ECONOMIC EFFECTS OF THE U.S. AGRICULTURAL COMMODITY AID PROGRAM IN TURKEY

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In this paper, the economic effects of the U.S. aid in agricultural surplus commodities within the Public Law 480 Title I program in Turkey will be treated. It will first give a summary description of the meaning and nature of agricultural commodity assistance in general (i.e. Public Law 480), then outline the operation of this program in Turkey and analyse its effects on the economy of this country. In doing this, a research study with a similar title*, which was carried on by a team of scientists from various institutions of education and research, will freely be drawn on.

The Nature of U.S. Agricultural Commodity Aid

After World War II, the reconstruction of Europe required the importation of huge quantities of food and other farm products, but as European agriculture recovered, there was less need for these imports. Since most of these imports were made from the United States, the decline in the foreign demand for them, together with American price support programs and production encouraging policies, caused stock accumulations in the United States. Some measures such as more liberal gifts through religious and international organizations to the people of needy countries and to donate or loan agricultural surpluses to nations that suffer from natural disasters did not correct or improve the situation. Meanwhile, the Food and Agriculture Organization (FAO) of the United Nations was strongly recommending the use of surpluses to aid economic development, to improve nutrition and to meet famine in the developing countries.

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* *Analysis and Assessment of the Economic Effects, Public Law* 480 *Title I Program, Turkey,* Project Director: Reşat Aktan, Ankara 1965, 525 + XXXVIII pp.

Under these circumstances when huge amounts of surpluses of several farm products were accumulated in the hands of the U.S. Government, the U.S. Congress passed Public Law 480, which has the proper title of the "Agricultural Trade Development and Assistance Act of 1954."

The Law gives the authority to the U.S. government, more properly, to the U.S. Department of Agriculture, to dispose of surplus farm products outside the usual marketing channels within the United States as well as abroad. It declares the following measures as the policy objectives of the U.S.A.: to expand international trade among the United States and friendly nations, to facilitate the convertibility of currency, to promote the economic stability of American agriculture and the national welfare, to make maximum efficient use of surplus agricultural commodities in furtherance of the foreign policy of the United States, to stimulate and facilitate the expansion of foreign trade in agricultural commodities produced in the United States.

Basic Provisions of PL 480

PL 480 has several sections that contain provisions aiming at various goals. The most important section for our purpose is called Title I, which provides a means whereby surpluses may be sold abroad through private trade channels in exchange for foreign currency of the recipient country. All of this currency must be accumulated and spent within the same country. The policy with regard to this local currency deposit is stated in the Law as follows: to use foreign currency which accrue to the United States under this act to expand international trade, to encourage economic development, to purchase strategic materials, to pay United States obligations abroad, to promote collective strength, and to foster in other ways the foreign policy of the United States.

Title II, another section of the Law, authorizes grants to foreign governments to assist in times of natural disasters, such as floods, droughts, earthquakes. Title III contains provisions for surplus disposal within the United States, for donations to religious and international organizations to feed needy people, especially children, in foreign countries, for barter which allows exchange of surpluses for materials used in United States aid and other programs or for storable products which are stockpiled.

Title IV provides for sales of agricultural commodities to foreign governments on a long-term credit basis; the payment will be made in dollars over a ten-year period.

The original law was passed for a three-year period and covered a total appropriation of $1 billion. However, it was amended eight times since then with a total appropriation of over $21.5 billion, the annual average amounting to $1.8 billion. The last amendment and extension signed by the President on October 8, 1964, provided a 2-year extension through December 31, 1965, and authorized a total appropriation of $3.5 billion for Titles I and II programs. A new bill which envisages another 5-year extension with a maximum annual appropriation amounting to $3.3 billion is now being discussed in the U.S. Congress.

Application of PL 480 *in the World*

From July 1, 1954 to December 31, 1964, total PL 480 commitments to export U.S. farm commodities amounted to $17.1 billion, out of which $10.6 billion was sales under Title I. The commodities involved were bread and feed grains (primarily wheat), rice, cotton, dairy products (especially nonfat dry milk), fats and oils (mostly soybean oil), meat and poultry, fruits and vegetables, tobacco, etc.. Total quantities of commodities exported during the period amounted to 137.5 million metric tons, 95.3 million of which being Title I and 85 million of the latter was wheat. Fifty countries in the world (in Europe 12, Africa 9, Near East and South Asia 14, Far East and Pacific 5, Latin America 10) benefitted from this assistance; the share of the Near East and South Asia is 60% of the total value. Among the countries that received the highest per capita assistance are Israel ($107), Iceland ($71), United Arab Republic ($45), Yugoslavia ($30), Korea ($29), Poland ($25), Turkey ($25), Greece ($20), Brazil ($12), and India ($10).

Scope of PL 480 *Program in Turkey*

The first Title I Program with any nation was signed with Turkey on November 15, 1954. Since then a series of ten agreements have provided imports of Title I commodities every year, though at substantial differences in levels of imports and kinds of products. Title II and Title III programs also have been operative in Turkey, but usually on a small scale (Title II for disaster relief amounted to $25 million and Title III as donations $19.4 million, Title III for barter $90.3 million, during the period 1954-64.)

Authorized shipments of Title I commodities as of April 1966, totaled $514.2 million, including ocean transport. Actual shipments for this period were $443.7 million without ocean transport. Wheat constituted about 65 percent of the total program, with fats and oils supplying another 24 percent. A variety of other commodities made up the remaining 11 percent. (See Tables 1 and 2).

Internal Distribution of PL 480 Imports

In Turkey two import agencies have a monopoly on the importation of these agricultural products. Toprak Mahsulleri Ofisi (TMO) (Soil Products Office) and Et ve Balık Kurumu (EBK) (Meat and Fish Corporation) are official but semi-independent agencies. Their estimates of the import needs are taken into consideration by the Ministry of Commerce, which has official responsibility for negotiating the agreements and defining the amount of imports. These agencies also have domestic responsibilities to the producers of agricultural products and to the consumers in the cities. In meeting these responsibilities the agencies frequently set farm prices higher, and consumer prices lower than justified on a strict cost and accounting basis. The resultant losses were covered by markups on Title I imports, by loans of Title I currencies, and by appropriations from the national budget.

Title I commodities tend to be distributed in the coastal areas and the large cities. Vegetable oils, when processed into margarine, move fairly widely into the interior. The same applies to rice, since the interior produces less rice. Corn is mostly processed into starch and in this form finds a wide geographical market. The flow of wheat towards the internal areas is limited but expands somewhat during a small crop and decreases during periods of a large crop. Mixing with domestic wheat stimulates a certain amount of cross-shipment.

The markup on imported commodities provided about TL 270 million to TMO, TL 196 million to EBK, or a total of

TABLE 1

PL 480 *Title I Agreements Signed from Beginning of Program Through April* 30, 1966

(1,000 dollars)

No.	Date		Market Value	Ocean transportation	Total
1	15 Nov.	1954	17 330	4 759	22 089
	28 Apr.	1955	4 143	333	4 476
			21 473	5 092	26 565
2	12 March	1956	3 825	193	4 018
	11 May	1956	9 807	1 258	11 065
			13 632	1 451	15 083
3	12 Nov.	1956	39 313	5 507	44 820
	25 Jan.	1957	20 727	3 280	22 007
	20 Apr.	1957	(Funds combined with Jan. 25)		
			60 040	8 787	68 827
4	20 Jan.	1958	43 402	3 281	46 683
	25 June	1958	5 000	213	5 213
			48 402	3 494	51 896
5	13 Feb.	1959	33 163	1 351	34 514
6	22 Dec.	1959	31 424	3 493	34 917
7	11 Jan.	1961	12 376	1 530	13 906
	29 March	1961	10 632	1 029	11 661
	17 July	1961	500	153	653
			23 508	2 712	26 270
8	29 July	1961	18 299	3 081	21 380
	6 Sept.	1961	25 055	2 146	27 201
	8 Dec.	1961	19 600	1 535	21 135
	5 Jan.	1962	19 100	2 300	21 400
			82 054	9 062	91 116
9	14 March	1962	26 047	3 000	29 047
	21 June	1962	6 200	800	7 000
	21 Nov.	1962	800	104	904
			33 047	3 904	36 951
(*)	21 Feb.	1963	148 500	13 800	162 300
10	4 Apr.	1966	19 000	(incl.)	19 000
	General Total		514 243	53 146	567 389

(*) Multi - year Agreement.

Source: FAS, USDA, Report No. SDS-I-62.

TABLE 2

PL 480 Title I Agreements, Commodity Composition
(Million Dollars)

Agreement number	Wheat	Coarse Grains	Rice	Oils and Fats	Beef	Poultry	Dairy Prod.	Value of Commodities
1	6.3	11.0	—	4.2	—	—	—	21.5
2	7.0	0.3	1.4	4.9	—	—	—	13.6
3	44.1	4.3	—	7.2	4.4	—	—	60.0
4	15.4	2.2	—	26.4	—	2.2	2.2	48.4
5	2.3	—	0.7	30.2	—	—	—	33.2
6	24.4	1.3	—	5.7	—	—	—	31.4
7	21.6	0.5	1.4	—	—	—	—	23.5
8	62.5	—	—	19.6	—	—	—	82.1
9	33.0	—	—	—	—	—	—	33.0
Multiyear	82.7	—	—	65.8	—	—	—	148.5
10	17.9	1.1	—	—	—	—	—	19.0
Total	317.2	20.7	3.5	164.0	4.4	2.2	2.2	514.2
Ocean transportaion								53.2
General total								567.4

Source: Compiled from the semi-annual reports of the President to the Congress, corrected according to the newer publications of ERS and FAS of the USDA.

nearly a half billion lira to the two organizations together up to the end of 1962. About one-fourth each was provided by wheat, rice and vegetable oils, with the remaining fourth coming from all the rest of the Title I commodities. Nearly half of these added funds were received in 1961 and 1962, partly because of the substantially higher price level and partly because of the substantial imports in those two years.

Agricultural Production in Turkey

A review of the agricultural production situation indicates that there was a substantial increase in the cultivated area, nearly doubling between 1948 and 1962, with most of the increase coming before 1955. The large increase in the use of tractors between 1948 and 1955 brought into cereal production many hectares of land which had previously been marginal either in terms of productivity or in terms of distance from the villages, where the farmers live. The use of fertilizer increased by six times from 1950 to 1962, especially in the later years.

Turkish agriculture has a number of structural and institutional weaknesses. Progress in overcoming them is evident, but has not yet had much impact in making the traditional farmer of Central Anatolia into a dynamic, scientifically oriented farmer. Farms are small and facing further fractionalization via inheritance. Already no more than five percent of the farmers have a farm in one piece. The social overhead structures like credit, transportation, schools, and an advisory service are improving but still are far from adequate. Many internal marketing processes need further development and organization.

A substantial portion of the wheat production is on farms where self-sufficiency is the traditional pattern, with much of the crop held for home consumption and not passing through the marketplace. Increasingly, these farmers are participating in the money economy, but the old pattern are held to as a form of security. The sharp price inflation of recent years reinforced some of the traditional patterns. Farmers producing industrial raw materials such as cotton, tobacco, and oilseeds and those producing fruits and vegetables are heavily involved in the money economy.

A number of measures have been taken to expand production. Among them are minimum cereal price guarantees, although these are established in June just before harvesting, rather than in the fall when planting decisions are made. Improved roads, an expansion in advisory services, additional agricultural credits, a modest land reform, irrigation including both large scale projects and farm wells, and measures to combat pets and diseases are other items efforts are being directed to stimulate production.

Between 1949 and 1958 the rate of increase in agricultural production exceeded the rate of population growth. Since then the rate of increase in agricultural production has slowed down considerably while population growth continued to rise at a rate approaching three percent per year. A number of specialists claim that the estimates of agricultural production are biased upward. If true, then the situation is even more pessimistic.

Effects of PL 480 *Program on Agricultural Production*

Examination of cereal prices indicates that they lagged behind during the 1955-59 period and then rose more rapidly than the general price level, despite large imports under PL 480.

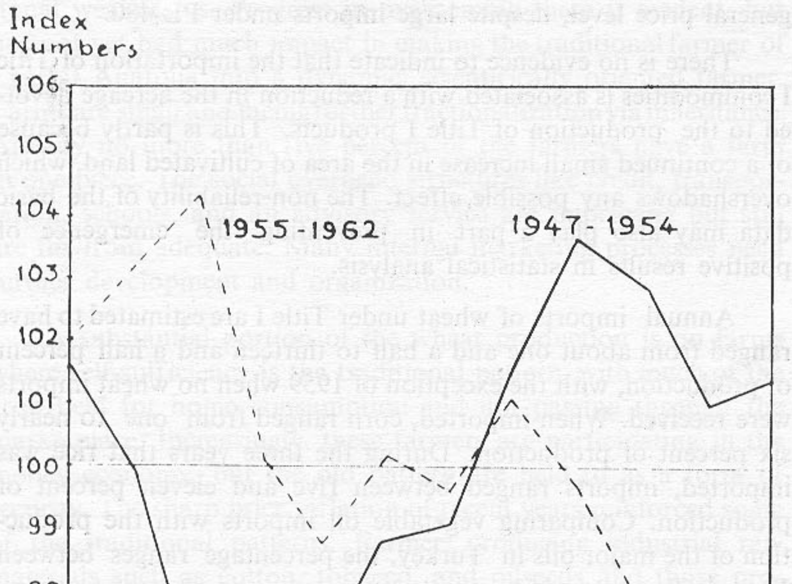
There is no evidence to indicate that the importation of Title I commodities is associated with a reduction in the acreage devoted to the production of Title I products. This is partly because of a continued small increase in the area of cultivated land, which overshadows any possible effect. The non-reliability of the basic data may also play a part in preventing the emergence of positive results in statistical analysis.

Annual imports of wheat under Title I are estimated to have ranged from about one and a half to thirteen and a half percent of production, with the exception of 1959 when no wheat imports were received. When imported, corn ranged from one to nearly six percent of production. During the three years that rice was imported, imports ranged between five and eleven percent of production. Comparing vegetable oil imports with the production of the major oils in Turkey, the percentage ranges between 12 and 60.

The analysis of agricultural production and food consumption trends indicates clearly that Turkey would have faced a food deficit of serious proportions without Title I, PL 480 programs. The alternative means by which Turkey might have procured food or rationed the existing food supplies were sufficiently difficult to warrant use of the term *food crisis*. Towards the end of the period, a Five-Year Development Plan was inaugurated. Significantly, the plan authorities determined that Title I programs were neeeded and planned for their effective integration as development resources.

Price and Income Effects of PL 480 *Imports*

An examination of seasonal price changes before and after PL 480 indicates that prices during harvest and immediately post harvest rose relative to the rest of the year. Thus, whatever the price level established for wheat, farmers were likely to benefit from changes in seasonal price changes in their favor. (See the Chart).



Pattern of Seasonal Price Changes in Istanbul
Before and After Title I Imports
1947-1954 and 1955-1962

An application of price elasticity to the supply deficiencies, under the assumption that all the Title I imports were additional, indicated that the price of wheat would have been about 10 to 60 percent higher than the price that actually prevailed. These figures must be reduced downward substantially. Between a third to a half of the local currency was allocated to U.S. uses and much was actually expended. In the absence of PL 480, the majority of these U.S. government expenditures and some of the private investments would have been made in dollars and could have been used by Turkey to purchase wheat and vegetable oils. The chronic deficits after 1954 probably would have led to such use of the dollar earnings and also to some reallocation of foreign aid and foreign exchange uses, including more reliance on Section 402 foreign aid. Through these and other adjustments, all very difficult to make, some part of the commodity deficit filled by Title I imports would have been provided. Thus the initial projected price increases of 10 to 60 percent over actual levels must be correspondingly reduced, perhaps to a range of 5 to 25 percent.

Structural Changes in Demand

The investigation of the price changes and price patterns in the vegetable oil industry discloses that substantial structural changes in demand are occurring. An improved margarine, aggressively merchandized, is selling at prices slightly lower than in the pre-PL 480 period, whereas in the earlier period prices were falling substantially. Indirect effects from vegetable oil imports upon butter and olive oil were noted. Butter prices, which rose 32 percent in the eight years preceding Title I imports, fell slightly between 1955 and 1959. Olive oil prices rose slowly, relative to all foods, before 1955; then rose twice as fast as all foods to 1959, and then remained at an almost constant level while other food prices rose rapidly. Changes in tastes and the structure of demand play a part in these price changes: not all the effects can be attributed to Title I imports. But the imports also played a part in making the changes in demand structure possible.

The income changes among sectors were examined. Agriculture's share of the national income has declined from about 49 percent in 1950 to about 40 to 42 percent in 1961 and 1962, with most of the change taking place in the first few years. The gross value of farm production before and after allowance for prodoction expenses climbed more or less regularly even when reduced to constant prices.

Within the agricultural sector it would have been expected that cereal farmers would have lost ground, income-wise, compared with livestock farmers or the producers of non-Title I products. An examination of the data available does not support this conclusion. If there is an income effect upon cereal farmers, it is in having foreclosed an opportunity for them to do better than the average.

A comparison between the prices of some major agricultural products and of certain production goods and services usually purchased by the farmers showed the following characteristics: all prices constantly increased during the 13 years, between 1950 and 1962, but the rates of increase were different. The changes in prices paid by the farmers were more irregular, whereas the changes in crop prices showed a more homogeneous pattern. The prices of agricultural products showed a more irregular picture throughout the years, while the costs had a more stable and continuous increase.

Consumption and Consumer Policies

Imported wheat and vegetable oils, at retail prices represent 10 to 20 percent of the food expenditures. The wheat supplied by Title I tends to be consumed in the larger cities and especially in the coastal areas. Vegetable oils processed into margarine and corn into starch tend to be sold more widely over the country. Not much of the Title I imports are consumed in rural areas.

In general, the major Title I products have fitted well into the existing food preferences. Millers and bakers needed some experience in using imported wheat and found that flour from imported corn led to consumer grumbling. The import of vegetable oils and the processing into margarine both stimulated and benefitted from a change in the structure of demand for fats and oils. The products of vegetable oils gained demand at the expense of butter and olive, but some of these changes were under way before and would have persisted regardless of Title I imports.

The minor products occasionally imported, such as frozen meat and poultry, cheese and dried milk, were less well received.

Without PL 480 there certainly would have been a less acceptable quality of flour and of wheat products available to Turkish consumers. Unless rationing or allocative procedures had been exceedingly well managed, there would have been periodic shortages at the retail level and less efficient operations at the processing levels. Such hardships, or at least grumbling also would have found some response in the political questions raised and issues discussed. Specific projections are difficult to make, but certainly Title I imports beneficially and drastically reduced the proportions of such problems.

Use of Title I Local Currencies

A review of the allocation of the local currency indicates that the funds assigned for the use of the U.S. government have a tendency to accumulate. This is in the framework of a rather large allocation of local currency to U.S. uses, upwards of 38 percent (See Table 3). A remedy for the accumulation is the extension of the amounts available as loans or grants to the Turkish government, which was done in more recent years.

The first shipment of agricultural surplus commodities reached Turkey in 1955. But the allocation of local currency for the use of the public sector occurred much later. The first grant was made to the Ministry of Defense in 1958, and the first loan agreement allocating funds for economic development was signed in 1960. Due to their recent origin, it is rather difficult to assign quantifiable measures to the impact of PL 480 local currency allocations on the public sector. Furthermore, the task is made more difficult since PL 480 local currency constitutes a very small portion of the total resources available to the public sector.

Although it is difficult to reach any absolute conclusion about the impact of local currency proceeds on the activities of the public sector, it is possible to conclude that even though they have *not* played an important part in the financing of the budget, they have represented an important role in the financing of investment programs of some of the State Economic Enterprises.

Monetary and Development Aspects of Local Currency Disbursements

The PL 480 Title I funds have constituted a rather small part of the total counterpart funds allocated to the budget. (Table

TABLE 3

Allocation of PL 480 Deposits

(To the end of 1962)

Uses of Local Currency	Million TL	Percent
United States Government Uses	863.7	37.67
Cooley Loans	275.9	12.04
Grants to the Ministry of Defense	561.0	24.47
Loans for Economic Development	572.7	25.00
Grants for Economic Development	19.0	0.82
	2,292.3	100.00

4). Except for the TL 20 million granted for literacy training of soldiers, the grants did not initiate any new programs in the Ministry of Defense, but were used for projects that would, normally, be undertaken by this Ministry anyway, although perhaps not to the same extent.

TABLE 4

Disbursement of PL 480 Deposits

(End of 1962, Million TL)

Total Deposits		2,292.3
Total Disbursements		1,814.8
of which:		
Grants to the Ministry of Defense	561.0	
Grants for Economic Development (Ministry of Agriculture)	19.0	
Loans to State Economic Enterprises	472.0	
Loan to Bursa Chamber of Commerce	2.8	
Cooley Loans	114.2	
U.S.Government Uses	645.8	
Cash Balances		477.5
of which:		
U.S. Treasury Account	217.9	
AID Account	97.9	
Cooley Loan Fund Account	161.7	

Source: USAID /Turkey-Office of the Controller

The PL 480 program reduced certain financial needs of the TMO. The possibility of importing agricultural surpluses in exchange for local currency reduced the need for accumulating stocks in order to bridge the gap between supplies and demand in poor harvest years. The need for credit to finance these stocks was correspondingly reduced. The sales of imported surpluses, at significant markups, also increased the resources of the sale agencies, TMO and EBK. These resources were used for financing some fixed investments and in supplying revolving capital funds to them.

Local Currency Loans for State Enterprises

The PL 480 local currency loans financed about 28.2 percent of the investments by the recipient public enterprises during 1960-1962. The enterprises which benefitted from these loans were the ones that were in most urgent need of external means of financing; some of them were public utilities. It would have been very difficult for them to realize their investment programs with their own resources. It would not have been possible for them to reduce their investment program on a large scale, since most of these investments were made chiefly for maintenance and replacement purposes. Under these conditions the most probable outcome would have been a transfer of investible funds by the government from other uses to these institutions. It is argued that this would have meant some reduction in the investment of some enterprises and, therefore, a decrease in total investment. It also is argued that the total would not have decreased comensurately. Still, however small such a decrease, the availability of PL 480 loans had a positive effect on total investment in Turkey.

Loans from surplus commodity counterpart funds do not constitute an important item of public debt (2.99%). But in the yearly increase of total public debt, the share of PL 480 loans fluctuates between 4 and 9.6 percent. The share of these loans in the total borrowings of the State Economic Enterprises is still more important and fluctuations in their amounts do have an impact on the financial resources of these enterprises.

The loans extended to the State Economic Enterprises are repaid through the Internal Financial Fund in the Ministry of Finance. The funds are to be repaid according to an amortization plan extended to 30 years. Since these repaid funds, and those from other repaid loans, can be used by the U.S. government to finance its usual and normal administrative expenditures in Turkey, and if it effectively does so, dollar receipts of Turkey during future years will decrease below what they otherwise would be. To the extent that this is not the case, the repaid funds may form a revolving fund for further loans to Turkish enterprises.

Loans Aided Private Firms

A total of ten firms borrowed Title I local currency under the Cooley loan provisions of the PL 480. It appears that the PL 480 loans helped a number of firms to become well established, some others to meet current financial difficulties, and many to a complete their investment program and to provide favorable effect upon their general operations.

Although PL 480 loans were a very minor fraction of the total accumulated local currency funds, the portion that went to each firm was relatively high compared to its existent capital. For the five firms providing information, the PL 480 loan came to 29 percent of total capital. A large portion of these loans were used in building up fixed capital investment, so that employment and value added by these firms were appreciably and favorably affected.

The value added created by the firms increased from year to year, parallel to the accumulation of the loans they received. An estimate of the value added as a consequence of the loans is 20 to 25 percent. This finding suggests that the loans were used more efficiently in investment projects in comparison to the Turkish average in the same sectors.

The general conclusion on Cooley loans in Turkey is that the PL 480 funds were channelled to areas of the economy with high yields and high income creating capacity.

Effects of PL 480 on Foreign Trade

Turkey's economic development has created a demand for imports which go well beyond export earnings and available capital imports. Export values have not been able to keep pace with this growing demand, for a variety of reasons. The output of exportable goods was not increased very rapidly during the last decades. For this reason, the inauguration of the PL 480 program and the arrival of Title I imports were particularly timely for Turkey.

An examination of the import pattern indicates the emphasis on raw materials and equipment typical of a developing country. It is evident that, in the absence of PL 480, a shift in imports to provide wheat and vegetable oils commercially would have been very difficult and would have had many implications for other sectors of the economy. *Ex-post* it is possible to identify areas in which foreign exchange could have been allocated in a more desirable pattern, but this does not prove that better decisions could have been made at the time. It is probable that any likely shifts in foreign exchange uses would have had some negative effects on development by restricting capital imports.

The effects of Title I imports upon the patterns of trade are not very great, aside from the imports themselves. There would have been some increase in wheat and oil imports after 1954 in any case. The vegetable oil market in Turkey grew more rapidly than it would have without Title I imports. It can be argued that bilateral trade arrangements with the Soviet Bloc would not have terminated quite as soon, in the absence of PL 480.

Effects on Balance of Payments

Turkey has faced foreign exchange problems, particularly since the end of World War II. The policy followed by the government was to borrow to import machinery and equipment for industrialization and in this way induce economic growth, which in turn would develop export and import substitution industries and enable Turkey to balance her accounts.

In this situation the PL 480 program and new U.S. policies enabled Turkey to continue for a few more years in the old path. The financing of raw material imports for the new factories, operating at less than full capacity, and in general the financing of current purchases of consumer goods became a new aspect of the picture. Supplier financing and bank credits dropped off sharply after 1956.

The aggregate volume of PL 480 shipments, in the context of persistent deficits in the international accounts, assumed a significant role, accounting for an average 34.5 percent of the annual deficits and 25.8 percent of all capital transfers. (See Tables 5 and 6).

However, the net contribution to foreign exchange resources was less than the value of Title I imports, primarily because of the large accounts of local proceeds allocated to the U.S. government use for household operations. These were paid for in dollars and, had it not been for PL 480, the Turkish Central Bank probably would have earned in dollars about 18 percent of the PL 480 values received.

TABLE 5

PL 480 Values Received and Balance of Payments Accounts,
1956-1962

(Million Dollars)

		Current Account Deficit		Capital Transfers (Net)	
Year	Pl 480 Values	Amount	PL 480 as % of deficit	Amount(a)	PL 480 as % of Capital
1955	26	—177	14.7	166	15.7
1956	14	— 75	20.0	199	7.5
1957	69	— 64	108.1	168	41.1
1958	44	— 64	69.0	163	20.7
1959	39	—145	26.9	183	21.3
1960	28	—139	20.2	135	20.8
1961	62	—170	36.5	194	32.0
1962	84	—221	38.0	205	41.0
Totals	364	—1055	34.5	1413	25.8

(a) Includes all capital receipts, including short-term credits and Central Bank credit transactions.

Source: *Analysis and Assessment of the Economic Effects, Public Law* 480 *Title I Program in Turkey, op. cit.*, p. 456.

There might have been theoretical possibilities, in the absence of PL 480, of reducing debt repayments or increasing other components of the foreign financial assistance, but the causal connection would have been tenuous and the net gain dubious.

Alternative Adjustments

The research study referred to earlier examines the flexibility of the Turkish economy and the alternative directions in which adjustments and substitutions might have been made. Without Title I some adjustments would have been made, and our judge-

TABLE 6

PL 480 Values, US Grant Assistance and Total Government Assistance Received by Turkey, 1955-62

(Million Dollars)

	PL 480 Value	Grant Assistance	Total	PL 480 as Percent of Tot. Grants	Total Govt. Assistance (net)	PL 480 as percent of tot. assist.
1955	26	66	92	28.3	88	29.5
1956	14	95	109	13.6	145	9.7
1957	69	70	139	49.6	169	40.8
1958	44	76	120	36.7	121	36.4
1959	39	95	124	31.5	168	22.6
1960	28	80	108	26.0	98	28.6
1961	62	93	155	40.0	122	50.9
1962	84	69	153	54.9	136	61.8
Totals	364	644	1008	36.1	1117	36.1

Source: *Ibid.*, pp. 458 and 459.

ment is that the possible adjustments summarized here would be the ones which would have occurred for the 1955-62 period.

	$ million
1. Gross value of shipments received	364
2. Less U.S. government use	— 66
3. Less Cooley funds substitution	— 6
4. Less gain in domestic production, partly affected by indirect exchange losses	— 24 - 29
5. Net gain from PL 480, amount ...	263 - 268 rounded.

Concluding Remarks

Several economists in the U.S.A. and abroad were skeptical of or even opposed toward PL 480 program in general when it was first established. They said that developing nations need industrialization, and for this purpose they must import capital goods, rather than farm products. They also need to improve their agriculture, and these surplus imports might damage this progress via lower prices. Thus PL 480 program would eventually impose the United States farm problem on the other countries.

After ten or more years' of application of this program, researches and studies made in various countries showed that in