in branches not included in the agricultural plans, particularly in livestock, though in recent years such private financing has not constituted more than 20 to 25 percent of total gross investments in the agricultural sector.

Approximately one-third of total gross investments in industry were financed by loans from the Development Budget. These loans cover only a part of the financial requirements in each case, and they are granted on condition that the remainder be contributed by the investor. This agreement enables the Government, in effect, to control more than 50 percent of the total investments in industry.

Effect on Income

Additional income was generated by Title I investments in that (1) they provided temporary employment for an average of 4,450 persons per year on the construction or expansion of factories, irrigation installations, etc.; (2) by 1960 they had provided permanent jobs for 8,800 persons (including 2,000 self-employed) in the new or expanded enterprises; (3) they increased the earnings of the self-employed (i.e.--as a result of farm irrigation); and (4) they resulted in increased remuneration for capital investment to business owners (including shareholders and bondholders).

During the six-year period, on the average 7,800 persons were employed annually as a result of Title I projects.

The additional "or incremental" wage and salary payments generated by this employment represented the difference between what they would have received as relief payments if unemployed, or as wages if partly employed or employed in low-paying jobs, and their earnings from employment generated by Title I projects. Moreover, since those who were directly employed as a result of the program vacated lower paying or part-time jobs which could then be filled from the rolls of the unemployed, and more relief work could be found for the unemployed, incremental income was received by many times more persons than were directly employed as a result of Title I projects. The reduction in unemployment--by as much as 50 percent--was one of the major achievements of the Title I program.

By 1960, 67,500 persons or 15 percent of the total labor force was estimated to have received larger incomes as a result of Title I investments, compared with the 8,800 persons estimated to have received employment in Title I projects or as a result of the increased production made possible by Title I investments, (table 19). The estimated increase in the average pay check ranged from 9 to 22 percent and amounted to 15 percent in 1960.

The additional number of self-employed as a result of Title I programs averaged less than 1 percent in most years, but a larger number received higher incomes as a result of Title I investments which enabled them to increase their efficiency or start businesses. Thus, while additional self-employment in 1960 was estimated at 2,058 persons, it was estimated the income (imputed wages) of 12,348 self-employed persons had, on the average, risen 20 percent as a result of Title I programs.

The report calculated that by 1960 increased capital remuneration as a result of Title I programs accrued to 5,600 persons in agriculture and 29,300 in other segments of the economy. On the basis of the estimated average income of all persons receiving capital remuneration in Israel, it was arbitrarily assumed the income of the 35,000 persons affected by the program rose 10 percent.

Gross National Product

The investments financed with the proceeds from the sale of Title I commodities equaled 3½ percent of total investments in Israel during 1955-60. These investments created both an initial and a permanent increase in the Gross National Product.

The initial effect resulted from an increase in output in the local production of capital assets. It was concluded that as the result of the existence of idle resources, including capacity and labor and the deflationary effect of the Title I programs the net product contained in the initial Title I investments was additional to the output which would have been secured in the absence of such investments. This was found to be true, even though Title I financed only about 40 percent of the total cost of the projects carried out with the help of these funds. (The net national product contained in the investments financed with Title I funds was estimated on the value added principle by deducting from these investments the import component, indirect taxes and depreciation).

Table 19.--Israel: Number of Persons Receiving Higher Wage and Salary Payments as a Result of Title I Investments 1/ and Average Per Capita Increase

Year	Additional Employment generated by Title I Investments 1/		Additional Persons Receiving Incremental Income		Total Number of Persons Receiving Incremental Income		
	Number	Percent of Labor Force	Number	Percent of Labor Force	Number	Percent of Labor Force	Percent increase in wages & salaries 2/
1955	2,827	.7	22,599	6.1	25,426	6.8	10
1956	8,023	2.1	27,554	7.0	35,577	9.1	19
1957	4,070	1.0	34,704	8.3	38,774	9.3	9
1958	8,812	2.1	35,250	8.2	44,062	10.3	18
1959	14,348	3.2	44,961	10.1	59,309	13.3	22
1960	8,822	1.9	58,654	12.7	67,476	14.6	15
Average	7,817	1.9	37,287	8.9	45,104	10.8	15

1/ Including self-employed.
2/ Including imputed wages and salaries.

Source: "Analysis and Assessment of the Economic Effect of Public Law 480 Title I Program in Israel", by F. Ginor.

The permanent effect of Title I investments resulted from the increased productive capacity of the country reflecting the output of the capital assets created. The additional permanent product made possible by these investments was estimated by applying marginal capital/product ratios prevailing in the economy during the particular period when the investments were made.

Between 1956, the first year that new capital assets created with Title I funds affected the economy, and 1961, the net product from these investments rose from IL 4.5 million to nearly IL 72 million, at current prices, (table 20)

It was estimated that the total increase in the GNP achieved by the program rose from 0.6 percent in 1955 to 2.7 percent in 1959, but declined to 2.2 percent in 1960, when Title I investments were relatively small. But the share of the permanent product in this increase rose from 12 percent in 1956 to 39 percent in 1959 and to 81 percent in 1960. Thus, the lasting effect of the program was to increase the GNP by 2 percent.

In the absence of Title I funds, not only would total investments have been smaller, but it is reasoned that the structure of investments would have changed. Investments in irrigation would have been about the same, they would have been much smaller in transportation, and somewhat smaller in agriculture, industry, power, housing, trade, and services.

Table 20.--Net National Product Obtainable[a/] from Title I Capital Stock: 1956-61 (IL Millions; current prices)

	1956	1957	1958	1959	1960	1961
Agriculture and irrigation	3.30	8.37	9.43	13.83	17.26	16.89
Industry, mining and power	1.16	5.07	9.56	18.40	41.27	43.53
Transport	--	1.91	2.96	4.05	4.15	4.15
Trade and services	--	--	--	--	4.94	6.60
Housing	--	0.37	0.37	0.37	0.40	0.40
Total	4.46	15.72	22.32	36.65	68.02	71.57

a/ Calculated on the basis of incremental capital/product ratios for investments, net of discards.

Source: "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

The estimate of the contribution of Title I investments to the Gross National Product includes an estimate of wages. The increased employment giving rise to these wages was covered in the section on income beginning with page 35, (table 19). It is worth noting here, that the additional temporary and permanent employment generated by the Title I program was estimated on basis of input-output data and includes not only the labor force employed in building or utilizing the assets, but also the indirect labor involved in supplier or consumer industries and services. For the permanent employment created by the investments marginal capital/employment ratios were used.

Productivity

The study estimated the annual increase in real product per employed over the last five years was 5 percent. The increase in product per employed achieved in industry by Title I loans was higher than other activities, as reflected in the analysis of the balance sheets of the affected industrial enterprises. The study revealed that real product per employee increased in these enterprises during two years (1958 to 1960) by 6 percent a year. The increase in productivity defined as the increase in real product in relation to the increase in the combined input of capital and labor was 4 percent a year in industrial enterprises.

The annual rate of increase in productivity for the economy as a whole was estimated at only 2.2 percent for the period 1955-59. Productivity increases were estimated at 2.9 percent in private enterprises and 4.8 percent in industry. Of this, 6.3 percent occurred from the increased productivity of labor, and 1.8 percent resulted from increased productivity of capital. Therefore, it was apparent that Title I investments were effective in raising the relative productivity of labor and, to a lesser extent, the productivity of capital.

Stabilizing Influence of PL 480

Among the important contributions of the increased supplies made available by Title I commodities was the stabilizing influence on the economy. Increased Title I supplies occurred during a period of strong inflationary pressures. The increased supplies also were large enough to make possible an increased level of stocks. By absorbing purchasing power during this period, Title I commodities exerted a counter-inflationary effect on the economy generally.

To the extent that the program permitted increased domestic investments, the deflationary effect of the increased imports was offset, and the effects of the entire program were neutralized. However, the investment expenditure of the accumulated U.S.-owned Israel Pound balances deposited in payment of Title I imports tended to lag considerably behind actual receipt and sale of the imported commodities, as shown in table 21. Therefore, the program actually had a stabilizing influence. The excess of Title I sales during the first few years of the program over investment expenditure indicates the deflationary effect of the program, (table 22). Since strong inflationary pressures existed during this period, the lag in committing investment funds proved helpful in contributing to stability.

Table 21.--Title I Imports and Title I Investment Expenditure : 1955-60
(IL millions; current prices)

Year	Title I Imports (estimated arrivals)	Title I investment expenditure
1955	25.8	12.8
1956	48.6	37.9
1957	25.4	14.1
1958	65.5	40.1
1959	56.0	66.3
1960	52.2	9.0
1955-60	273.5	180.2

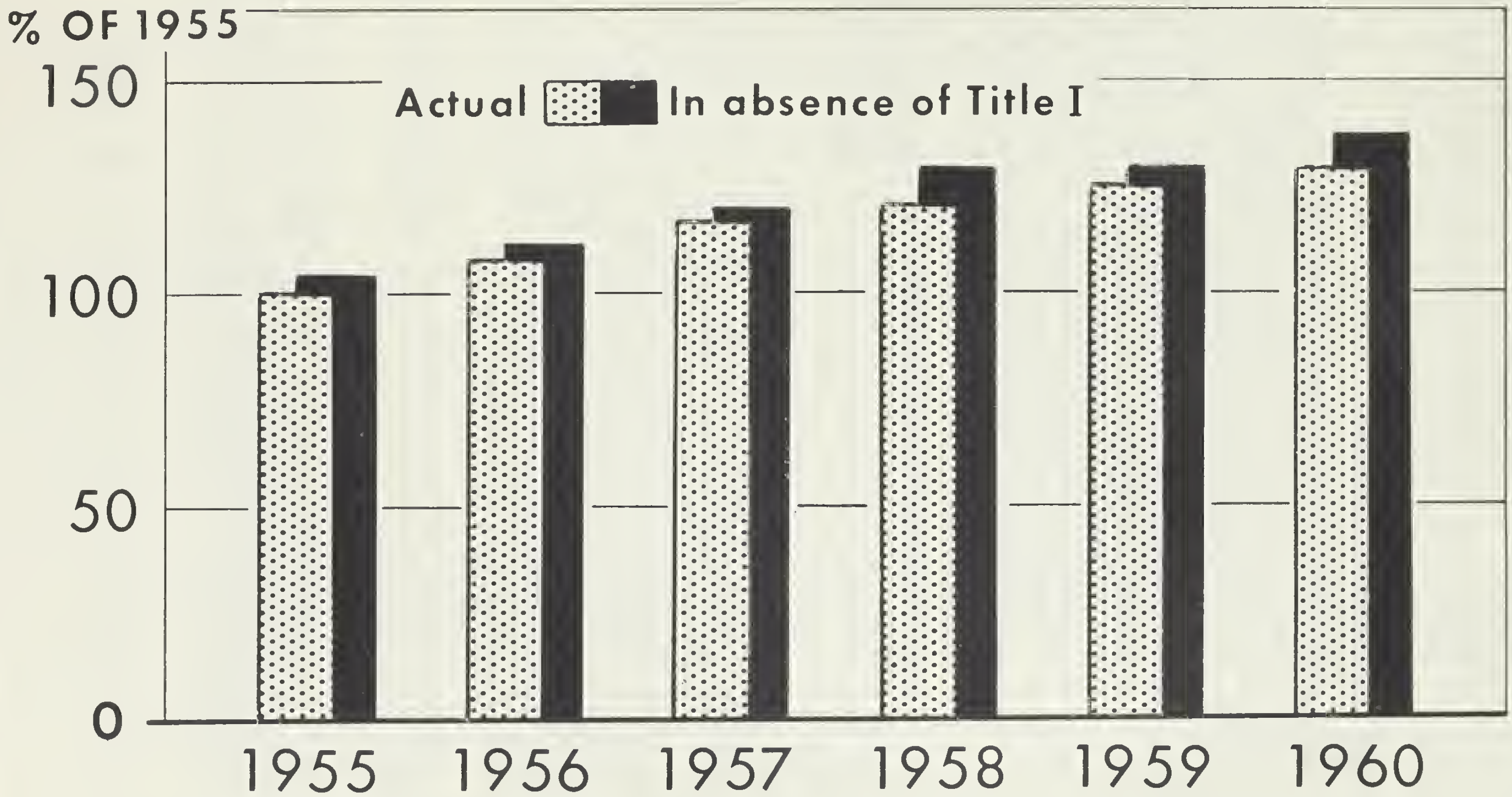
Source: "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Table 22.--Estimate of Deflationary Effect of Title I Program: 1955-60

Year	Index of domestic price level 1955 = 100 (actual)	Index of domestic price level 1955 = 100 (in absence of Title I)	Difference in percentage rise (due to Title I)
1955	100.0	102.2	2.2
1956	109.5	112.9	3.4
1957	116.5	119.3	2.8
1958	120.9	127.3	6.4
1959	124.4	128.5	4.1
1960	128.2	136.5	8.3

Source: "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

EFFECTS OF PL 480 TITLE I SHIPMENTS ON GENERAL PRICE LEVEL *



SOURCE: GINOR, F., ANALYSIS OF PL 480, TITLE I PROGRAM IN ISRAEL, BANK OF ISRAEL, TEL-AVIV.

* ACTUAL INDEX OF DOMESTIC PRICE LEVEL AND ESTIMATED INDEX OF DOMESTIC PRICE LEVEL IN THE ABSENCE OF THE TITLE I PROGRAM.

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It was concluded that since additional supplies under the program exceeded additional demand, there is further evidence that the program had a stabilizing effect, and the rise of prices was slowed down. It was estimated that the impact of the excess of additional Title I supplies over additional demand held the price level rise to 28 percent from 1955 to 1960, as contrasted to a probable 36 percent that would have been expected in the absence of the Title I program.

Building Stocks to Desirable Levels

In Israel where imports constitute a large part of total supply of important staple commodities, such as wheat, feed grains, rice, edible oils and cotton, adequate inventories are especially important. Adequate stocks are required to maintain consumption levels as well as production. They are also helpful in maintaining a stable price level. The long supply-line of imported agricultural commodities - from ordering the goods up to arrival, unloading, and transportation within the country - requires six to eight weeks at least. The maintenance of stocks at desirable levels reduces the risks of fluctuating markets, shipping shortages, strikes in harbors of exporting countries, domestic crop failures, etc. The Israel report stressed the point that stocks of agricultural commodities which are partly imported should be equal to three to four months consumption requirements.

The Israel study emphasized the importance of Title I imports in the replenishment of stocks. In 1955, stocks of most commodities were below the desirable minimum, though building-up of stocks of some commodities had taken place during the period up to 1955, from almost zero in 1952.

Data on stocks of seven Title I commodities which were under Government control are summarized in table 23. Stocks of these commodities at the beginning of 1955 were inadequate and sufficed for only one and a half months' consumption. Feed grains stocks were an exception as a result of the bumper crop in 1954. In 1960, after the Title I program had been in operation for about five years, stocks of wheat were sufficient for about five months' consumption, and rice stocks for about four months'. Stocks of non-fat dried milk were sufficient to cover about one year's consumption. The high relative level of stocks of non-fat dried milk in 1960 is explained by the large decline in its per capita consumption.

Stocks of cottonseed oil and soybean oil amounted to 40 percent of annual imports and were considered sufficient, if stocks of imported oil seeds are taken into account.

The Title I program made possible the accumulation of adequate stocks. This is reflected in the higher stocks in relation to consumption after the Title I program had operated for several years, as well as in the larger increase of stocks during this period as compared with the previous period.

Table 23.--Stocks of Seven Title I Commodities: 1955 and 1960. (Tons)

Commodity	April 1, 1955	Percent of annual consumption	October 1, 1960	Percent of annual consumption
Wheat	35,521	12	a/122,443	39
Rice	749	12	3,933	33
Non-fat dried milk	883	12	4,303	100
Cottonseed oil	394)	b/2	2,150)	10
Soybean oil	--)		981)	
Frozen beef	6	0	544	c/27
Feed grains d/	79,300	37	165,600	35

Note: Data for the first six commodities represent Government-held stocks.

a/ As of April 1, 1960, since October stocks show the influence of the local harvest.

b/ This percentage relates to total consumption of vegetable oils and margarine (fat content). But in addition there were inventories of oil and margarine in the oil-crushing industry and stocks of oil seeds.

c/ Of frozen beef consumption in 1959/60.

d/ This is the position on October 1, 1954 and 1960 after the harvest when stocks of new locally-harvested grains had been added to imported grain stocks.

Source: Ministry of Commerce and Industry. For feed grains - C.B.S. "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.

Loans Under the Cooley Amendment

Up to the end of 1960 loans totaling IL 29.2 million were approved under the Cooley Amendment for 32 enterprises, and loans totaling IL 25.2 million were disbursed to 25 firms. Of these 25, eight were grain elevators receiving loans totaling IL 10 million, two were building contractors receiving loans of IL 1.2 million, and 15 were industrial enterprises receiving loans of IL 14 million.

The balance sheets for 12 of these industrial enterprises, which received loans totaling IL 9 million, show figures for capital assets and production which are presented in table 24.

Loans under the Cooley Amendment to such industries as textiles, rubber and plastics, wood, furniture, and paper constituted 29 percent of fixed capital assets and 11½ percent of total assets. The capital/gross output ratio in these enterprises was 0.62, i.e., somewhat higher than that for the 88 industrial enterprises. Enterprises receiving Cooley loans were more capital-intensive and were on the average larger.

Not only were enterprises receiving Cooley loans larger, but more export oriented than the enterprises receiving Title I loans, and much more so than total industrial enterprises.

When applying incremental capital/product and capital/employment ratios, estimated additional net product as a result of the IL 14 million Cooley loans to industrial enterprises was IL 6.8 million and the estimated additional employment about 680. Additional gross output attributable to these loans was estimated at IL 20.5 million and additional exports on the basis of the share of exports in the above enterprises were estimated at IL 5.5 million.

Table 24.--Capital assets and production in 1959 in 12 enterprises which received loans under the Cooley Amendment (IL Thousands)

Branch	No. of enterprises	Amount of Cooley loan	Fixed Capital Assets	Total Assets	Gross Output	Annual Exports
Textiles	2	3,400	6,377	9,823	6,912	151
Rubber and plastic products	5	2,500	14,052	32,655	27,135	11,755
Chemicals	1	185	669	2,267	2,440	316
Wood, furniture and paper	3	2,770	9,954	31,822	13,081	1,274
Metals and machinery	1	190	328	2,109	789	180
Total	12	9,045	31,380	78,676	50,357	13,676

Source: Balance sheets. "Analysis and Assessment of the Economic Effect of the Public Law 480 Title I Program in Israel", by F. Ginor.